January 2018

Higher Education Funding Council for England

Call for Evidence: KEF metrics

Written submission on behalf of the Engineering Professors' Council

Introduction

1. The Engineering Professors' Council (epc.ac.uk) represents the academic engineers in the UK, with 81 university engineering faculties as members comprising over 6,500 academic staff. All branches of engineering are represented within the membership.

2. Our primary purpose is to provide an influential voice and authoritative conduit through which engineering departments' interests can be represented to key audiences such as funders, influencers, employers, professional bodies and Government.

3. As engineering units, all our members play a vital role in knowledge exchange which has significant industrial and policy impact.

4. The EPC therefore welcomes the opportunity to comment to the KEF metrics technical advisory group.

5. We recognise the vital role of knowledge exchange in UK universities and its role in supporting local, national and international economic growth, as well as the government's Industrial Strategy. We note that universities work with businesses of all sizes to support the delivery of the Industrial Strategy in diverse ways and believe that this diversity should be evidenced and valued through a range of KEF metrics.

6. We wholeheartedly welcome efforts to encourage wider and deeper knowledge exchange. However, for the KEF to have impact on behaviour, there needs to be a positive incentive for HEIs to participate in it and perform well in the assessment (rather than simply a regulatory requirement). It is hard to answer some of the questions in this consultation without greater clarity around that mechanism.

7. There appears potentially to be some overlap with the Research Excellence Framework (REF), in particular in relation to impact studies and the environment statement. While the EPC recognises the KEF's role in supporting the REF, we do not support duplication between the two.

What approaches and data need to be used to ensure a fair and meaningful comparison between different universities, taking into account factors that might impact individual institution's knowledge exchange performance (such as research income, size or local economic conditions), whilst allowing identification of relative performance? How should benchmarking be used?

8. The EPC recognises that there are many approaches to knowledge exchange and that these will vary considerably between disciplines, and indeed within engineering. We therefore believe that knowledge exchange in engineering is best supported by a broad approach to measuring and reporting all the facets of knowledge exchange.

9. In addition to breadth, we believe that the approach should be consistent and simple, since complexity is likely to lead to inconsistent data collection practices in universities and perceptions of institutional 'gaming'.

10. We also recognise that there are numerous 'institutional type' factors that that might impact on an individual institution's knowledge exchange performance relative to others, including (but not limited to) local economic conditions, disciplines offered, size and income base.

11. While benchmarking allows identification of relative performance, it should be carefully moderated for different types of institution. Care should be taken to allow "similar" universities to be compared based on the factors important to the particular audience. This could include benchmarking outcomes against HEIF investment.

12. The EPC supports the KEF as an indicator or a series of indicators, not a precise measure, and would suggest that no single constructed summary score would be meaningful or helpful as this would lead to non-transparent headline league tables.

13. The EPC fully supports the desire to encourage universities to improve their capacity to transfer knowledge into industry. We would, however, urge a cost-benefit analysis to ensure that the burden of an additional method of assessment for universities is not underestimated and is, indeed, achievable in the context of other, academic, responsibilities.

14. With this in mind, we would seek clarity on the meaning of 'regularly updated'.

15. The tone of the KEF should recognise and celebrate the strengths of HEIs' approaches to knowledge exchange. Any banding – analogous to the gold, silver and bronze of TEF – is likely to have unintended consequences such as creating an inaccurate impression of failure or undermining differences in HEIs' missions (which are important in ensuring a diverse HE sector). With that in mind, rather than KEF being presented in any absolute hierarchy of performance, we would recommend a framework that recognises achievement according to distinct goals.

16. The KEF should incentivise improvements in practice and, we would seek clarity about how this is to be achieved, whether through access to funding or reputational advantage.

17. If it is intended that the KEF will be used to apportion funding in relation to HEIF investment or other areas, then:

    a. Firstly, it needs to be seen to do in a way that is both different and in some way better than current approaches. On that point, the EPC is not clear what the evidence is that there is a problem than needs solving.

    b. Secondly, if the KEF is only *part* of the algorithm for the distribution of funding, it is important that other elements of the algorithm make no use of the same metrics or indicators as the KEF, because that would mean those factors are double-counted leading to unfairness in favouring HEIs who perform well in factors that happen to be double-counted. However, if KEF is to be the sole determinant of the allocation of certain funding sources, it will place a heavy burden of responsibility on an untested framework.

Other than HE-BCI survey data, what other existing sources of data could be used to inform a framework, and how should it be used?

18. We note that the HE-BCI data currently includes both quantitative and qualitative data and would support the inclusion of both approaches in the KEF.

19. Our membership has suggested that Innovate UK and Research Fish grants data might be considered as they would seem relevant and are already available.

20. Other existing data from which metrics might be derived would include Awards data, such as the Royal Academy of Engineering's Enterprise Fellowships; and data on collaborations between universities and business, for example through income measures, data on papers that are jointly authored by university and industry.

21. The EPC recommends that HEFCE examines previous attempts to compare performance in knowledge exchange and considers lessons that may be learnt. For example, U-Multirank (www.umultirank.org) produces customisable rankings across a number of dimensions on performance in global HE, one of which is 'knowledge transfer'. This uses a series of publicly available international datasets.

What new (or not currently collected) data might be useful to such a framework?

22. The Royal Academy of Engineering cite that Engineering calls for more recognition and award for activities which support and enable the delivery of research impact not currently measured in the REF[1]. We would welcome knowledge exchange metrics that support the delivery of research impact on engineering.

23. We also refer the advisory group to the *University Knowledge Exchange (KE) Framework: good practice in technology transfer* report, which identifies qualitative KPIs for knowledge exchange.

24. In addition, our membership has made the following specific suggestions for new metrics, which we offer without further comment:

    i. Numbers of Knowledge Transfer Partnerships;

    ii. Staff FTE or hours spent dedicated to knowledge exchange;

    iii. Details of new business incubator schemes;

[1] Royal Academy of Engineering, 2016 (https://www.raeng.org.uk/publications/responses/research-excellence-framework-(2))

iv. Data on joint patents with industry;

v. Staff mobility measures (between university and industry);

vi. Volume and success of spin-out companies;

vii. Licensing income data;

viii. A measure of value added to the national landscape.

25. Finally, the EPC would encourage the inclusion of institutional context, for example on individual HEIs' overall missions, their knowledge exchange strategies, previous HEIF funding, or case studies (possibly where the number relates to the 'size' of the institution).

How should KEF metrics be visualised to ensure they are simple, transparent and useful to a non-specialist audience?

26. In order to be useful, the full range of purposes and users of the TEF need to be fully appraised, understood and shared with the sector.

27. In order to provide more information about university achievements in serving the economy and society, the visualisation can simply provide more, easily navigable, information than is currently available in HE-BCI collection. However, more information is not necessarily more useful.

28. In order to increase efficiency and effectiveness in use of public funding for knowledge exchange, any visualisations will need to measure change over time against targets.

29. To support a culture change towards more continuous improvement in university knowledge exchange, the visualisation must include a package greater than metrics to fully express and contextualise the world class standard to which universities are asked to aspire. It must be a package of support. However, it is not yet clear how KEF will be developed to drive behaviour.

30. In technical terms, the KEF metrics should be initially visualised electronically and dynamically, possibly using a simple ‘at a glance’ dashboard approach, including drill-down and filtering options for the keener analyst.

31. Analysis would need to be possible at subject level and at more refined discipline level as knowledge exchange in different branches of engineering will look and feel very different to knowledge exchange in others, and in other subjects.

32. The use of HESA cost centre to define subject would be preferable as knowledge exchange monitoring is, at least in part, a finance function within universities.

33. It is important to note that different users would want to access and compare the data in different ways, depending on their needs, skills and experience in using the data. For many analysts access to the raw data would be desirable, possibly normalised for staff numbers. However, the data presentation should be interactive so that users can interrogate the data depending on what they hope to understand from it. This should be used to discourage seeing the framework as offering a one-dimensional hierarchy.

34. To meet the needs of all users, benchmarking would need to be possible by selected groups of benchmark institutions, determinable by the user based on comparator properties (e.g. size, proximity, research activity, budget). It would also be necessary to be able to include and exclude (and even weight) individual benchmarking factors as they will not all have equal value to all users, or even all universities.

35. To ensure simplicity, there would be advantage to presenting the KEF and REF metrics on a similar platform to support user familiarity, navigation and understanding.

36. Transparency is key to the use-value of the visualisation; explanation and context should be easily accessible to enable users to understand the data fully.

37. In addition to being simple, transparent and useful, the visualisation should also be created with accessibility in mind.