



Tertiary Education Commission
Te Amorangi Mātauranga Matua

Performance-Based Research Fund
Professional and Applied Research Expert
Advisory Group Criteria for the
2012 Quality Evaluation

Background

After the Performance-Based Research (PBRF) 2006 Quality Evaluation, a Sector Reference Group (SRG) was established to consider feedback from the sector and lead the redesign of the PBRF before the 2012 Quality Evaluation.

A major recommendation from the SRG was to establish a Professional and Applied Research Expert Advisory Group (PAR EAG) at the same time as establishing the peer review panels. Professional and applied research takes place within most of the disciplines covered by the peer review panels, but may have different kinds of impacts across a variety of sectors. In order to manage the EAG process, the PAR EAG has been established with four sub-groups (Commercial, Environmental, Professional Practice and Social).

Purpose

The peer review panels will assess and score Evidence Portfolios (EPs) submitted to the PBRF 2012 Quality Evaluation. Where an EP has **at least one** Nominated Research Output (NRO) that meets the criteria set out by one or more sub-groups of the PAR EAG, additional advice can be sought by referral to the PAR EAG.

The PAR EAG will consider the NRO(s) that are identified as meeting the criteria; however they will have access to view all parts of the EP. The PAR EAG will provide additional expert advice on the significance, quality and impact of professional and applied research to the primary peer review panel. The score and opinion on the EP will take into account all aspects of the EP that are considered relevant and as such may include instances of PE and/or CRE that are of a professional and applied nature.

The four sub-groups of the PAR EAG have developed the criteria set out in this document, to assist TEOs and researchers with determining whether or not their EPs demonstrate the characteristics of professional and applied research that are appropriate for referral to the PAR EAG.

The PAR EAG criteria must be read in conjunction with the *PBRF Quality Evaluation Guidelines 2012* (general Guidelines) and the panel-specific guidelines of the relevant panels. The PAR EAG criteria do not replace or supersede the requirements for EPs that are set out in the general Guidelines; they are complementary to the panel-specific guidelines.

PAR EAG criteria

General Information

The PAR EAG will assist the peer review panels by assessing the significance, quality and impact of research of a professional and/or applied nature, when this assessment needs to go beyond the usual academic excellence criteria. This may occur particularly where the impact of the research has been in the wider community and may not be conveyed through the standard PBRF measures.

Judgement on merit and impact (against relevant criteria)

All permissible types of research (i.e. those that meet the criteria for eligible research as set out in the *PBRF Quality Evaluation Guidelines 2012*) will be considered on their merits, and the PAR EAG will be particularly interested in the significance, quality and impact of research, measured against a number of relevant criteria.

It is recognised that for some types of research, not all of these criteria will be relevant. (for example, in some cases the existence of a patent would give evidence of impact, while in others this might not be appropriate.) The PAR EAG will make its assessments against those criteria that are relevant to the type of research that has been presented in the EP.

Criteria for EPs to be referred to the PAR EAG

The PAR EAG would expect referrals of EPs in cases where at least one NRO is of a significantly different nature to the majority of NROs submitted to the peer review panels.

In order to meet a test of substantiveness for referral to the PAR EAG, **at least one NRO** must be designated in the Evidence Portfolio (EP)¹ as being within the scope of one of the following PAR sub-groups:

- Commercial
- Environmental
- Professional Practice
- Social.

The PAR EAG will receive EPs for assessment via two possible pathways:

- TEOs/staff members may request assessment of their EPs by **one** sub-group only of the PAR EAG.
- The Chair of a peer review panel may refer an EP to one sub-group of the PAR EAG for additional expert advice (specifically on the significance, quality and impact of NROs of a professional and applied research nature).

As required by the general Guidelines, all EPs referred to the PAR EAG will be considered by the PAR EAG.

If the EP does not meet the criteria for the sub-group the relevant sub-group Chair will recommend 'to decline to assess' the EP. In this circumstance, the sub-group Chair will confirm this decision with the PAR EAG Chair. If the EP is referred from a peer review panel, the PAR EAG Chair will advise the Chair of the relevant peer review assessment panel.

¹ A field will be available in the PBRF IT system to identify the relevant NRO(s). When submitting EPs, TEOs must clearly identify which NRO meets the criteria for consideration by one of the four sub-groups.

Expected types of research

The PAR EAG will provide additional expert advice to panels to assist in the assessment of EPs that contain original research of a professional and/or applied nature. It will primarily be interested in evaluating the significance, quality and impact of the research outside the customary academic environment.

In particular, the definition of “research” (for PBRF purposes) includes the application of existing science or expertise to a new problem, need, or application, thereby creating new knowledge – such as the experimental development of design or construction solutions, as well as investigation that leads to new or substantially improved materials, devices, products or processes.

Among the permissible types of research output are many that are likely to arise in the context of professional and applied research (in addition to journal articles, books, theses, conference papers, etc., which of course may have a strong applied/professional focus). These may include the following:

- Commissioned report for external body
- Confidential report for external body
- Discussion paper
- Design output
- Intellectual property (eg. patent, trademark)
- Oral presentation
- Software
- Technical report
- Working paper
- Product or device
- Other forms of assessable output.

The PAR EAG does not expect to consider the following outputs unless their preparation has involved a significant amount of original research creating new knowledge or new designs, processes, approaches, etc:

- Consultant reports (providing expert advice or opinion)
- Audit reports
- Analyses of sales data, testing, or other such activity
- Quality control analyses
- Evidence provided as an expert witness.

More generally, the PAR EAG will not assess any of the following, unless a substantial amount of research has been involved and at least one permissible research output has resulted and is included in the EP as one of the NROs for assessment:

- Preparation for teaching
- Provision of advice or opinion

- Scientific and technical information service(s)
- General purpose or routine data-collection
- Standardisation and routine testing (without standards development)
- Standard feasibility studies
- Routine medical care (even by specialists)
- The commercial, legal and administrative aspects of patenting, copyrighting or licensing activities.

Research outputs that are confidential or are not yet available in the public domain (for example because of commercial sensitivity) are allowable, provided they meet the criteria for such research outputs set out in the *PBRF Quality Evaluation Guidelines 2012*.

Note: The *PBRF Quality Evaluation Guidelines 2012* contain key information on what counts as research in the context of the PBRF. See Chapter 1, Section D: What Counts as Research? and *Chapter 2, Section C: Types of Research Outputs*.

General expectations for standard of evidence to be supplied

Evidence should be selected so as to demonstrate the significance, quality and impact of the research, when evaluated against the relevant criteria in the context of the relevant sub-group of the PAR EAG.

EPs should include evidence relating to just those criteria that are relevant to the research, and not all criteria.

Factual evidence is preferred, but where subjective evidence is provided, the onus is on the TEO staff member to demonstrate, insofar as is possible, the independence of the evidence source from the staff member, and its authenticity.

In some cases, information that demonstrates the significance and impact of the staff member's research are examples of peer esteem, and as such, may be included in the Peer Esteem Component of the EP.

The impact of research outputs put forward to the PAR EAG must have occurred within the six year period set out for research outputs. Impacts that are yet to occur, or are projected will not be considered. The PAR EAG will consider relevant examples of Peer Esteem and Contribution to the Research Environment components in so far as they inform the assessment of impact in reaching their score.

Use of additional expert advice

The PAR EAG Chair may draw on additional advice from outside the immediate EAG membership in order to address specialist content of any given EP. This may include the appointment of Specialist Advisers, as required and the PAR EAG Chair may seek advice from other PAR sub-group Chairs. Moreover, it may be necessary to seek

additional advice when members of a PAR sub-group have a conflict of interest with a particular EP.

Individual staff members submitting EPs may not request that the EAG seek additional advice.

Assessment of an EP by the PAR EAG

Once it has been determined that an EP referred to the PAR EAG has met the relevant criteria, the PAR EAG sub-group Chair will assign the EP to one or two members of the EAG sub-group for assessment. The sub-group Chair may refer the EP to another sub-group for additional advice if appropriate. Individual staff members submitting EPs may not request that a sub-group seek additional advice from another sub-group.

The assessment by the PAR EAG sub-group(s) will result in a score (from 0 to 7, with 7 the highest point on the scale and 0 the lowest) for an overall assessment of the Professional and Applied aspects of the EP, and an overall opinion.

The peer review panel will determine the final Quality Category assigned to that EP, taking into account the score and opinion provided by the PAR EAG sub-group. Accordingly, the score and opinion of the PAR EAG sub-group(s) may reduce, or improve, or have no effect on the scores assigned by the panellists.

The Moderators will be responsible for ensuring that there is consistency in the way the peer review panels consider the advice of the PAR EAG.

Note: the scores provided by the PAR EAG do not consider factors such as special circumstances or the status of new and emerging researchers into account as this is the role of the peer review panel.

PAR EAG - Commercial criteria

Description of Commercial sub-group coverage

Commercial activity will be considered broadly and will include improvements to existing businesses, establishment of new businesses, new processes, new products, improvements to existing products, and new services which reach the end-user through commercial channels.

The Commercial sub-group will consider impacts that the research has had on existing processes products and services, the benefits to the business itself, benefits to the industry or business field in New Zealand and worldwide, and also benefits to the community including end-users, including social and environmental benefits beyond previous practice.

Where relevant information is provided, the Commercial sub-group will also consider whether the research was in response to an established industry/business need, and/or whether there has been close interaction between the researcher and the business/industry itself.

PAR EAG – Commercial criteria and scoring guide

Each of these criteria will be given an appropriate weight on a case by case basis; not all will apply in every discipline and only the most relevant will be considered.

	Criterion	0	1	3	5	7
A	Impact of the research on existing technology, processes, products and services	No impact demonstrated	Very little impact has been demonstrated	There has been a modest impact demonstrated	A comprehensive and imaginative impact has taken place yielding substantial new technology, process or service	This is a thoroughly investigated and proven new technology/process/business platform which is transformational for its industry
B	Benefit to the business/industry. Includes cost savings, improved quality, patents, new products or process and new business, profits	No sign of benefit	Minimal benefit	There has been a benefit either small for a major company or significant for a small business	Marked benefits to the smaller business or a moderate benefit to a large national business enabling both to significantly improve their position in the marketplace	There has been an outstanding change in the whole direction of a significant business with industry effects beyond nationally.
C	Co-investment by the business relative to the business size	No sign of support	Minimal sign of support	There has been modest investment by the business itself in this development	The business has invested significant funds of its own, hired staff to progress the opportunity in-house relative to the business size	The business has made a large investment and is restructuring nationally to globally take advantage of this development

	Criterion	0	1	3	5	7
D	Benefits to the wider community - new customers, better quality, lower prices, new employment, exports, improvements in social, and environment areas	No sales or other external benefits	Minimal sign of sales or other external benefits	There are modest additional sales and other signs of benefits	Sales are well established nationally and/or in one or more other countries Markets and there are other significant benefits too	Sales have been very dramatic nationally and globally with rapid uptake There are very significant benefits as well in other areas both nationally and globally
E	Responsiveness/awareness to industry needs	No indication of an awareness of the needs of the industry/market and that the effort was initiated as a result	Minimal indication of an awareness of the needs of the industry/market and that the effort was initiated as a result	There has been some liaison and assessment of needs with the market/industry prior to the work commencing but most of the awareness of industry needs was established after the research results emerged	The effort has proceeded in very close association with the industry since before commencement and the project/development was modified during its course to take account of the business/industry/market needs	The project demonstrates a very clear and well established ongoing long term understanding of and relationship with the industry, nationally and globally, and with several individual businesses

PAR EAG - Environmental criteria

Description of Environmental sub-group coverage

The environment will be considered broadly and includes air, land and water and all aspects of these physical components including fresh and marine water and ecosystems. Aspects relevant to all structures and land uses, rural and urban are included.

The Environmental sub-group will assess EPs that contain professional or applied original research, considering the significance, quality and contribution of the research beyond the academic environment. The assessment will consider scale, time span of research, overall impact and community perceptions and responses.

Environmental policy, strategy, planning, design, management, maintenance and monitoring research which advances knowledge beyond current practice will be considered, provided that it meets the definition of research set out in the PBRF guidelines and the requirements set out in this document.

PAR EAG – Environmental criteria and scoring guide

Each of these criteria will be given an appropriate weight on a case by case basis; not all will apply in every discipline and only the most relevant will be considered.

	Criterion	0	1	3	5	7
A	Beneficial physical change to the environment	No evidence of change	Limited change	Small discernable local change	Marked change of benefit, to local area or part of wider area	Outstanding beneficial change not requiring on-going management to retain
B	Public perception/opinion re issue changed	No evidence of change	Limited change	Local perception/opinion modification, awareness; concern raised	Widespread debate affirming changing perception, to regional or national level	Public opinion/perception changed and new approaches introduced at national or international level
C	Policy, strategy or statutory change introduced	No evidence of change	Limited change	Changes introduced at local level	Policy, strategy or statute change introduced at regional or national level	Policy, strategy or statute change in place and different response to issue at national or wider level
D	System or product for environmental benefit introduced/adopted	No evidence of change	Developed but ignored	System or product developed and positive interest	System or product tested and local benefit demonstrated	System or product take-up indicates acclaim and major regional or national benefit
E	Solutions designed or developed to address community problem	No evidence of change	Limited benefit	Solution to address issue developed for community	Solution accepted and adopted by community	Widespread application of solution to other issues at regional or national level

PAR EAG – Professional Practice criteria

Description of Professional Practice sub-group coverage

Professions are generally regarded as occupational groups holding highly developed skills that are applied in the occupation subject to some level of self-regulation within the occupational group itself. Self-regulation normally includes a collegial process for agreeing what are appropriate standards of both competence (the way professional practice is carried out) and of ethical behaviour to ensure that the skills are used in the public benefit and also meet the specific needs of the client or employer of the professional.

Research that has changed the way in which such occupational groups undertake their practice may be considered by the Professional Practice sub-group. The ways in which staff members have transferred their results to professional practising communities, and the way in which those communities are affected, can vary between disciplines. Staff members are encouraged to identify what is the most appropriate evidence for demonstrating a change in professional practice.

PAR EAG – Professional Practice criteria and scoring guide

Each of these criteria will be given an appropriate weight on a case by case basis according to the nature of the professional practice in the discipline; not all will apply in every discipline and only the most relevant will be considered.

	Criterion	0	1	3	5	7
A	Change to professional practice in the relevant practice community	No change	Minimal change	The nature of professional practice has been changed in a minor way	The nature of professional practice has been significantly changed in fundamental ways – parts of the practice are distinctly changed	The previous nature of practice has been rendered obsolete and a totally new and different practice based on the research is now recognised
B	Codification of the change in professional practice	No codification	Minimal codification	The changed practice has been documented e.g. as guidance notes, and practitioners make individual judgements as to the relevance of these notes	The changed practice has been comprehensively documented and is regarded as a recommended practice by the practising community	Recognised national and international regulations, standards or prescribed codes of practice have been changed on the basis of the research
C	Uptake of the changed professional practice	No uptake	Minimal Uptake	There has been some uptake by a minority of practitioners nationally	There has been uptake by the majority of practitioners nationally	There has been comprehensive uptake by practitioners in the discipline both nationally and to the extent it applies internationally
D	Level of use of the changed professional practice	No usage	Minimal usage	The new practice is rarely used by practitioners.	The new practice is regularly used by practitioners	The new practice is frequently used by practitioners on a day to day basis
E	Support for the new practice in the practising community	No support	Minimal support	The changed practice is known by a minority of practitioners, and is accepted by some of them	The practice is known to most in the practising community, and is broadly accepted by them	There is widespread and consistent support for and acceptance of the new practice amongst the full practising community

PAR EAG - Social criteria

Description of Social sub-group coverage

The Social sub-group may advise on research outputs (from a number of disciplines) which have had impacts on organisational practice and policy in relation to substantive social and health issues.

Research eligible for consideration may have been designed and carried out in a way that shows close alignment with policy and practice needs, often demonstrating evidence of consultation with end-users. Dissemination will have included a focus on transmission to end-users, communicating in a way designed to facilitate uptake (for example presentations to end-user forums).

Significance, quality and impact may be shown by evidence of dissemination of research outputs informing the public and policy-makers (for example, referenced by media or policy advice documents). These factors may also be shown by evidence of the influence of research on end-users, leading to efforts to apply research outputs and in actual change in policy and organisational practice (for example, among District Health Boards, Iwi, Non-Government Organisations, government ministries and agencies, local and regional government, business organisations and international organisations).

PAR EAG – Social criteria and scoring guide

Each of these criteria will be given an appropriate weight on a case by case basis; not all will apply in every discipline and only the most relevant will be considered.

	Criterion	0	1	3	5	7
A	Research question/methodology directly aligned with key questions in substantive social/health area	Not aligned	Minimal alignment and consultation	Some evidence of consultation and alignment	Significant level of consultation and alignment	Completely aligned and directly relevant to policy and organisational practice
B	Active dissemination of research findings in ways likely to affect policy/organisational practice	No change	No relevant dissemination activity (beyond peer reviewed publication)	Some level of relevant dissemination activity to potential end-users of research	Significant level of relevant dissemination activity to potential end-users of research	Highly effective dissemination of findings, widely affecting policy and organisational practice
C	New insights into and understanding of substantive social/health issue	No insights	Few new insights	Some changes in understanding of issue as shown in public debate, media coverage, policy advice, investment into further research outputs	Significant changes in understanding of issue as shown in public debate, media coverage, policy advice, investment into further research outputs	Paradigm shift in understanding of issue
D	Evidence research influences end-users decisions or efforts of end-users to apply research findings	No evidence	Little evidence of influence or efforts of end-users to apply research findings	Some influence and efforts to apply	Significant influence on decisions and choices of end-users and efforts to apply	Complete shift in decisions and efforts of end-users reflecting research findings
E	Change in policy/organisational practice relevant to substantive social/health issue	No change	Minimal change	Some changes at organisational practice or policy level	Significant changes at organisational practice or policy level	Complete shift in policy and organisational practice