

Knowledge Exchange Framework: Outcomes of Consultation and Pilot Exercise

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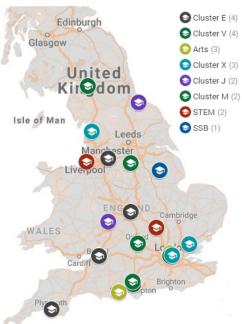


About this report

Background

- 1. In January 2019 we published a consultation on our proposals for the Knowledge Exchange Framework (KEF). We launched this consultation in response to the commission detailed in a November 2017 ministerial letter, asking us to develop the KEF.
- At the same time, we invited English Higher Education Institutions (HEIs) to volunteer to take part in a pilot exercise. We selected 21 institutions (from the 69 who expressed an interest) to take part in a series of workshops to further test and refine the proposals, which ran between March and May 2019.
- 3. The pilot participants were selected to provide a broad geographical, subject and cluster distribution of institutions as shown in Figure 1. The full pilot and cluster membership are provided at Annex A.
- 4. This document presents an analysis of the KEF consultation and the outputs of the KEF pilot exercise. It is not an exhaustive account of every suggestion and comment; rather it is a summary of the main themes emerging. As such, it should not be assumed that because a topic is not explicitly mentioned, that we did not consider it.

Figure 1: Pilot HEI locations



- 5. This document summarises evidence that will inform our final decisions on next steps. We expect to publish our final decisions later in the year.
- 6. Any questions regarding this document should be directed to Sacha Ayres, Senior Policy Adviser for Knowledge Exchange, at KEPolicy@re.ukri.org or +44 (0)117 931 7385.



Approach to analysis

Consultation

- 7. The consultation consisted of numerical or multiple-choice responses and textual information. For questions with a numerical score, multiple choice or Likert scale, we present the aggregate of all responses (or HEI responses only where indicated) to show the distribution. For selected questions, we have also further analysed English HEI responses by region and KEF cluster membership. The data presented in this report is available as a spreadsheet from the Research England KEF webpage.
- 8. We then conducted a thematic analysis of the textual responses from 18 questions, which consisted of just under 300,000 words. A coding scheme was built using a combination of top-down and bottom-up methods. Firstly, broad themes of specific interest were included (e.g. burden or perverse incentives, comments relating to the clustering etc.). Then a sample of responses were analysed by multiple coders to look for other recurring themes or sub-categories of interest (e.g. mentions of the Higher Education Business and Community Interaction survey review, or importance of 'place'). Sentiment of responses was also coded as positive, neutral or negative. A training/calibration exercise was then undertaken to ensure good inter-coder reliability for the main coding. This coding scheme was then applied to the analysis of all textual responses and where key themes were identified, the frequency of occurrence was recorded. We also checked the consistency of sentiment coding between the four coders, which revealed good agreement. The coding scheme is detailed in Annex B.

Pilot exercise

9. The pilot exercise was conducted over a series of five workshops as shown in table 2. Metric perspectives were grouped together thematically, with the two perspectives that incorporate narrative given a dedicated workshop each. We ended with an overview session on the proposed visualisation for the KEF. Pilot HEIs were invited to send up to two individuals to each workshop, to enable both continuity of attendance and expert input into particular metrics. The quality of discussions was enhanced by the majority of HEIs being able to maintain continuity of attendees.



Table 2: Pilot workshop topics

Workshop 1	Workshop 2	Workshop 3	Workshop 4	Workshop 5
Research Partnerships	Working with business	Local growth &	Community &	Skills, enterprise & entrepreneurship
IP & Commercialisation	Working with the public & third sector	regeneration (inc. narrative)	public engagement (inc. narrative)	Visualisation overview

- 10. Each metric workshop was designed to closely examine the specific metrics proposed, both as standalone metrics and as a part of the basket of metrics. The format of facilitated discussions between cross cluster groupings enabled participants to discuss aspects of the proposals with very different institutions to themselves using open questions such as:
 - Does this work for your HEI?
 - Do you recognise the result in relation to your institution?
 - Do you recognise the result in relation to your cluster?
 - Do you think the metric is helpful in driving change for improvement?
 - Does the metric tell you something useful about your performance?
 - Does it have the potential for creating perverse incentives or driving unhelpful behaviour?
 - How does it sit in the basket of metrics for that perspective? Does it work when balanced by other metrics?
- 11. For the two perspectives incorporating narrative, participants were asked to draft the first statement according to the proposed template, but were given freedom to explore alternative structures for the second. The draft narratives were distributed to attendees in advance and discussed by cross-cluster groups to consider: the writing process; the content; what worked and what didn't work so well. This was followed by a consensus building session exploring what an improved structure and format may look like.
- 12. Outputs from the pilot workshops were gathered through polls and written and verbal feedback on the KEF datasets provided to participants. Additionally, we gathered specific information related to the narrative statements (e.g. estimates of person-hours of effort required to complete). Finally, information gathered in the workshop on public and community engagement was supplemented by a report commissioned from the National Coordinating Centre for Public Engagement (NCCPE).



Results

13. We received 147 responses to the online consultation and a further eight letters. Responses were predominantly from English HEIs, with 101 responses representing over 70% of the English HEI sector. The category 'other' includes businesses, individuals, learned societies and sector representative bodies.

Table 1: Responses by Category

	Number of responses
English Higher Education Institution	101
Higher Education Institution in Wales, Scotland or Northern Ireland	7
Other	39
Responses relating to KEF not received via online consultation	8
TOTAL	155

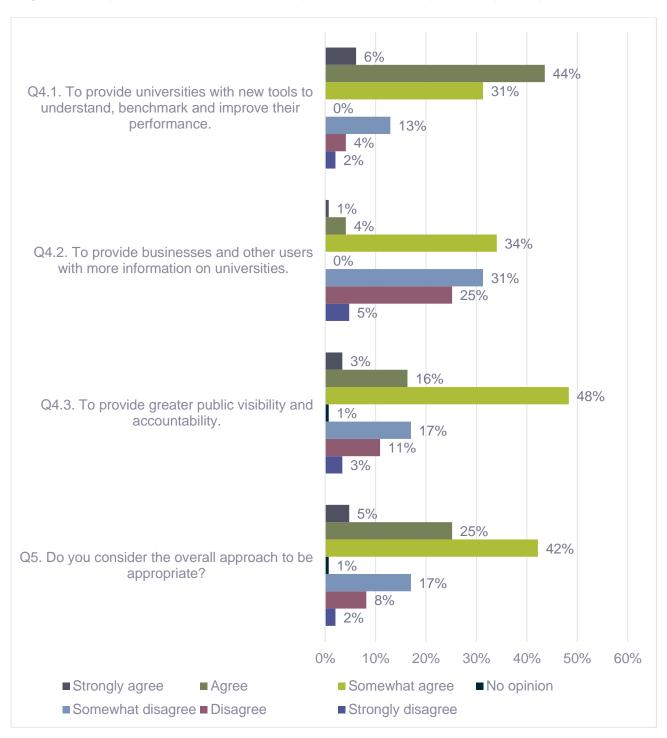
14. Results and analysis from both the consultation and pilot exercises are now presented, following the order of the original consultation questions. For clarity and ease of cross-referencing, the original consultation question numbers are used, and these are provided for reference in <u>Annex D</u>. Please note that sections 1-3 are not referenced as questions as they contained the introduction to the consultation and respondent details presented above.

KEF purpose and overall approach

15. Section 4 of the consultation asked about the three stated purposes of the KEF. Respondees were broadly positive on the purpose of providing universities with new tools to understand, benchmark and improve their own performance (31% somewhat agree, with a further 50% agreeing or strongly agreeing) and of the KEF providing greater public visibility and accountability for this activity (48% somewhat agree, 19% agree or strongly agree). However, there was less positive sentiment around the ability of the KEF to provide businesses and other users with useful information, with 61% disagreeing to some extent (although it must be noted that there were very few responses from businesses or other 'users' of university knowledge).



Figure 2: Responses to questions on purpose and overall approach (all respondees).



16. Additional comments made on the purposes of the KEF most frequently welcomed the low burden nature of the exercise. However, some expressed concern on the use of income-based metrics and whether the contributions of e.g. student knowledge exchange (KE) activities was reflected strongly enough. On the question of providing greater public visibility and



accountability, comments focussed on how the results may be interpreted by external users and the general public.

- 17. Section 5 asked about the suitability of the overall KEF approach being an annual, institutional-level, largely metrics-driven exercise. 72% agreed or somewhat agreed, with 27% disagreeing to varying extents.
- 18. The commentary on this point revealed that the majority appreciated the efforts to reduce burden through the proposed KEF, although there were additional comments equally represented by the following:
 - a. Whilst the relatively low-burden design was appreciated, some value is lost by limiting the amount of information gathered.
 - b. That a low-burden strategy should be prioritised, even at the expense of utility.
 - c. That the approach will not yield sufficiently detailed information to be useful.
- 19. The Higher Education Business and Community Interaction (HE-BCI) survey review was mentioned as an important aspect in the development of the KEF, although questions were raised on timing and whether the HE-BCI review should conclude before the KEF is launched. However, a small number of respondents seemed to have misunderstood the proposals, thinking that the KEF would replace the HE-BCI survey. We will consider how this can be more clearly conveyed in future communications.
- 20. There was broad and frequent support for the use of narrative, although some comments questioned how narratives will fit into the metrics-led design, and others requesting either that the narratives be assessed (by peer review or expert panel, for example), as well as calling for the use of narratives across all perspectives.
- 21. Other significant themes that emerged included:
 - a. Broad support for the equal weighting of the perspectives, although some concern (for various reasons) that the use of narratives for just two of the perspectives will give them different weighting in the eyes of the reader.
 - b. That Research England should publish an annual report on the collective value of KE activities to sit alongside the KEF.



- c. That the metrics are predominantly outputs and therefore do not necessarily capture quality of the KE activity.
- d. Differing opinions on how frequently the KEF should run, although the majority of respondees supported an annual exercise.
- 22. Considering consultation responses from English HEIs to the questions on purpose and overall design, there are no particularly notable variations in the ratio of positive to negative responses when analysed by region or KEF cluster (please see paragraph 23 for details of clustering). Note that the tables below show English HEI responses only. This is because the cluster analysis was only performed for English HEIs. It should also be noted that some regions and clusters contained small numbers of responding HEIs, so care should be taken when considering the significance of differences:

Table 3: KEF Purpose and overall approach: Sentiment by NUTS1 region (English HEIs only, n=101)

	Q4.1		Q4.2		Q4.3		Q5	
Region	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
North East	100%	0%	25%	75%	50%	50%	75%	25%
North West	92%	8%	67%	33%	83%	17%	92%	8%
Yorkshire and The Humber	88%	13%	38%	63%	75%	25%	100%	0%
East Midlands	88%	13%	25%	75%	75%	25%	88%	13%
West Midlands	100%	0%	45%	55%	91%	9%	73%	27%
East of England	88%	13%	13%	88%	88%	13%	75%	25%
London	70%	30%	41%	59%	59%	41%	81%*	15%*
South East	85%	15%	46%	54%	69%	31%	77%	23%
South West	90%	10%	0%	100%	30%	70%	60%	40%

'Positive' is sum of all 'somewhat agree', 'agree' and 'strongly agree', and 'Negative' is the same for 'disagree'. Percentage of positive and negative sentiments are equal to 100% except * where 4% reported 'No opinion'. Question numbering key - Q4.1 To provide universities with new tools to understand, benchmark and improve their performance; Q4.2 To provide businesses and other users with more information on universities; Q4.3 To provide greater public visibility and accountability; Q5 Do you consider this overall approach to be appropriate?



Table 4: KEF Purpose and overall approach: Sentiment by KEF cluster (English HEIs only. n=101)

	Q4.1		Q4.2		Q	4.3	C	Q5
Cluster	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
ARTS	67%	33%	22%	78%	44%	56%	56%*	33%*
Е	81%	19%	35%	65%	65%	35%	88%	12%
J	92%	8%	50%	50%	58%	42%	92%	8%
M	100%	0%	50%	50%	75%	25%	58%	42%
SSB	50%	50%	50%	50%	50%	50%	50%	50%
STEM	100%	0%	50%	50%	83%	17%	67%	33%
V	87%	13%	40%	60%	87%	13%	93%	7%
Х	84%	16%	21%	79%	68%	32%	84%	16%

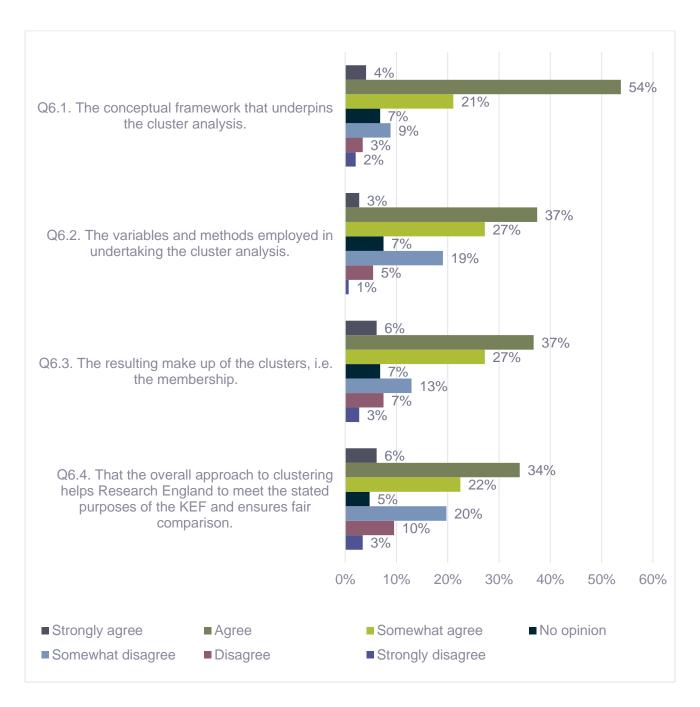
'Positive' is sum of all 'somewhat agree', 'agree' and 'strongly agree', and 'Negative' is the same for 'disagree'. Percentage of positive and negative sentiments are equal to 100% except * where 11% reported 'No opinion'. Question numbering key - Q4.1 To provide universities with new tools to understand, benchmark and improve their performance; Q4.2 To provide businesses and other users with more information on universities; Q4.3 To provide greater public visibility and accountability; Q5 Do you consider this overall approach to be appropriate?

Clustering

- 23. Section 6 asked a series of questions (Q6.1-6.4) on the proposed approach to cluster English HEIs into eight clusters. Further information on the purpose of the cluster analysis and how it was proposed to be used can be found in the technical report and consultation document, available at https://re.ukri.org/knowledge-exchange/knowledge-exchange-framework/. The proposed cluster membership is also reproduced in Annex A of this document.
- 24. The conceptual framework underpinning the analysis and the variables and methods employed were broadly well received, with the majority of respondents somewhat agreeing or agreeing with these aspects, and the resulting composition of the clusters. There was less consensus on whether the clusters would help fulfil the stated aims of the KEF (Q6.4), and the purpose of allowing fair comparison. Although a majority agreed to some extent, there was a higher level of 'disagree' responses than for Q6.1-6.3.



Figure 3: Responses to questions on clustering (all respondees).



25. In regard to the overall approach to clustering (Q6.4) it is worth noting that the majority of negative responses were 'somewhat disagree'. This is borne out by the associated commentary, with the most common response (105 respondents) welcoming the clustering approach, with only 10 respondents making critical comments on the overall concept. Respondents indicating an overall 'slightly disagree' or 'disagree' tended to be for very specific reasons. For example, while broadly welcoming the concept of clustering they disagreed with the range of variables



- used. Other more negative responses were driven by consideration of whether clustering helped the KEF meet its aims (and how businesses and other users might use or interpret them), with more agreement on their positive role in enabling fair comparison between HEIs.
- 26. There was little variation when exploring responses to Q6.4 by cluster. The STEM and SSB clusters had a higher level of negative responses (although small sample sizes should be considered). Cluster J (comprising mid-sized universities with lower levels of research activity and a broad set of academic disciplines) also had higher levels of negative responses to this question.

Table 5: Q6.4 – Overall approach to clustering to meet aims of KEF and provide fair comparison (n=101, English HEIs only)

Cluster	Positive	Negative	Neutral
ARTS	78%	22%	0%
E	69%	27%	4%
J	58%	42%	0%
M	75%	25%	0%
SSB	50%	50%	0%
STEM	67%	33%	0%
V	87%	13%	0%
X	68%	32%	0%

'Positive' is sum of all 'somewhat agree', 'agree' and 'strongly agree', and 'Negative' is the same for 'disagree' responses.

- 27. There were a substantial number of points in the commentary focussing on the descriptions and presentation of the clusters:
 - a. There were a significant number of comments relating to the cluster descriptions e.g. describing a cluster as having HEIs with 'limited world leading research' could be seen as negative in itself, and that it may be better to frame cluster descriptions on what the institution *does* do, rather than what it *doesn't*.
 - b. Multiple requests to provide a brief introduction into what the clustering is for, how the descriptors work and how the cluster names (which are random letters) were assigned. It was noted that this was particularly important for external audiences.
 - c. Approximately 15% of responses suggested clusters may be confusing for businesses and other users or they suggested that there should be flexibility for users to be able to group institutions in different ways that were more relevant to them.



- d. There was some concern that whatever the intent, the clusters will be seen as a hierarchy in their own right (10%).
- e. That there is still too much variation within clusters (although we would argue that the KEF proposals include further steps to normalise for size, and the scaling of metrics mitigates this).
- f. That specialist institutions are difficult to place in clusters, but most respondents making this point stated that this approach was still preferable to not using clustering or a comparable method to aid fair comparison.
- 28. There were also multiple comments and suggestions on the variables used to create the clusters, including on the role of professional services staff not being represented, concerns that variables were too heavily skewed towards research activities, and that 3* (as well as 4*) REF outputs should be used.
- 29. Other common themes expressed in the commentary were related to:
 - a. How often the cluster analysis should be re-run to reflect changes, with most suggesting regular updates.
 - b. Taking into account variables related to place (including local economic context) in the clustering.
 - c. Suggestions that the HEIF funding status of institutions should also be considered as a variable, or at least made visible.
 - d. Nervousness that the clustering may be used as a basis for funding in the future.

Approach to STEM and SSB clusters

- 30. We have previously made clear that we are unsure whether the STEM and SSB clusters are viable or useful so we specifically requested the opinion of these groups through question 6a. This question was only asked of the subset of respondents who are currently clustered in the STEM and SSB clusters and the following views were expressed:
 - a. That the small number of members in the SSB cluster creates challenges for both internal benchmarking and for presentation to external (non-academic) audiences, and that reassignment of SSB members to cluster M (smaller teaching focused) may be an appropriate solution.



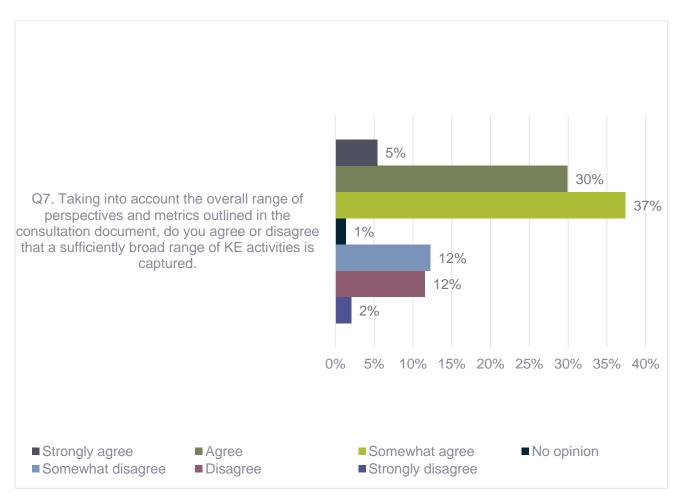
- b. Acceptance that STEM cluster is imperfect, but that there was no obvious alternative grouping.
- c. Noting that variability and outliers in metrics contributing to the cluster benchmark are problematic in the STEM cluster due to significant variation in activity levels in some perspectives.
- d. Whilst the size of stem cluster was large enough to allow meaningful comparison, this would have to be reconsidered if any of the other HEIs in the cluster were reassigned, resulting in a smaller group.
- e. A suggestion to manually reassign members of STEM cluster to other existing clusters on a case-by-case basis.
- f. General comments welcoming the idea that HEIs would be able to move clusters periodically.
- 31. Overall, there was no clear consensus from the responses received on a course of action that would satisfy all and no appropriate alternative models were proposed that would meet the requirements of providing a means of fair comparison. Given that the concept of clustering was well received for those in the main clusters, it is unlikely the fundamental approach to this aspect of the KEF proposals will change. We will therefore continue to explore and model the implications of the alternative options suggested for the members of the STEM and SSB clusters and engage further with members to reach an acceptable solution.



Perspectives and metrics

32. For the proposed perspectives and associated metrics, we asked for feedback on both the overall range and balance, and also views on the metrics proposed under each perspective. A majority agreed that a sufficiently broad range of KE activity was captured (72%), although a sizeable minority of 26% disagreed to some extent:

Figure 4: Overall response to Q7 (all respondees)



33. The associated commentary in Q7 also suggested the range of perspectives were welcome with around 40% of responses agreeing that they broadly captured a sufficient variety of KE activity. However, around 15% of responses felt that the individual metrics within the perspectives were too narrow to adequately capture the full range of KE activities undertaken by HEIs.



- 34. The majority of recommendations for KE activities that could be considered for inclusion in the KEF fell into four key areas:
 - Contribution to public policy
 - International partnerships
 - Partnerships with SMEs
 - HEI-HEI collaboration
- 35. Other common themes expressed in the commentary related to:
 - a. The timing of the HE-BCI review and the subsequent impact on the KEF.
 - b. Requesting clarification from Research England on how the seven perspectives were chosen.
 - c. How the quality and sustainability of partnerships with business can be captured e.g. regular student placements, repeat business, voice of the customer.
- 36. We then asked for both a percentage agreement with the proposed metrics in each perspective on a scale of 0-100 (with 0 being 'strongly disagree' and 100 being 'strongly agree') and commentary on the scores. The question number and associated perspective is given in table 6:

Table 6: Question numbers related to each proposed KEF perspective

Question	KEF Perspective
Q7.1	Research partnerships
Q7.2	Working with business
Q7.3	Working with the public and third sector
Q7.4	Skills, enterprise and entrepreneurship
Q7.5	Local growth and regeneration
Q7.6	IP and commercialisation
Q7.7	Public and community engagement

37. Tables 7 and 8 show the average score for each perspective by KEF cluster (table 7) and NUTS1 region (table 8) for English HEIs. In both cases, deviations from the overall mean score of more than ±10% are highlighted red or green.



Table 7: Average score (%) per perspective by KEF cluster. English HEIs only (n=101), variation of $> \pm 10\%$ from mean highlighted

	Average Score						
	Q7.1	Q7.2	Q7.3	Q7.4	Q7.5	Q7.6	Q7.7
ARTS	49.8	48.9	42.3	50.6	52.2	53.9	30.3
Е	60.8	56.2	50.4	53.3	54.3	65.8	43.7
J	57.9	56.7	47.3	54.6	49.2	58.3	38.3
M	65.0	59.2	36.3	47.4	47.9	71.7	36.2
SSB	80.0	50.0	40.0	85.0	70.0	75.0	54.5
STEM	58.3	64.2	64.2	56.7	47.5	64.2	56.0
V	66.5	63.7	54.9	47.8	33.1	56.3	37.3
Χ	62.1	60.3	58.7	53.5	55.3	63.9	49.5
Mean	61.3	58.2	50.5	52.6	49.7	62.9	42.0
Standard Deviation	20.5	19.4	22.1	20.9	22.8	19.6	22.1

Question numbering key – Q7.1 Research partnerships; Q7.2 Working with business; Q7.3 Working with the public and third sector; Q7.4. Skills, enterprise and entrepreneurship; Q7.5 Local growth and regeneration; Q7.6 IP and commercialisation; Q7.7 Public and community engagement.

- 38. The perspectives 'local growth and regeneration' (Q7.5) and 'public and community engagement' (Q7.7) received the lowest average scores. This was expected and we note we had already recognised the comparatively weak metrics currently available in these areas.
- 39. Table 7 suggests that respondees in the Arts specialist cluster are generally more negative towards the proposed metrics. However, this was due to a lower overall score across the cluster rather than the influence of a single institution. This sentiment was reflected in the pilot, with several observations that institutions in this cluster may be more likely to undertake non-monetized KE activities, particularly through partnerships with the third sector, and involving community groups and the public. This is reflected in these two perspectives receiving the lowest scores from members of this cluster.



Table 8: Average score (%) per perspective, by NUTS1 region for Q7.1-Q7.7. English HEIs only (n=101), variation of $> \pm 10\%$ from mean highlighted

	Average Score						
Region	Q7.1	Q7.2	Q7.3	Q7.4	Q7.5	Q7.6	Q7.7
North East	57.5	62.5	60.0	50.0	64.0	58.8	50.0
North West	63.3	60.4	56.7	57.1	60.9	62.9	48.4
Yorkshire & The Humber	69.4	58.8	50.3	45.0	40.0	61.3	34.9
East Midlands	60.9	48.1	40.5	50.9	57.5	55.0	32.4
West Midlands	65.0	68.6	59.5	53.2	44.5	74.1	53.2
East of England	63.3	60.6	51.9	51.9	53.1	70.6	29.4
London	57.8	56.6	49.1	54.1	48.1	57.8	42.6
South East	63.8	58.1	47.3	55.0	47.3	73.5	45.8
South West	54.9	52.3	44.1	48.1	42.3	53.5	36.2
Mean	61.3	58.2	50.5	52.6	49.7	62.9	42.0
Standard deviation	20.5	19.4	22.1	20.9	22.8	19.6	22.1

Question numbering key – Q7.1 Research partnerships; Q7.2 Working with business; Q7.3 Working with the public and third sector; Q7.4. Skills, enterprise and entrepreneurship; Q7.5 Local growth and regeneration; Q7.6 IP and commercialisation; Q7.7 Public and community engagement.

- 40. Table 8 shows little variation of note given the sample size, although HEIs in the South West appeared to give consistently lower scores. This was the result of a single institution recording low scores across all categories, which significantly reduced the average score.
- 41. We also asked for commentary on each of the perspectives. The main themes emerging from this are summarised below, together with supplementary information from the pilot workshops. The relative Likert scale score for each perspective is displayed alongside the commentary in figures 5.1-5.7.



Research partnerships (Q7.1)

- 42. A major theme identified in the responses was the consistency of recording in-kind contributions to collaborative research and the need for greater clarity in the associated HE-BCI guidance. Just over 23% of responses acknowledged that the variation in recording practices between institutions may affect the robustness of this metric.
- 43. The inclusion of a non-monetised metric of coauthorship with non-academic partners was 20 30 40 50 60 70 Average Score (all responses) welcomed, but concerns were highlighted around a possible bias towards disciplines more likely to have journal publications as an output of research collaborations. The potential for the co-authorship metric to affect the integrity of
- authorship decisions or drive unwanted behaviours was also suggested by 11% of respondees.

7.3 7.4 7.5

Figure 5.1: Relative Likert score of research partnerships

Average score (Likert scale) per question

90

100

- 44. A small but significant number also suggested that partnerships with SMEs should receive specific recognition to avoid disincentivising working with SMEs over larger businesses, due to the potential for higher value contracts. Suggestions for additional measures to capture the quality of partnerships as well as the volume are recorded in the subsequent section.
- 45. There were several suggestions for new metrics that could be considered for this perspective including;
 - Capturing the duration of partnerships and number of repeat engagements/user satisfaction
 - Interactions with the public and third sector
 - Measurement of collaboration between HEIs
 - Total collaborative income against academic FTE to incorporate a measure of scale of activity
 - Jointly owned patents as a percentage of all patents held.

What the pilot workshops revealed

46. Feedback from the workshop echoed the key themes from the consultation responses with particular emphasis around the recording and audit of in-kind contributions and the specific recognition of working with SMEs. Additional points were raised including:

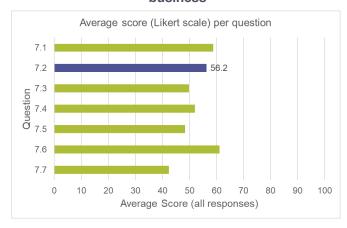


- a. The impact of the uneven distribution of data between years and how this may not be defused by taking an average over three years, especially when data points are close to zero and affected by small changes.
- b. Repeat business and longevity of relationships with business were suggested as a better indication of quality in of research partnerships e.g. number of companies engaged with for x number of years and shared projects completed.
- c. Whether it was feasible to include of grey literature within the co-authorship metric to ensure disciplines that do not use journal publications as the principal method of disseminating work are not disadvantaged. The need to make sure that this metric wasn't gameable or may skew behaviours to publish with certain types of collaborators was also discussed.

Working with business (Q7.2)

47. A significant number of responses considered there was a disconnect between the broad nature of the perspective title 'Working with business' and the proposed income metrics. The metrics were considered by over a quarter of respondees to be very narrow, and not reflective of the full breadth of knowledge exchange activities undertaken in HEIs. In particular 15% of respondees felt that income from use of specialist facilities and equipment should be included as a useful indicator of interactions with business.

Figure 5.2: Relative Likert score of working with business



- 48. Many respondees discussed the nature of the businesses they are engaging with, specifically the difference in value and volume of interactions between small to medium enterprises (SMEs) and large firms. About 10% requested that SMEs be separated in the metrics so that the relative high volume, low value aspect of the work could be demonstrated. Similarly, there were several suggestions that an HEI's investment to working with SMEs, through professional staff time or in-kind contributions be captured.
- 49. The nature of the metrics as income measures brought feedback across a number of points:
 - a. Some argued that income is not an appropriate proxy for impact and does not well reflect the quality of the interactions. A number of alternative metric areas were



- suggested such as repeat business, length of relationships or nature or number of strategic partnerships.
- b. The opportunities for undertaking consultancy and contract research and the income value of that activity will be impacted by the local economic context, particularly for some types of interactions e.g. with SMEs.
- c. Across all disciplines, but especially in the public and third sectors, it was considered that a significant proportion of knowledge exchange activity is not monetised and so not well reflected in the metrics.
- d. The role of students is seen as significant by about 10% of respondents, either through the close relationships developed with businesses through degree apprenticeships or placement work, or directly by supervised services delivered as part of their course or extra curricula activity.
- 50. About a fifth of respondees provided feedback on the use of 'academic FTE' as the denominator for two of the metrics. While 4% expressed support for the use of academic FTE to account for the size of the institution, 10% considered it to be misleading to restrict it to academic staff when a signification proportion of knowledge exchange activity is undertaken by professional services staff or students. Some 5% requested a clearer definition of who is included in 'academic FTE' and 2% felt that it would be more relevant to restrict it to research active academic staff.
- 51. The Innovate UK income metric received some support, but it was noted by a similar proportion of respondents that it is only one of many sources of translational funding and that access to Innovate UK funding could vary by discipline.

What the pilot workshops revealed

- 52. The pilot workshops identified similar themes to those identified in the consultation responses, with detailed discussions primarily focused on the following:
 - a. Innovate UK income The potential impact of the varying availability of Innovate UK funding across different disciplines and locations. For example, the availability of other more local innovation funding schemes that could affect the amount of Innovate UK funding secured.
 - b. Contract research income The use of academic FTE as the denominator and the impact on different forms of HEI, for example smaller teaching specialist HEIs.
 Participants also questioned the impact of contracts with large organisations versus



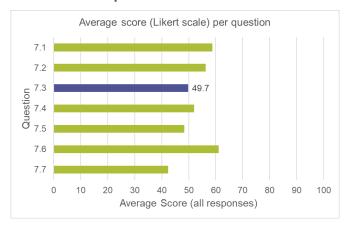
- SMEs and how small numbers of very large contracts would have significant impact on the results but wouldn't necessarily reflect the level of engagement taking place.
- c. Consultancy income There was discussion on how to capture the quality of engagement, particularly with SMEs. In tandem with the consultation responses, the pilot group recognised that there was substantial non-monetised activity and considered the impact of this in relation to the cluster groupings. It was also felt significant that HEIs have several options within HE-BCI about where to record consultancy income, and that practice varied.

Working with the public and third sector (Q7.3)

53. A number of responses indicated that the full range of work in this area could not be captured by income-based metrics alone.

Some 15% of respondees argued that there was a significant amount of pro-bono work undertaken in this area, while 4% suggested that in-kind contributions should also be considered in this category. A further 9% suggested that the number of contracts signed may be a better indicator than income as many of the contracts in the third sector are of low monetary value.

Figure 5.3: Relative Likert score of working with the public and third sector



- 54. Around 17% of responses suggested the need for additional narrative to capture the breadth of activity and so that the consideration of civic responsibility could be addressed.
- 55. Additional metrics that were suggested in this perspective were grouped under three main themes:
 - Contribution to public policy and work with policy makers
 - Capturing the number of student placements and internships
 - Recognition of student and staff volunteering.

What the pilot workshops revealed

56. The main themes highlighted in the consultation responses were again reflected in the workshop discussions:

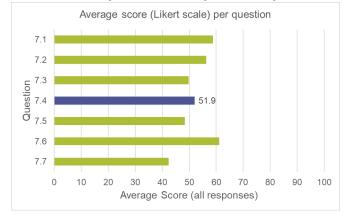


- a. The level of interaction with the public and third sector was seen as comparable to that of business but fragmented into small scale partnerships, a high proportion of which are non-monetised. Pro-bono work and volunteering were emphasised as being particularly impactful without income being generated. There was associated concern over unintentionally incentivising HEIs to work with organisations that were able to generate income.
- b. It was felt that the narrative would be particularly useful to highlight the range and depth of the relationships between HEIs and public and third sector organisations as many projects in these areas are focused on mutually working towards an impact rather than income generation.
- c. There was also feeling that this perspective could provide an opportunity to tell a positive story about the work that is done across these areas at either university or sector level.

Skills, enterprise and entrepreneurship (Q7.4)

- 57. Narrative statements for this perspective were requested by 11% of respondees. Predominantly, this was to express the diversity of work undertaken and range of partners involved to support skills, enterprise and entrepreneurship with 4.8% noting that the metrics were too narrow to capture the broad range of activities.
- 58. Over half of the respondees commented on the appropriateness of the metric related to graduate start-up rates with around 10% expressing concern around the definitions used and the difficulties of capturing accurate data.

Figure 5.4: Relative Likert score of skills, enterprise and entrepreneurship



- a. The largest proportion (11%) felt it was important to incorporate an element of longevity in the metric, most often suggesting that the metric count only the number of graduate start-ups that have survived at least three years.
- b. Alternatively, some 6% felt that the turnover of graduate start-ups would add value to the metric.



- c. A further 9% of respondees considered it detrimental to the wider value of the perspective that the creation of social enterprises was not specifically captured in the proposed metrics. While 5% (predominately in relation to the creative arts) felt that the impact of universities to creating micro business entrepreneurs was not sufficiently captured through the existing HE-BCI data.
- 59. A quarter of respondees reflected that HEIs do a great deal to improve student enterprise, entrepreneurship and employability through both curricular and extracurricular activities and that these were not reflected in the metrics.
- 60. The difficulty of gathering CPD learner days within institutions meant that 6% considered the metric as less robust, while an additional 4% felt that the metric didn't take account of modern methods of delivery such as blended learning. A further 4% noted its limitations in demonstrating the quality of an institution's CPD provision, with a wide range of alternative metrics suggested.
- 61. Degree apprenticeships featured in over a fifth of all responses, primarily respondees were concerned that the role of degree apprenticeships within higher education had altered greatly and it was no longer appropriate to exclude such courses from the HE-BCI return and therefore the KEF.
- 62. Around 12% of respondees discussed the suitability of academic FTE as the denominator for 'CPD/CE income' and 'CPD/CE learner days' with respondents split into broadly equal numbers between: welcoming the denominator; finding it unhelpful; requesting clarity of who was included; or requesting that only a subset of academic or professional staff be included.
- 63. Other points or metrics suggested included:
 - The benefit and relevance of graduate or undergraduate placements or internships (7%)
 - The impact of HEIs as skills trainers for employers and individuals in direct support of the industrial strategy (6%)
 - The investment of HEIs in innovation spaces, acceleration programmes or incubator programmes (3%)
 - Use of 'learner hours' instead of contact hours (3%)
 - Closer interaction with the KEF to capture student considerations (3%).

What the pilot workshops revealed

64. There was some support in the pilot group for CPD income per academic FTE. It was be an imperfect metric, most notably because of the difference in income levels across diverse sectors

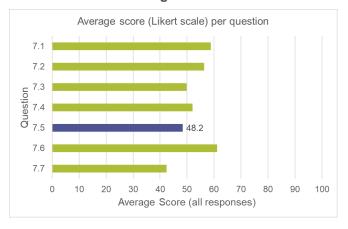


- or geographic areas. However, some felt that it was mitigated by the balance of also measuring learner days delivered.
- 65. In tandem with the consultation, participants were apprehensive that the CPD learner days metric did not reflect modern methods of delivery or was a suitable proxy for quality and there was extensive discussion on whether there were any suitable alternative metrics available. Some participants considered that although 'learner days of CPD delivered' was the best metric currently available to fulfil this role, student outcomes were widely captured across the sector for internal quality monitoring purposes and this may be a more robust metric to explore in the future.
- 66. Again, participants were largely comfortable with the suitability of 'graduate start-ups' as a metric but the table discussions reflected the issues raised in the consultations including:
 - Difficulties in defining what is included, particularly around the creative arts and the collection of data
 - Perverse incentives around pushing the creation of start-ups that are not quite ready
 - Longevity of start-ups and time lags between graduation and company establishment
 - That many other valuable enterprise and entrepreneurship activities are not reflected in the metric.

Local growth and regeneration (Q7.5)

- 67. We recognise that this metric on its own does not sufficiently capture the breadth of activity in this area and therefore have proposed the use of additional narrative. The feedback from respondents verified this view, with over a quarter expressing support for the use of narrative. The primary areas of concern expressed for the proposed metric were:
 - a. The metric was considered by over 20% of respondees as unhelpfully focused on income, it was felt that this is a less effective proxy for impact within local growth and regeneration.

Figure 5.5: Relative Likert score of local growth and regeneration



b. Around 14% of respondees noted that the metric was very narrow as a standalone metric and needed to be part of a wider basket of metrics. A further 5% of respondees felt that the metric was too poor to be used at all and suggested that the



perspective should be 'greyed out' until additional metrics could be identified. It was considered that the forthcoming HESA review of the HE-BCI survey may be an opportunity to find additional metrics.

- c. Over 22% of respondees expressed concern about the inconsistent availability of regeneration funding in different regions across the UK, with a further 4% apprehensive about the impact of Brexit to this picture.
- d. Inconsistency of returns to the HE-BCI survey were believed to impact this metric in particular, with 10% of responses noting that reportable data can be returned in more than one table or felt there was lack of clarity over the definition of regeneration income and what can be returned.
- e. A small number of respondees felt the use of academic FTE as a denominator was inappropriate, with a wide variety of reasons cited.
- 68. A number of alternative or additional metric areas were suggested by respondees:
 - a. The investment that individual institutions make to their local areas, either through the local supply chain, direct regeneration investment in cash or in kind was viewed by over 10% of respondees as a helpful addition.
 - b. While 9% suggested that activity and income related to local industrial strategies and related government funding such as city deals, regional growth funds or local growth funds should be included.
- 69. A small proportion of respondees (4%) also looked to create links to the strategies and action plans being developed by institutions who have signed up to the Civic University Commission's Civic University Agreements.

What the pilot workshops revealed

- 70. The pilot group echoed the concerns raised in the consultation over the wide variation in availability of regeneration funding by region and the subjective choices of where regeneration income can be returned via HE-BCI. In line with the consultation, the group also considered that a measure of investment by institutions into local regeneration may be a useful addition to the proposed metric.
- 71. The pilot group also raised additional concerns, which did not feature in the main consultation:

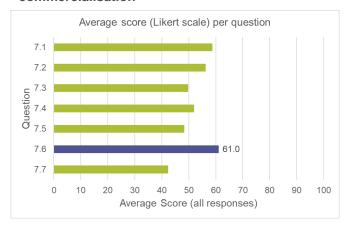


- a. The group felt that the pilot data set showed that the proposed metric was markedly vulnerable to large peaks and troughs in funding received and also long time lags between activities and income.
- b. Many forms of regeneration funding have a high burden of administration, so even where these funds are available within a region, the burden of access may be prohibitively high for smaller institutions.

IP and commercialisation (Q7.6)

- 72. Commentary on this perspective elicited many detailed comments, with the overall sentiment reflecting the higher Likert score (Figure 5.6).
- 73. While general comments from over 20% of respondees stated that income measures were appropriate in this perspective, a number of potential issues were raised. Around 5% of respondees made mention to place and geography, most frequently in relation to access to finance, especially venture capital.

Figure 5.6: Relative Likert score of IP and commercialisation



- 74. A wide range of comments concerned timeframes around these metrics including:
 - a. The concentrated nature of income-generating commercialisation activity within relatively few institutions and its 'lumpy' nature (i.e. that volumes vary significantly year-to-year) means the metrics in this perspective may not be relevant to some institutions, and that it would be hard for external audiences to draw conclusions from them (18% of respondees).
 - b. Whether the proposed three year time series and normalisation by research income was appropriate for measuring spin-out performance, given the long time-lags involved. Would a longer time series of 10+ years be more appropriate?
 - c. The time lags between research being undertaken and spin-out creation was seen as particularly problematic for the metric of 'research resource per spin-out'. Several respondees also expressed concern that given the relative ease of creating a spin-out that this metric may create a perverse incentive to incorporate spin-out companies too early, or where a more appropriate exploitation route existed.



- 75. The institutional strategy, management and tracking of IP and spin-outs were also highlighted in a number of responses including:
 - a. The approach to IP management may have a large impact on performance in this perspective. For example, it may be that significant IP is generated from contract research which is owned by or assigned to the sponsoring company.
 - b. Concern that tracking external investment in spin-outs becomes increasingly difficult with large portfolios or as the company links to the university weaken over time. Several respondees also questioned the robustness and consistency of practice in recording external investment.
 - c. Concern that focusing on external investment as a measure of spin-out success could mean that instances where spin-outs quickly become profitable and grow organically without external investment would not be captured.
 - d. Several respondees argued that measures of successful exits of spin-outs could also be a good indicator of success.
- 76. This question also elicited specific suggestions for new metrics based on other areas of the HE-BCI collection:
 - a. In addition to licensing income, nearly 10% of respondees argued that the numbers of licenses granted (whether or not they generate income) may also give a useful indication of performance. Numbers of free licenses could (subject to a rigorous treatment that differentiated end-user licenses from other forms) indicate active exploitation of IP (the licensee having gone to the effort to enter a formal agreement) where impact rather than income generation was the primary driver.
 - b. Other common suggestions focused on proportions of patents or licenses generating income (indicating active exploitation), rates of disclosures, or ratios of disclosures to patents and IP income (indicating effective translation of disclosures).
 - c. There was also a group of suggestions for metrics which focused less on income and more on capturing results from enterprise structures and IP exploitation strategies that do not focus on income generation, such as social enterprises, open innovation strategies or open source products and software.
- 77. Finally, there were multiple suggestions for measures not currently captured via HE-BCI. The majority suggested new measures of institutional support for IP protection, exploitation and new



venture creation, such as narrative descriptions of the institutional environment, existence of published policies, provision of specific support infrastructure such as incubators, participation in programmes such as ICURe, or levels of expenditure or staffing.

What the pilot workshops revealed

- 78. The pilot workshop discussions followed very closely the themes from the consultation, although additional discussion points included:
 - a. The lack of a metric specifically covering social enterprises could disincentivise their creation.
 - b. Related to the consultation point on burden and potentially inconsistent practice in tracking investment in spin-outs, the question of when a spin-out ceases to be a spin-out was raised i.e. how long and under what conditions should HEIs track their spin-out companies? It was suggested that Research England should formulate new quidance in this area.
 - c. A suggestion that for the metric 'research resource per spin-out', that not all spin-outs were counted, but only those meeting conditions, such as longevity, turnover etc.
 - d. Whether 'spin-ins' (where the university takes an equity stake in return for access to IP etc.) should be recorded.
 - e. Whilst there was recognition that the approach to clustering took into account disciplinary mix, did this go far enough? For example, there is still variation within cluster V, particularly the presence of significant clinical medicine activity. This also raised a related question about the typical risk and cost of spinning out from different disciplines and availability of finance for doing so.



Public and community engagement (Q7.7)

79. As previously stated, 'Public and community engagement' received the lowest average score when participants were asked to rate their percentage agreement. In the accompanying narrative, while the inclusion of the perspective in the KEF was broadly welcomed, there was also a clear message that the metric did not adequately capture the range of activities undertaken by HEIs in this area.

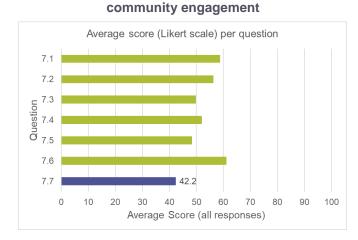


Figure 5.7: Relative Likert score of public and

- Around 17% of respondees suggested that the current metric of time per FTE
 - was not adequate to capture performance or quality of the events recorded, with an additional 12% of respondees suggesting that this risked the role of professional services staff being overlooked.
- b. The consistency of reporting in Table 5 of the HE-BCI return (Social, community and cultural engagement: designated public events) was a concern for 15% of respondees, highlighting the need for clearer guidance on how this information should be recorded across the sector.
- c. The inclusion of narrative was welcome, but 10% of respondees raised the concern that it was not assessed and would therefore not be viewed as of equal value to metric element of the perspective.
- 80. Additional metrics that were suggested included:
 - The number of times that university assets are opened up to the community in some way
 - HEI investment in brokerage
 - Public involvement in research
 - Metrics collected by public relations and marketing departments e.g. the number of academics/professional staff blogging on external sites, social media interactions, media appearances by academics, or coverage of research
 - Number of performances or events and the associated number of attendees.

What the pilot workshops revealed

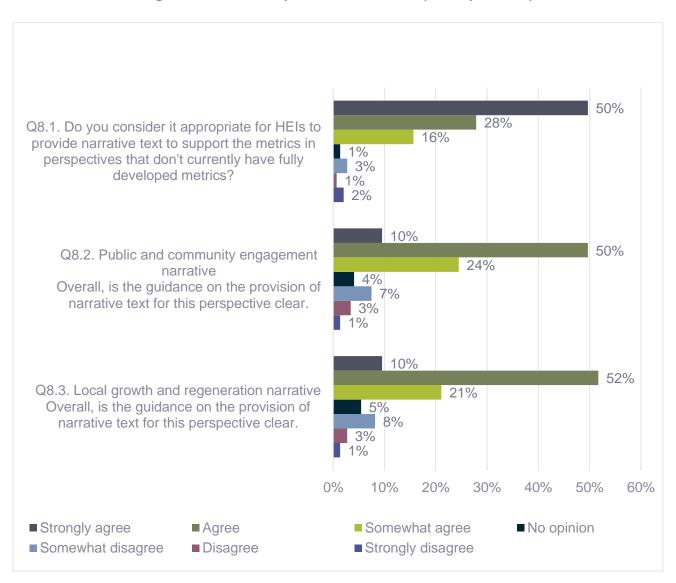
81. In line with the consultation responses (figure 5.7), the proposed metric was not well received by the pilot group, although there was general recognition that in spite of this, community and



public engagement should be represented in the KEF as a perspective in its own right (to retain prominence and not to be seen as of secondary importance). However, there were also concerns raised that the limitations of the currently proposed metric could be counterproductive.

Supplementary narrative

Figure 6: Overall response to Q8.1 – 8.3 (all respondees)



Public and community engagement narrative

82. In line with the responses to Q.8.1 and Q.8.2, 40% of the textual responses were in favour of the inclusion of a narrative for this perspective. However, some concern was raised over how the



inclusion of narrative for only two perspectives would affect their perception, with a suggestion that metrics might be seen as more valuable in comparison.

- 83. Due to the acknowledged limitation of the metric in this perspective, 8% of responses proposed that the narrative be assessed, with concern that it would be redundant or lower quality if not assessed. The opinion on the length of the narrative was varied, with 4% agreeing with the proposed two-page limit and 7% disagreeing on the basis that it was not long enough to cover such a broad perspective. The question of how the narratives could be tailored in terms of content and language to meet the needs of the intended audience was also raised.
- 84. Further clarity was requested on the intended use of the narratives, how they will be related to the metrics in other perspectives and how they will be incorporated into the visualisation of the KEF results, so that the impact is not lost. There were also several comments on the need for a standard definition for public and community engagement and more guidance on types of activities to include.
- 85. There were also suggestions that the narratives might provide opportunity to identify additional metrics and that two versions of the narrative a high level summary and more detailed version might address some of the concerns with length and intended audience.

What the pilot workshops revealed

- 86. The pilot group's discussions were based upon their experience of drafting narrative statements in line with the template proposed in the consultation document. The most challenging aspect for the group related to the purpose and intended audience of the narrative. It was felt that a clear articulation of the audience would provide a clear driver for the tone and content of the statement.
- 87. Similarly to the consultation responses, it emerged in discussions that HEIs have different perceptions of what public and community engagement is to them, which raised the question of whether the narrative should include some form of self definition, or clearer definition provided by Research England of the activities that can be included.
- 88. An element that came across very strongly was the importance of public and community engagement to all HEIs and how impactful it is on every element of the knowledge exchange activities. The group felt that it was important that it was retained as a perspective in its own right, but recognised the difficulties integral in working with an imperfect metric and narrative format.



NCCPE observations on completed narrative statements

- 89. Research England commissioned the National Co-ordinating Centre for Public Engagement (NCCPE) to provide expert input to the KEF pilot process, to support the development of the public and community engagement perspective. In addition to the co-design, facilitation and evaluation of the public and community engagement workshop, the NCCPE also provided a detailed evaluation of the draft narrative statements provided by the participating institutions.
- 90. The NCCPE concluded that there is strong rationale for adopting and adapting the approach to narrative within the KEF. Whilst the proposed template delivers some effective prompts that elicited useful information, there was considerable variety in the level of specificity and supporting evidence provided in the pilot drafts.
- 91. The NCCPE have provided specific recommendations to Research England on how the templates and use of narrative could be improved to draw out more relevant and consistent information. Alongside the consultation responses these recommendations are informing the development of the KEF.

Local growth and regeneration narrative

- 92. Views on the use of narrative were very similar to those raise for public and community engagement. Although 3% of respondees noted that the use of narrative would create additional burden, 25% explicitly stated that the narrative is necessary with a further 10% noting that there should also be an institutional narrative to provide further information on the general geographical and economic context. Again, a small proportion also questioned whether all perspectives should have narratives to guard against the two narrative perspectives being perceived differently in relation to others, while 7% of respondees questioned the value of narratives if they are to be unassessed.
- 93. In relation to the guidance and template provided, 16% of respondees made specific reference to the clarity of the guidance, although the purpose and audience was questioned by some and eight responses provided specific suggestions for alternative structures. Some 5% considered that strict word counts and a rigid structure would be necessary to enable comparability, while a similar number felt that it was more important for HEIs to have the freedom to set out their response in a way most relevant to their institution. There was some concern expressed (4%) about how the narrative statement could be integrated into the dashboard in an effective way.
- 94. New issues raised for this perspective were around place and civic activity. Strong views were expressed by 9% of respondents that the narratives should link to the work of the Civic University Commission, relating to the typology developed on the role of HEIs. Case studies were suggested by some as an effective device to communicate achievements.



95. Around 20% of respondees made reference to 'place' and particularly the need to include the context of the local area and/or a description of the identified local needs (8%). A further 6% felt that reference to LEP information or similar datasets as baselines would be important, alongside reference to the strategic links with LEPs. A small proportion (3%) considered that the information should not be limited to the local geographic area of the institution and should be open to include community projects in other parts of the UK or wider world.

What the pilot workshops revealed

- 96. The pilot group's discussions were based upon their experience of drafting narrative statements either in accordance with the template proposed in the consultation document, or building on the suggestions from the previous narrative workshop. Again, the most challenging aspect for the group related to the purpose and intended audience of the narrative and this is key to driving the tone and content of the statements.
- 97. The pilot participants had particularly robust discussions about whether the narrative statement should be restricted to the local geographic area surrounding an institution's main campus or whether it should include national and international activities that demonstrate impact in any identified locality. Both sides of the debate provided strong arguments, but the group was unable to reach a consensus. Irrespective of the expressed views, it was agreed that whichever locality was the focus of the individual institution, that it would be valuable for the needs of that locality to be identified and expressed, to contextualise the work of the institution.
- 98. The pilot group did reach a broad consensus that the inclusion of the section on 'external recognition or awards' did not add value to the narrative statement. Similarly, it was generally felt that in the limited space it would be most valuable to limit the statement to those activities that are specifically targeted to impact local growth and regeneration, rather than general activities with 'spill over' effects.
- 99. Generally, the pilot group felt that the proposed template provided an appropriate balance between a structured format for comparability and flexibility for institutions to present the narrative appropriate to them. It was felt to work well when an overview of strategy and high-level activities were showcased through selected case studies. Infographics were seen to be valuable, and discussions included whether Research England should provide a menu of options for consistency or whether it was more valuable for institutions to incorporate their own as they felt appropriate. The frequency of updates and the timescales of the activities described were also discussed with a variety of views expressed.



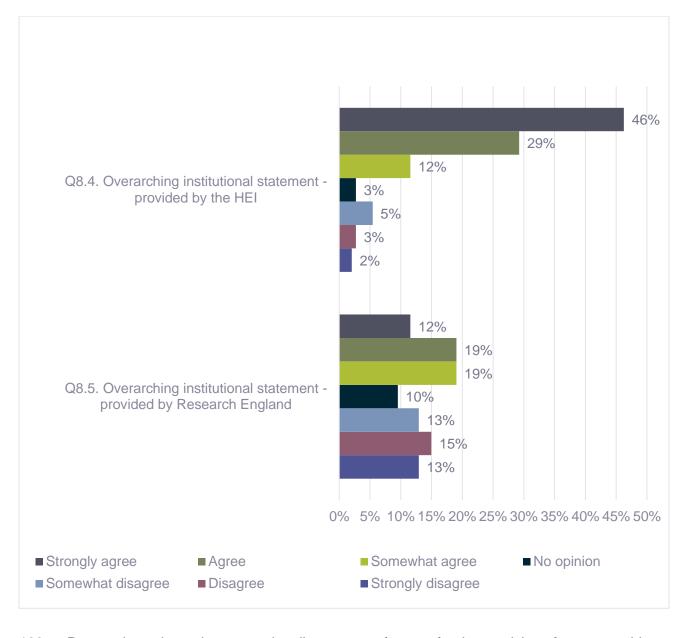


Figure 7: Overall response to Q8.4 and Q8.5 (all respondees)

- 100. Respondees showed an exceptionally strong preference for the provision of an overarching institutional statement being provided by the HEI with 89% agreeing to some extent (and almost half strongly agreeing).
- 101. This was echoed through the written responses which expressed the broad view that an overarching narrative would be beneficial and that it should be provided by the institutions themselves. There was also a strong articulation that the local economic context needs to be considered to place knowledge exchange activities in context, and that it may be appropriate for Research England to provide this data in a standardised format.



- 102. A number of respondees felt that an overarching statement could also be a useful tool to demonstrate an institution's overall strategic goals in relation the perspectives. This may help mitigate any perceptions of relative 'poor' performance in areas that were not of strategic importance to a particular HEI. However, it was recognised that this would be difficult to achieve through the visualisation. Other voices expressed concern that the statements could become marketing tools with little added value.
- 103. Over 10% of respondees commented on potential links or overlaps with other related documents, with 6% asking whether the information provided through the proposed KE concordat could be used for this purpose. A small number noted potential overlap with the REF institutional environment statement, although observing the very different timeframes and purposes of the two frameworks.

What the pilot workshops revealed

104. While not an explicit question explored by the pilot workshops, the subject of a single institutional statement arose in their discussions about overlap between the two proposed perspective statements. Participants demonstrated a clear preference for the existence of a single contextual statement about the nature of the institution and its geographic location, particularly in regard to the local economic context. Although it was considered that the HEIs were best placed to describe themselves, there was some support for the provision of standardised economic or other information to be provided by Research England.



Presentation and visualisation principles

105. We have always considered that the presentation and visualisation of the results should be an integral part of the KEF design. We therefore asked a series of questions related to the main proposed features as follows:

Question	Description
Q9.1	Each of the seven perspectives is to be given equal weighting.
Q9.2	Metrics under each perspective are to be normalised and summed.
Q9.3	The performance of each HEI is to be expressed in a radar chart in deciles, relative to the mean average decile of the peer group.
Q9.4	Perspectives are not intended to be aggregated into a single score.
Q9.5	Narratives are to be presented alongside the metric score, making it clear that metrics in the two perspectives of public & community engagement and local growth & regeneration are provisional, and should be read in conjunction with the narratives.
Q9.6	Visualisation is to be delivered through an interactive, online dashboard which will allow exploration of the data underlying the 'headline' results in various ways.

106. The Likert scores for each of these questions is shown in figure 8, below. We also analysed responses by KEF cluster in table 9:



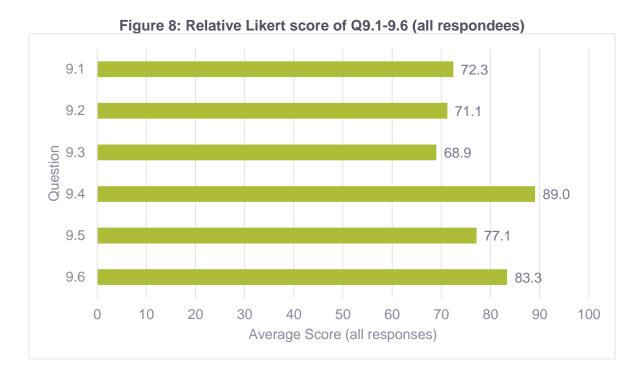


Table 9: Average score (%) per perspective, by cluster for section 9. English HEIs only (n=101), variation of $> \pm 10\%$ from mean highlighted (*except where this exceeds the max. score of 100).

			Averag	e Score		
Cluster	Q9.1	Q9.2	Q9.3	Q9.4	Q9.5	Q9.6
ARTS	86.1	74.3	71.0	98.3	95.0	90.3
E	72.5	78.2	67.8	92.2	84.3	80.0
J	84.2	75.4	72.9	98.3	81.7	94.6
M	78.3	90.0	79.9	98.3	60.8	84.1
SSB	100.0	70.0	75.0	100.0*	45.0	82.5
STEM	55.3	74.3	55.0	61.7	75.0	82.0
V	65.7	59.3	64.7	92.1	73.8	89.5
Χ	75.0	75.6	73.4	90.2	84.5	88.4

Mean	74.8	75.3	70.1	92.1	79.3	86.3
Standard Deviation	28.6	25.3	24.5	17.8	25.3	19.0

Question numbering key 9.1 Each of the seven perspectives is to be given equal weighting; 9.2 Metrics under each perspective are to be normalised and summed; 9.3 The performance of each HEI is to be expressed in a radar chart in deciles, relative to the mean average decile of the peer group; 9.4 Perspectives are not intended to be aggregated into a single score; 9.5 Narratives are to be presented alongside the metric score; 9.6 Visualisation is to be delivered through an interactive, online dashboard.

107. Table 9 suggests that respondees in STEM and Cluster V were more negative towards each of the perspective being given equal weighting (Q9.1). However, in each case, the lower



average is due to two institutions in the cluster scoring significantly lower than the other members. Cluster V also presented a more negative response to Q.9.3, but in this case a quarter of the cluster responded with a significantly lower score than the other members. Question 9.4 received the highest approval across the sector with the exception of the STEM cluster. Again, this was due to two institutions scoring significantly below that of the other members.

- 108. The associated commentary surfaced a number of key themes. A third of respondees thought the consideration of visualisation at this stage was helpful, but there were mixed views on whether all perspectives should receive equal weighting or if institutions should be allowed to choose their own weighting for perspectives to reflect their strategic priorities.
- 109. The integration of narratives was commented on by 20% of respondees, highlighting the need for them to have equal visual prominence to the metrics so that they are not devalued or overlooked. In Q9.5, respondees noted that the two perspectives with narratives had been presented as provisional and there was concern that this would impact the perception of their importance in relation to the other perspectives.
- 110. There was some concern that although the visualisations may be helpful for HEIs, they may be of limited use for external audiences who may not have a clear understanding of the clustering. There was also concern that results would be aggregated into a single score to create league tables, despite this not being the intention of the KEF.

What the pilot workshops revealed

111. The pilot group noted that the visual perception of the spider diagrams can differ depending on the order of the perspectives as shown in figure 9. The pilot group were presented with a variety of alternative options for visualisation, a selection of which are shown in figure 10:



Figure 9: Effect of perspective order on visual perception of spider diagrams

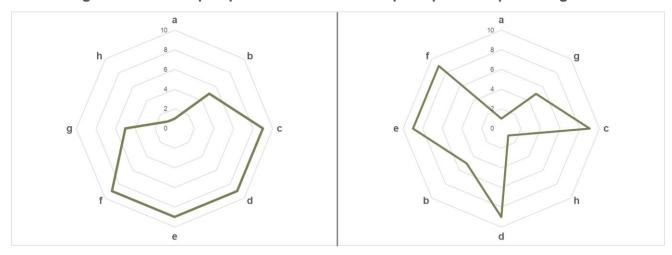
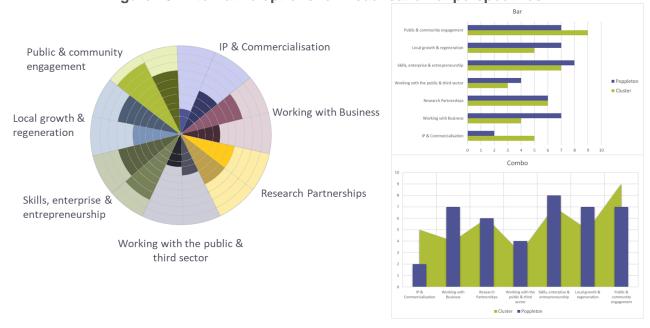


Figure 10: Alternative options for visualisation of perspectives



112. The pilot group also explored how the KEF results could be presented for different audiences, or to fulfil different purposes. We asked the group to construct various 'user journeys'. This exercise reinforced the findings of the consultation; that the differing requirements of various potential users would likely require a flexible approach to how the KEF is presented and how the information may be viewed and manipulated.



Discussion and next steps

- 113. This report has given an overview of the outcomes of the consultation and pilot exercise. Whilst this report will not give final decisions on how the KEF will be taken forward, we have found the results of both exercises broadly encouraging. In particular, we are encouraged by the response to the proposed overall approach of a low-burden, institutional-level exercise. Although we accept that there is scope for new metrics to improve the coverage of the KEF, we do believe that it will prove useful, standardised information for institutions to understand and improve their KE performance.
- 114. On the point of clustering for fair comparison, whilst there is still further engagement required with institutions currently in the STEM and SSB clusters, we are encouraged by the overall response to the concept of the clusters. We will look carefully at suggestions made for new variables for inclusion in the clustering model. We will also consider particularly whether the integration of more information on place or local economic context is appropriate, or whether this should be dealt with separately. This is because the conceptual model on which the clustering model is based is designed to represent the *internal* assets and capabilities of the institution rather than its *external* environment.
- 115. On the point of re-clustering, or institutions moving between clusters, it is our view that whilst the clusters should be seen as quasi-fixed in the medium term, periodic re-clustering is probably appropriate, either re-clustering all institutions in response to new data becoming available (e.g. new REF results) or individual institutions on the basis of a material change (e.g. being a new entrant to the sector, merging or demerging etc.)
- 116. Whilst we value all suggestions offered, many of the proposals made for new or alternative metrics were based on data not currently gathered; not gathered systematically across the UK; or may by their nature require significant effort to define or capture properly. We will therefore consider these suggestions as part of the broader HESA-led review of the HE-BCI survey, the outcomes of which we expect to influence future iterations of the KEF.
- 117. The pilot allowed us to interrogate the proposed metrics and explore further suggestions made in the consultation. As a result, we will undertake further modelling and analysis before making final decisions on metrics. Immediate areas of focus include (but are not limited to):
 - a. Further evidence gathering around the robustness of in-kind contributions to collaborative research.



- b. The feasibility of including grey literature in metrics of co-authorship with non-academic partners.
- c. The metric of 'Research resource per spin-out': Given the highly concentrated nature of spin-out activity and time lags between investments in research and spin-out creation, should this metric be modified or removed?
- d. Exploring whether robust data exists for other measures of spin-out success in addition to external investment (e.g. exits, growth through early profitability etc.)
- e. The inclusion of income from facilities and equipment as well as consultancy income (although as a summed total, rather than two separate metrics) to ensure there is no distortion of recording in HE-BCI, and to recognise and encourage the effective utilisation of university assets.
- f. Whether it is feasible to also include measures of investment in local growth and regeneration (including through leveraging in contributions), as well as income received, to give a fuller picture of contribution to local growth.
- g. Further investigation of proposals made (including in the report by NCCPE) on potential alternatives to the proposed metric for public and community engagement.
- 118. Whilst broadly welcomed in the consultation, the proposals for narrative statements elicited more discussion amongst the pilot participants than perhaps any other aspect of the proposals. We will therefore review the content, structure and format of the templates, paying particular attention to guidance around audience and purpose, potential overlap with existing sources of information, and how narratives should integrate with the proposed data dashboards.
- 119. Should we opt to include an overarching institutional narrative, we agree that this should be provided by the HEI, which is consistent to our approach to narrative generally. However, should we opt to include other contextual information relating to the external environment (for example on a university's local economic context), we believe it would be more appropriate for Research England to compile a standard set of data for this purpose. Such contextual data would likely be supplementary only, rather than being used as a way of normalising results.
- 120. On presentation and visualisation of results, the various proposals were reasonably well received, and we still believe the proposed approach is viable. However, we will continue to refine the dashboards, looking particularly at how they can provide the most appropriate information to different users, and how KEF results can be presented alongside other relevant information, or integrated into existing tools and platforms. It is likely also that we will evolve the



'headline' KEF radar diagram to mitigate the problem of differing perceptions of performance depending on the ordering of the perspectives.

- 121. Several responses called for more information on the possible link to funding, including HEIF allocations. We believe this question needs to be approached carefully. HEIF provides a strong return on investment of over £7 for every £1 invested and we must ensure that this strong return on investment is protected. Additionally, the proposed KEF takes a broad view of KE, while our funding needs to pay regard to the role HEIF plays in delivery of the Industrial Strategy. Our current thinking is therefore to evaluate the first iteration of the of KEF, to ensure it works as intended and is succeeding in its aims.
- 122. Our current proposals then focus on continuing to evaluate the effect of the KEF and explore further ways to use it to inform funding in the longer term. Such evaluation would explore any effects on behaviour, robustness of the metrics, and cost/burden balance of all aspects of the KEF, including the narrative statements.
- 123. We note the concerns expressed in both the consultation and pilot regarding timing of implementation and potential overlaps with the REF and TEF. We will pay regard to this when agreeing implementation timescales.

Acknowledgements

124. We wish to acknowledge and thank all respondees to the consultation for their detailed and constructive comments and all institutions who volunteered to take part in the pilot exercise. We wish to particularly thank all the pilot institutions for contributing significant time and expertise to the exercise.



Annex A – Proposed cluster membership and KEF pilot participants

Note: The full report detailing this cluster analysis is available at: http://re.ukri.org/documents/2018/kef-cluster-analysis-report/.

^{*} HEIs that participated in the pilot workshops are highlighted in **bold** and marked with *.

Cluster name and key characteristics	Membership (short name)
Cluster E Large universities with broad discipline portfolio across both STEM and non-STEM generating a mid-level amount of world leading research across all disciplines. Significant amount of research funded by gov't bodies/hospitals; 9.5% from industry. Large proportion of part-time undergraduate students, and small postgraduate population dominated by taught postgraduates.	 Anglia Ruskin Aston Bedfordshire Bournemouth Bradford Brighton Central Lancs City University Coventry* De Montfort Goldsmiths Greenwich Hertfordshire Huddersfield Kingston Lincoln John Moores Manchester Met* Middlesex Northumbria N'ham Trent Open Oxford Brookes Plymouth* Portsmouth Salford Sheffield Hallam UWE* Westminster
Cluster J Mid-sized universities with limited funded research activity and generating limited world-leading research. Academic activity across STEM and non-STEM including other health, computer	 B'ham City Bolton Canterbury Chester Derby East London Gloucestershire



sciences, architecture/planning, social sciences and business, humanities, arts and design. Research activity funded largely by government bodies/hospitals; 13.7% from industry.	 Leeds Beckett London Met South Bank Northampton Roehampton Staffordshire Sunderland Teesside* Wolverhampton Worcester*
Cluster M Small universities with limited funded research activity and generating limited world-leading research. Academic activity across disciplines, particularly in other health domains and non-STEM. Much of research activity funded by gov't bodies/hospitals; 14.7% from industry.	 Bath Spa Buck's New Buckingham Chichester Cumbria* Edge Hill Falmouth Leeds Trinity Liverpool Hope Newman St Mary Tw'ham Solent* Marjon Suffolk West London Winchester York St John
Very large, very high research intensive and broad-discipline universities undertaking significant amounts of world-leading research. Research funded by range of sources incl. RCs, gov't bodies, charities and 10.2% from industry. Discipline portfolio: significant activity in clinical medicine and STEM. Student body includes significant numbers of taught and research postgraduates.	 Birmingham Bristol Cambridge Imperial* King's College Leeds Liverpool Manchester Newcastle Nottingham Oxford* Queen Mary Sheffield* Southampton* UCL Warwick
Cluster X Large, high research intensive and broad- discipline universities undertaking a significant amount of world-leading research.	 Bath Birkbeck Brunel Durham East Anglia Essex*



Much of research funded by RCs and gov't bodies; 8.5% from industry. Discipline portfolio balanced across STEM and non-STEM with less or no clinical medicine activity. Large proportion of taught postgraduates in student population.	 Exeter Hull Keele Kent Lancaster* Leicester LSE* Loughborough Reading Royal Holloway SOAS Surrey Sussex York
Arts specialists Classified by Heuristics: Herfindahl index of discipline concentration >0.4 OR; Any discipline with >50% academics in it.	 Arts B'mouth* Dance & Drama Courtauld Creative Arts Guildhall Leeds Art Liver Perf Arts Arts London* Norwich Arts Plymouth Art Ravensbourne Rose Bruford Royal Ac Music Royal Coll Art Royal Coll Music Royal Central School Speech & Drama* RNCM Trinity Laban
Social Sciences and Business (SSB) specialists Classified by Heuristics: Herfindahl index of discipline concentration >0.4 OR; Any discipline with >50% academics in it. Science, Technology Engineering and Maths (STEM) specialists Classified by Heuristics:Herfindahl index of discipline concentration >0.4 OR; Any discipline with >50% academics in it.	 UC Birmingham Bishop G'teste* Heythrop L'don Business National Film and Television School* *based on 2016 HESA academic staff data ICR Liver Trop Med* Sch of Hygiene Royal Vet Coll St George's Cranfield* Harper Adams Royal Agr Uni Writtle



Annex B – Coding scheme

1 Burden/workload

Comments related to time and effort to complete, positive or negative General burden Specific to metric

2 Process/timescales

Process of running the KEF rather that the content HE-BCI Review Clustering frequency Frequency of exercise

3 Unintended consequences

General and specific
Positive/Negative
Incentive
Bias/skew towards discipline or sector

4 Definition/clarification

Concept of:

Metrics Narratives

5 Metrics

Comments on existing Suggestions on new/alternative Normalisation strategy/appropriateness

6 Narratives

Comments on existing Suggestions on new/alternative Appropriateness

7 Scope and purpose

General (e.g. purpose overall not clear) Specific (perspective not clear e.g. business partnerships) Audiences (does it fulfil purpose)

8 Links to external organisation/references to external documents

Source of information e.g. civic university, REF, overlap

9 Visualisation & Presentation

Comments on existing Suggestions on new/alternative

10 Clustering

11 Place



Annex C – Proposed metrics and perspectives

This annex sets out the proposed perspectives and metrics to be counted under each perspective, noting where narratives will be used in addition in two perspectives. Normalisation by FTEs or research income is by HESA staff, student and finance records. Normalisation by academic FTE is proposed to include both research and teaching staff as recorded by the HESA staff record. **All metrics will be averaged over the most recent three years' data.**

Perspective	Proposed metrics
Research partnerships	 Contribution to collaborative research (cash and in-kind) as proportion of public funding (HE-BCI table 1a) Co-authorship with non-academic partners as a proportion of total outputs (data provider TBD)
Working with business	 Innovate UK income (KTP and grant) as proportion of research income (Innovate UK) Contract research income with businesses per academic FTE (HE-BCI table 1b) Consultancy income with businesses per academic FTE (HE-BCI table 2)
Working with the public and third sector	 HE-BCI contract research income with the public and third sector per academic FTE (HE-BCI table 1b) HE-BCI Consultancy income with the public and third sector per academic FTE (HE-BCI table 2)
Skills, enterprise and entrepreneurship	 HE-BCI CPD/CE income per academic FTE (HE-BCI table 2) HE-BCI CPD/CE learner days delivered per academic FTE (HE-BCI table 2) HE-BCI Graduate start-ups rate by student FTE (HE-BCI table 4)
Local growth and regeneration	 Regeneration and development income from all sources per academic FTE (HE-BCl table 3) Additional narrative/contextual information
IP and commercialisation	 Research resource (income) per spin-out (HE-BCI table 4) Average external investment per formal spin-out (HE-BCI table 4) Licensing and other IP income as proportion of research income (HE-BCI table 4)



Public and community engagement	 Time per academic staff FTE committed to public and community engagement (paid and free) across: Events Performances Museums and galleries (HE-BCI table 5) Additional narrative/contextual information
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Annex D – Consultation question index

Section 4	KEF purpose
	Do you consider that the KEF as outlined will fulfil its stated purposes? To provide universities with new tools to understand, benchmark and improve their performance. To provide business and other users with more information on universities. To provide greater public visibility and accountability.
Q4.1	To provide universities with new tools to understand, benchmark and improve their performance.
Q4.2	To provide businesses and other users with more information on universities.
Q4.3	To provide greater public visibility and accountability.
	Please provide a commentary in relation to your scores above. (400 word limit)
Section 5	Aims and overall approach of the Knowledge Exchange Framework (KEF)
Q5	Overall approach. The KEF consultation document describes the overall approach as being an annual, institutional level, largely metrics driven exercise, although noting that narrative will have an important role. More background may be found in the report summarising the recommendations of the technical advisory group. Do you consider this overall approach to be appropriate?
	Please provide a commentary in relation to your scores above. (400 word limit)
Section 6	Clustering
	Please indicate your degree of support for the following aspects of our clustering approach.
Q6.1	The conceptual framework that underpins the cluster analysis.
Q6.2	The variables and methods employed in undertaking the cluster analysis.
Q6.3	The resulting make up of the clusters, i.e. the membership.
Q6.4	That the overall approach to clustering helps Research England to meet the stated purposes of the KEF and ensures fair comparison.
	Please provide commentary on any aspect of your scores above. If relevant please incorporate suggestions for alternative arrangements. (400 word limit)
	SSB & STEM - wish to provide further comment
Section 6a	Proposed SSB & STEM Cluster Feedback
	Only applicable to SSB & STEM cluster respondees
Section 7	Perspectives and metrics



Section 8	Supplementary narrative
	Taking into account the range of metrics outlined in the consultation document for this perspective, please provided any comments on the balance and coverage of the proposed metrics. (400 word limit) Note there is a separate question to consider the use of supplementary narrative.
Q7.7	Public and community engagement
	Taking into account the range of metrics outlined in the consultation document for this perspective, please provided any comments on the balance and coverage of the proposed metrics. (400 word limit)
Q7.6	IP and commercialisation
	Taking into account the range of metrics outlined in the consultation document for this perspective, please provided any comments on the balance and coverage of the proposed metrics. (400 word limit) Note there is a separate question to consider the use of supplementary narrative.
Q7.5	Local growth and regeneration
	Taking into account the range of metrics outlined in the consultation document for this perspective, please provided any comments on the balance and coverage of the proposed metrics. (400 word limit)
Q7.4	Skills, enterprise and entrepreneurship
	Taking into account the range of metrics outlined in the consultation document for this perspective, please provided any comments on the balance and coverage of the proposed metrics. (400 word limit)
Q7.3	Working with the public and third sector
	Taking into account the range of metrics outlined in the consultation document for this perspective, please provided any comments on the balance and coverage of the proposed metrics. (400 word limit)
Q7.2	Working with business
	Taking into account the range of metrics outlined in the consultation document for this perspective, please provided any comments on the balance and coverage of the proposed metrics. (400 word limit)
Q7.1	Research partnerships
	Taking into account the range of metrics outlined in the consultation document, please indicate whether you consider that they adequately represent performance in each of the proposed perspectives.
Q7	Taking into account the overall range of perspectives and metrics outlined in the consultation document, do you agree or disagree that a sufficiently broad range of KE activities is captured.



Section 10	Implementation
	Please comment on the presentation and visualisation proposals, for example:- where further clarification is required- where refinements could be made- whether there are areas where more consistency across HEIs could be achieved- how narratives could be incorporated?(400 word limit)
Q9.6	Visualisation is to be delivered through an interactive, online dashboard which will allow exploration of the data underlying the 'headline' results in various ways.
Q9.5	Narratives are to be presented alongside the metric score, making it clear that metrics in the two perspectives of public & community engagement and local growth & regeneration are provisional, and should be read in conjunction with the narratives.
Q9.4	Perspectives are not intended to be aggregated into a single score.
Q9.3	The performance of each HEI is to be expressed in a radar chart in deciles, relative to the mean average decile of the peer group.
Q9.2	Metrics under each perspective are to be normalised and summed.
Q9.1	Each of the seven perspectives is to be given equal weighting.
Q9	Please indicate your level of support for the proposed method of comparison and visualisation. (A link to a video walkthrough of the KEF visualisation is available here.)
Section 9	Visualisation
Q8.5	Overarching institutional statement - provided by Research England
Q8.4	Overarching institutional statement - provided by the HEI
	Please comment on the proposal to include narrative from HEIs for the local growth and regeneration perspective, in particular: - where further clarification is required-where refinements could be made- whether there are areas where more consistency across HEIs could be achieved (400 word limit)
Q8.3	Local growth and regeneration narrative Overall, is the guidance on the provision of narrative text for this perspective clear.
	Please comment on the proposal to include narrative from HEIs for the public and community engagement perspective, in particular: - where further clarification is required- where refinements could be made- whether there are areas where more consistency across HEIs could be achieved (400 word limit)
Q8.2	Public and community engagement narrative Overall, is the guidance on the provision of narrative text for this perspective clear.
Q8.1	Do you consider it appropriate for HEIs to provide narrative text to support the metrics in perspectives that don't currently have fully developed metrics?



	We will pilot the implementation with a group of HEIs as described in the consultation document. Please provide any comments about the implementation of the KEF. (200 word limit)
Section 11	Any other comments
	If you have any other comments, please share them here. (400 word limit)