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# A Review of the Effectiveness of the Governing Body (“the Council”) of EPSRC

**Final Report**

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Final Report

technopolis |group|, November, 2013

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# Executive Summary

## This report

This report presents an independent review (the Review) of the effectiveness of the EPSRC Council (the Council), the governing body of the Engineering and Physical Sciences Research Council (EPSRC). The Review has covered all aspects of the operation of the Council and its two subsidiary bodies, the Resource Audit (RAC) and Remuneration (RC) Committees, but not the activities of the EPSRC Executive Leadership Team (ELT), outside its support to Council. More specifically, the Review has examined each of eleven aspects of Council's responsibilities and activities, as requested in the Review's Terms of Reference. Our headline conclusions and recommendations are summarised below against each.

### 1. The role and functions of Council and its subsidiary bodies

The overarching function of **Council** is entirely clear. All Council Members understand it is the executive body responsible for all aspects of EPSRC performance as defined in the Royal Charter. This is also well understood in the wider EPS community. However, there is a difference of opinion among Council Members as to the practical implementation of that executive authority. The majority see Council operating as a high-level advisory body rather than an executive, and while many consider that to be appropriate, others argue Council must be more active in its leadership and supervisory roles. The review team agree with this sentiment, and conclude that Council must be more conscious of the terms of its Charter.

The majority of Council Members have a good view of the roles and responsibilities of **RAC**, and are content with its remit. The responsibilities and work of the **RC** are much less visible, which is not critical but may be a missed opportunity for feedback on ELT performance.

Members do not have a good view as to the role of the Strategic Advisory Network and Teams (**SAN/SAT**) as a source of strategic advice to EPSRC, nor of the processes by which these are constituted or advice sought. We concur with the conclusion of the Fortier Panel that the purpose, constitution and role of these structures should be made more explicit. We endorse the Panel's recommendations on improving line of sight to Council, but suggest changes must go beyond a fuller statement of purpose, and include some additional procedures.

We recommend:

- R1. Council review the terms of its Royal Charter and reaffirm its central authority across the full extent of EPSRC activities
- R2. Council consider what more it might do to support the Chair on the Remuneration Committee and in discussion around the performance of the Chief Executive
- R3. Council review with the Chief Executive the type of questions that might reasonably be put to SAN/SAT, and how and when such advice should feed into Council
- R4. Council ask the Secretariat to maintain a list that details advisory work-in-progress

### 2. The size and composition of Council

Benchmarking the EPSRC against other research councils, we judge Council's current **size** (17) to be appropriate but at its practical (if not *allowable*) upper limit. It has a good cross-section of members from across public and private constituencies, but its **composition** is not ideal when considered from several other perspectives (e.g. ethnicity, gender and age).

There is an irreconcilable tension between the desire to maintain or slightly reduce the size of Council, to increase its effectiveness as a decision-making body, and the widespread calls for broader representation on many dimensions. Members are not *delegates* of particular EPS constituencies, and it may be time for Council to address that explicitly in its rules and processes. By moving away from the notion of Council as primarily a body of renowned scientists and engineers, it may be possible to broaden its composition within its current size.

We recommend:

- R5. Council hold to its current size, adopting a maximum target of 15 ordinary members
- R6. Council discuss and agree additional criteria or principles for the overall composition of Council, which can be used to inform future membership and appointments
- R7. Council consider the appropriateness of current reserved positions on Council for chief scientists, and the potential for recasting this arrangement slightly

### 3. The recruitment, induction and development of Council members

The Council's **recruitment** process follows the Cabinet Office Code of Practice on Ministerial Appointments. It is robust, transparent and fair; it represents good practice as compared with the approaches of research councils in the UK and internationally. However, some Members are concerned whether the current advertising process is sufficiently expansive to attract a good cross-section of diverse applicants.

The current **induction** day for new Council members rightly focuses on some of the most important and relevant aspects, and Members are reasonably content with the process. However, there were some useful additional ideas put forward by those who had recently gone through the process. The Secretariat is continuously developing the scope of induction material, but there remains room for improvement in the generic information provided and how it is presented, as well as in the customisation of induction to individual needs.

Formal **development** activities are limited, and involve mainly 'on the job' learning through participation in Council meetings. That rate of learning for new Members is too slow given the importance of the Council's work and the finite number of places at table.

We recommend:

- R8. Council ask the Secretariat to consider what practicable additional activities it might pursue to increase the number of suitable applicants certain areas
- R9. Council ask the Secretariat to review the appropriateness of induction material
- R10. The Chair and Council to better use appraisals to support Member development
- R11. Council ask the Secretariat to reflect on how an ongoing programme of topical briefings and events might be usefully included within the existing timetable

### 4. The Council's culture and behaviours

Council's conduct is clearly orderly, respectful, even-handed and inclusive. These are all critical qualities to the functioning of a governing body, however, they are not a given, and as such this performance is praiseworthy. There may be room for some improvement in several areas, however, including the transparency of Council's ultimate decisions and the robustness of challenges put to the EPSRC senior management team.

We recommend:

- R12. The Chair continue to strengthen his management of the room and discussions
- R13. Council Members increase efforts to put challenges to the senior management team

### 5. Members' knowledge of, and engagement with, the business

Council Members believe they have good **knowledge** of EPSRC, its programmes, metrics, strategies and mission, and are sufficiently well informed to do their job well. We believe this self-assessment may be rose-tinted, and Members might benefit from further support.

Council Members' **engagement** with EPSRC business is somewhat limited and many would wish to do more, diaries permitting. In practice however, too few Members currently do the 'heavy-lifting', reducing overall effective capacity. The ELT (and some Members) would like to see more active engagement outside of Council meetings (including externally).

We recommend:

- R14. Council ask the Secretariat to reflect on how an ongoing programme of briefing sessions on EPSRC activities and processes might be included within the timetable
- R15. The Chair and Council clarify expectations regarding Member engagement activities, and make this more explicit when recruiting and inducting new Members
- R16. The Chair and Secretariat map the contributions of all Council Members as a basis for a discussion in Council about how best to improve the balance of contributions
- R17. Council ask the Secretariat to develop a forward plan of engagement opportunities
- R18. Council consider all its options for increasing the effective capacity of Council to look more closely at more of the EPSRC business

## 6. Working with the Executive on strategy, policy, oversight and evaluation

The effectiveness of Council's working relationship with the ELT is seen as broadly positive, although most agree it could benefit from improvement in some respects. The relationship is most effective around strategy development, but beyond Council's big strategic planning exercises, a regular 'pulse check' and update on elements of strategy would be good practice.

Members express a high degree of trust in the Chief Executive and the members of the ELT more generally. However, they also feel pressure to support the Executive's proposals where they can, unless there are obvious and material shortcomings, in the interests of efficiency. Council discussion (as minuted) and documentation of implementation is certainly more limited than one would expect, as is discussion of evaluation and monitoring reports.

We recommend:

- R19. Council undertake an annual review of reports concerning EPSRC performance
- R20. Council ask the ELT to draw up a programme of independent evaluations
- R21. Council formalise its recent practice of asking for presentations to be developed through a tiered process akin to Government green/white papers
- R22. Council ask the ELT to review the extent to which it is able to make clear what aspects of Council's papers are based on the work / advice of SAN

## 7. The effectiveness of the operational frameworks

Council Members serve on a part-time basis, and must rely on the EPSRC management team to run the business on its behalf, with responsibility for day-to-day operations delegated necessarily to the Chief Executive and staff. However, details of the framework of delegation (to the Executive and others) is poorly documented and not well understood by Members.

There is also a degree of unease around the extent to which it is appropriate for Council to delegate its responsibilities, with what some consider to be only light oversight. There is an anxiety in some quarters too about relying unduly on the EPSRC senior management team, which is a criticism of Council behaviour at least as much as it is a criticism of the operational frameworks used to structure the process of delegation. However, the practical limitations of the various demands on Members' time are also well recognised.

The functioning of the RAC and its oversight of the EPSRC risk management system is well regarded by Council Members and independent members of RAC.

We recommend:

- R23. Council ask the ELT provide full statements regarding each of the key operational frameworks, from decision making to risk management
- R24. Council use these texts to discuss where divisions of responsibility lie, and which matters are reserved for Council decision
- R25. Council consider whether these can be transformed into documented protocols

## 8. The clarity of documentation about the role and functions of Council

The Council's role and functions are described succinctly online and elaborated in more detail in key documents that include the EPSRC Royal Charter and the more expansive EPSRC Management Statement and Financial Memorandum. The language of the Charter is somewhat legalistic and not very accessible, and could be better drafted. The Management Statement improves and expands upon this, but is still rather complex, and does not easily serve as a quick reference. The EPS community is aware of these documents, but there is concern over the clarity and coherence of the explanations given. However, we understand that Council has limited control over the shape and content of these key documents.

Relevant sections of the website were also a focus of concern for the wider community, who see it as dense and difficult to navigate. The Review team concur with this assessment and would add that the online presentation of Council conveys a separateness from EPSRC, and does not give any sense that the EPSRC strategy, delivery plan or performance are 'owned' by Council. This is partly a function of site design and nomenclature, but also arguably symptomatic of the sometimes less than central role of Council in EPSRC business.

We recommend:

- R26. Council reflect on its 'ownership' of the EPSRC brand and communication strategy
- R27. Council ask the Communications team to propose an improved online presentation
- R28. Council give thought to combating potential confusion caused by nomenclature

## 9. Council's communication of its work and outcomes

Council Members are greatly exercised by this aspect of communications. A majority feel the visibility of Council's work is poor and that this reduces credibility in the EPS community and influence over other stakeholders. The survey of stakeholders confirmed these anxieties; people are generally unaware of the specific contributions of Council.

We recommend

- R29. Council ask the Communications team for advice on how best to develop improved awareness of Council work among key stakeholder groups
- R30. Council consider the possible value (and affordability) of developing an annual public event for the EPS community, building on the recent open forum

## 10. The organisation and management of Council business

The organisation and management of Council business works well most of the time, and continues to improve in response to feedback and reflection. The Chair's recent decision to split plenary in two (with the first part focusing on the three or four most substantive or pressing issues, and the second covering all other items) for example has been well received.

Members of Council and the ELT all express concern, however, over the perennial challenge of making best use of Council's time, given the scope of EPSRC business and the number and complexity of the issues in hand at any one time. There remain some concerns about the extent to which all items are looked at sufficiently, and there is a heavy reliance on the Chair and ELT to get the agenda right and, more generally, to identify all of the issues of concern.

Council Members would welcome more clarity about the agenda-development process, and a more concerted effort to seek Member input to its drafting. Council should also not overlook the need to follow up on progress with implementation of its past decisions.

We recommend:

- R31. Council reconsider the full complement of structures at its disposal, and their tactical use to maximise the time Council proper can devote to matters of substance
- R32. Council consider experimenting with the use of more novel methods for debate and reflection, in order to encourage more innovative insight and decisions
- R33. Council consider if and when it would be appropriate / helpful for Council to hold some part of some or all meetings in a closed session
- R34. Council invite the Chair and ELT to explain the agenda setting process, as the basis for establishing options to encourage more input by Members

## 11. Council's relationship with BIS

A majority of Council Members believe the relationship between Council and BIS is less clear than it might be. Members are aware of the basic principles, but lack clarity about how the relationship works in practice and how that might influence the actions of the Chief Executive or Chair and their subsequent advice or questions for Council.

Our community consultation also revealed widespread unease about the relationship. People understand that EPSRC is a BIS executive agency and that Council appointments are approved by the Minister, but most are unaware of what any day-to-day contact looks like and what this means for strategy and policy. There is also a high-degree of mistrust as to the degree to which politicians are able to determine EPSRC investments top down.

We recommend:

- R35. Council consider its options for improving the transparency of its relationship with BIS, as a matter of urgency

# Introduction

## **This report**

This draft report presents an independent review (the Review) of the effectiveness of the EPSRC Council (the Council), the governing body of the Engineering and Physical Sciences Research Council (EPSRC). The Review was commissioned on behalf of the Chair of the Council, Dr Paul Golby, to assist Council in pursuit of its mission as a non-departmental public body and in line with its Royal Charter, and also to satisfy the requirements set out in the Cabinet Office guidance on corporate governance in government departments.<sup>1</sup> The Review specification is provided in Appendix A. The Review was overseen by an Oversight Group of three Council Members and carried out with the support of the Council Secretariat.

## **The Review Questions**

The Review has covered all aspects of the operation of Council and its two subsidiary bodies, RAC and the Remuneration Committee. It has not considered the activities of the EPSRC Executive, outside its support to Council. More specifically, the Review examined:

1. Members' clarity about the functions of Council and its subsidiary bodies
2. The appropriateness of the size and composition of Council
3. The recruitment, induction and development of Council members
4. Members' knowledge of the organisation, and engagement with its business
5. The Council's culture and behaviours
6. How the Council works with the Executive on strategy and policy development, operational oversight and evaluation
7. Members' clarity about, and the effectiveness of, the operational frameworks Council uses in fulfilling its functions
8. The clarity with which Council describes/explains to others in its documentation its role and functions and those of its subsidiary bodies
9. The quality of Council's communication of its work and outcomes in documentation
10. The organisation and management of Council business
11. Members' clarity about the Council's relationship with BIS

As an effectiveness review, the exercise has both a summative and a formative quality and looked to identify ways to enhance the performance of Council.

## **The Review Process**

The Review process centred on a programme of interviews with current Council Members, the EPSRC Executive Leadership Team and other selected stakeholders from the Engineering and Physical Sciences (EPS) community. These conversations were structured around the review questions, exploring the current situation but also with a strong formative component. The interviews were supported by a preparatory survey directed to Council and a wider consultation of EPS stakeholders. A list of contributors is shown in Appendix B.

The bilateral discussions were given a harder edge through preparatory desk research and international benchmarking, which provided references to procedure and performance within the EPSRC and a range of other world-class institutions. We benchmarked the Council's basic arrangements against those of a selection of other UK and international organisations, including the Medical Research Council and The Technology Strategy Board in the UK and the US National Science Foundation and the European Research Council (ERC), internationally. We also included exemplars from the third and private sectors.

## **Structure of the report**

The report is organised around the 11 Review questions, with findings from our data collection and analysis (desk, interviews, surveys, benchmarks) presented as appropriate. The final chapter of the report presents our conclusions and recommendations.

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<sup>1</sup> Corporate governance in central government departments: Code of good practice(2011), Cabinet / HM Treasury

## 1. The functions of Council and its subsidiary bodies

The first question addressed by the Review concerned Members' clarity about the functions of Council and its subsidiary bodies, specifically:

*Members' clarity about the functions of Council and its subsidiary bodies (Resource Audit Committee and Remuneration Committee), including members' understanding of the respective roles and responsibilities of Executive and Non-Executive members, their understanding of the responsibilities of the Chair and the RAC, and the relationship with EPSRC's strategic advisory routes; (including members' involvement in appointments to the EPSRC's Strategic Advisory Network [SAN])*

The functions of Council and its subsidiary bodies are defined in its Royal Charter (2003), which states that the Council is the 'body corporate' with executive responsibility for spending money allocated by parliament in pursuit of its stated objectives.<sup>2</sup> It prescribes the Council's objectives, its leadership and size. However, it is a short document and the Council's specific functions are not elaborated beyond for example the promotion of high-quality research and the financing of post-graduate training in engineering and the physical sciences (EPS). The Council's roles and responsibilities are elaborated more fully in an accompanying document: the Engineering and Physical Sciences Research Council (EPSRC) Combined Management Statement and Financial Memorandum (2013).

The Royal Charter defines the EPSRC Council as "a corporate body with *executive* responsibilities established under the Science and Technology Act 1965". It states that the objects for which the Council is established and incorporated are:

- To promote and support, by any means, high-quality basic, strategic and applied research and related post-graduate training in engineering and the physical sciences
- To advance knowledge and technology (including the promotion and support of the exploitation of research outcomes), and provide trained scientists and engineers, which meet the needs of users and beneficiaries (including the chemical, communications, construction, electrical, electronic, energy, engineering, information technology, pharmaceutical, process and other industries), thereby contributing to the economic competitiveness of Our United Kingdom and the quality of life
- In relation to the activities as engaged in by the Council under (i) and (ii) above and in such manner as the Council may see fit:
  - To generate public awareness
  - To communicate research outcomes
  - To encourage public engagement and dialogue
  - To disseminate knowledge
  - To provide advice

The Management Statement expands on these duties and states that Council Members "have corporate responsibility for ensuring that the Research Council fulfils the objects of its charter, taking account of the aims and objectives set by the Secretary of State". Council "should decide on all issues of major importance, principally issues of corporate strategy, key strategic objectives and deliverables, major decisions involving the direction of its support for EPS, advice to Government on important research issues within its field and the use of other resources and personnel issues, including key appointments".

Both the EPSRC Royal Charter and Management Statement are available to download online and are provided to new Council Members when appointed, as part of the induction process.

As an aside, our survey of the EPS community and wider stakeholders found that around 75% of the people responding were reasonably clear as to Council's principal roles and responsibilities and 25% indicating they were rather less clear. This feedback is discussed in

<sup>2</sup> <http://www.epsrc.ac.uk/about/history/Pages/royalcharter2003.aspx>

a later section, where we explore the effectiveness of Council’s written communications in helping the wider world to understand its main functions and responsibilities.

Our survey of Council Members confirms Members generally feel they have a good understanding of the various roles and responsibilities of Council. Figure 1 presents the results across a series of roles and responsibilities, sorted in descending order of ‘clarity.’

Figure 1 – How clear is your understanding of Council’s roles and responsibilities in each of the following areas, where 1 is “not at all clear” and 5 is “entirely clear”? (n=16)

| <b>Answer Options</b>  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>Average response</b> |
|--|----------|----------|----------|----------|----------|-------------------------|
| The Council’s duties in respect to the strategic direction of EPSRC  | 0        | 0        | 0        | 5        | 11       | 4.7                     |
| The role and responsibilities of the Chair within Council            | 0        | 0        | 1        | 3        | 12       | 4.7                     |
| The role and responsibilities of the Chief Executive (Deputy Chair)  | 0        | 0        | 1        | 6        | 9        | 4.5                     |
| The roles of the Council’s subsidiary bodies                         | 0        | 0        | 0        | 9        | 6        | 4.4                     |
| The Council’s principal duties in respect to performance of EPSRC    | 0        | 0        | 0        | 10       | 6        | 4.4                     |
| The Council’s duties in respect to the stewardship of public funds   | 0        | 0        | 2        | 6        | 8        | 4.4                     |
| Individual members' roles and responsibilities                       | 0        | 0        | 3        | 7        | 6        | 4.2                     |
| The responsibilities of non-Executive and Executive members          | 0        | 0        | 2        | 9        | 5        | 4.2                     |
| The Council’s obligations in respect to reporting and accountability | 0        | 0        | 2        | 10       | 4        | 4.1                     |
| The relationship between Council, the Secretary of State and BIS     | 0        | 1        | 5        | 7        | 3        | 3.8                     |
| The relationship between Council and the strategic advisory routes   | 1        | 3        | 5        | 4        | 3        | 3.3                     |

Source: Technopolis survey of Council Members, 2013

Overall, the results suggest Members are most confident in their understanding of the role of Council in respect to setting the strategic direction of the EPSRC and the responsibilities of the Chair and Chief Executive. The great majority of the dimensions are rated as being clearly understood, with just two aspects attracting a small number of votes that indicate members are less clear overall: a minority of members is unclear about the exact nature of the relationship between Council and BIS and between Council and strategic advisory routes.

Half of the respondents elaborated on their scores, with a short written comment, several noting that while the Council’s various roles are clear in theory some are less clear in practice. The most fundamental challenge related to the basic role of Council as the EPSRC’s ‘body corporate,’ and the extent to which it truly functions as the executive body delegating authority consciously to the Chief Executive and his senior management team. People distinguished between the espoused role of the Council and the actual role and pointed to a gap, with the latter not quite measuring up to the aspiration. Specifically, issues that emerge include “whether Council is advisory or more than just advisory; whether Council should just endorse the actions of the Executive or also formulate and debate them”.

There were also critical comments about the uncertainty regarding other aspects of Council’s roles and responsibilities, above and beyond those listed. For example, two comments related to the need to clarify the Council’s specific role vis-a-vis the academic community and in relation to the universities that EPSRC focuses on in terms of its strategic partnerships. Members also elected to expand on their low scores for the EPSRC’s strategic advisory routes, which people recognise are mediated through the Chief Executive. They would welcome more information about the specific roles of both SAT and SAN and greater clarity about the way in which such advice is expected to feed into Council: “these [groups] are out of the line of sight of Council”.

Our interviews with Council Members confirmed these sentiments, whereby the great majority said they were entirely clear about the various roles and responsibilities of Council, with two exceptions: it’s relationship with BIS and it’s links to the EPSRC’s strategic advisory routes. We deal with the relationship with BIS in a later chapter of the report, and content ourselves here with some further reflections on SAN and SAT.

The majority of Council Members say they do not have a good understanding as to the role of SAN or SAT as a source of strategic advice, nor of the processes by which these two advisory structures are constituted or indeed the protocol / criteria use to decide when the Executive might seek advice. Moreover, Members say they do not feel confident about what happens on the basis of advice give; they don’t feel able to distinguish specific advice given by SAN (or SAT to the Chief Executive, nor do they understand clearly what influence such advice has within the papers or recommendations that come to Council.

SAN / SAT advice is a matter for the EPSRC Chief Executive in the first instance, however the provision of expert advice or discipline-specific feedback clearly influences the work of the Executive senior management team more generally and indirectly shapes reports to

Council. As such, it would be helpful for all parties if the fact that advice has been sought and given were to be made clear and that the advice and the conclusions based on that advice were also spelled out in feedback to Council through oral or written reports.

We understand that the Chief Executive, in conjunction with the Chair, has begun to make more active use of SAN within Council's offline (detailed) deliberations, involving SAN members and other experts collaborating with Council Members directly in task-and-finish groups working to answer with questions posed by Council. This has improved understanding and transparency and is to be welcomed, however the overall picture about where and what advice is being sought and to what end remains insufficiently transparent and we would recommend Council discuss with the Chief Executive practicable improvements. Moreover, we understand that a decision has been taken to involve Council more closely in the SAN appointment process, and that both the Chair of Council and the Chair of RAC were part of the interview panel for the 2013 round of appointments.

We did not look too closely into these self-evidently important questions, as the EPSRC's strategic advisory routes were subject to a separate independent review, running in parallel with this study, and carried out by an international panel led by Dr Suzanne Fortier, which reported in July 2013.<sup>3</sup> We concur with the panel's conclusion that the purpose, constitution and role of these two structures should be made more explicit as a matter of urgency. The Panel's recommendations on the need to improve transparency include the line of sight to Council, which we endorse fully. However, from the perspective of Council, the proposed changes might usefully extend beyond a more fulsome statement of purpose, and ought to include some additional procedures, too. Specifically, we recommend Council review with the Chief Executive the type of questions that might reasonably be put to SAN or SAT, and how and when such advice should feed in to Council. Not all questions will be matters for Council, but many will, and having clear and agreed criteria will permit the Chair and Chief Executive to more readily distinguish those.

We also recommend the Council Secretariat begin to maintain a complete list of advisory work-in-progress, which can be made available to Council members through the Council extranet. The list's meta-data could indicate whether work items are being carried out for the Chief Executive and the senior management team or the Chief Executive and Council. Each record might usefully include information about the origin of the request for advice, the question posed, the timeframe for the work, the names of the individuals involved in any sub-committee and the names of any Council Members that are part of the working group or somehow following its work. Such a list will develop into an archive, over time, with a repository of papers and individual advisory notes and possibly cross-referenced to supporting studies or evidence. Most SAN / SAT advice will inform thinking or behaviour in some degree, and ideally the repository should also include a linked, brief response from the Chief Executive as regards the key points that have been taken forward.

The great majority of people interviewed – Council Members, EPSRC senior managers and wider stakeholders – had only limited knowledge about the roles and responsibilities of the EPSRC Council's two subsidiary bodies, the Resource Audit Committee (RAC) and the Remuneration Committee (RC).

People are most aware of the roles and responsibilities of RAC, which is the main sub-committee of the EPSRC Council. It is chaired by a member of Council and includes three other Council members and two independent auditors. It meets two or three times a year to review internal and external audit matters, administrative efficiency and the EPSRC's risk register. The RAC chair reports formally to Council once a year, and other parties as required, but in practice the RAC chair presents a report to each meeting of Council. The RAC operates under terms of reference set by the Council.

In all cases, Members and Executives were content with the idea that Council should devolve first-line responsibility for certain more specialised operational functions (i.e. finance to RAC) to a sub-committee of Council comprising several Members and several additional

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<sup>3</sup> <http://www.epsrc.ac.uk/newsevents/news/2013/Pages/independentreviews.aspx>

The review panel presented its report to Council in July. Council broadly accepted the recommendations, which called for: clear and transparent nominations processes; clear definition of roles and responsibilities; designated chairs for SAN and SATs; Council to formally decide when and how to undertake stakeholder consultation; greater transparency in feedback to advice received. A sub-group of Council subsequently developed a precise response to each of the recommendations, including follow-up actions. These were agreed by Council in October 2013

external experts. In the case of RAC, both independent auditors were complimentary about the functioning of committee, and judged it to be well run and effective.

The Remuneration Committee is less visible to Council. It meets just once a year and involves only the EPSRC Chair, Chief Executive and Chair of RAC, and most Council Members are only dimly aware of the scope of its discussions or the argumentation that feeds into decisions. In simple terms, the Remuneration Committee meets annually to assess the individual performance of EPSRC senior staff on personal contracts, and decide, in the light of these assessments, the remuneration they shall receive. It does not include consideration of the remuneration of the EPSRC Chief Executive, which is decided by a panel chaired by the BIS Director General of Knowledge and Innovation (DGKI) and approved by the Permanent Secretary. The Remuneration Committee does not take a view on the remuneration of Council Members, either, an honorarium that is reviewed annually by BIS.

This low level of awareness may be an issue, inasmuch as the Remuneration Committee, in recent years, has had to abide by a government imposed salary freeze. The more general financial pressures on EPSRC (and other research councils) are acting as a drag on salaries overall, albeit not to the same degree as for the top team, and we were told that this is causing growing frustration (perhaps reflected in the 2012 staff survey).

We note that the Council also includes two ‘reserved’ positions for the Chief Scientists from BIS and the MOD – and that this is not something prescribed by the Royal Charter. The term ‘reserved’ is of our making and is not part of the EPSRC lexicon; we use it to distinguish between the appointment process for these two Council members as compared with all other Council members (with the exception of the Council Deputy Chair, who is appointed automatically: the extant EPSRC Chief Executive). Specifically, if the current BIS chief scientist were to step down from his post in the department, his replacement would automatically take over his position on Council. This seems slightly anomalous, and perhaps reflects historical arrangements whereby the DTI director of innovation was also the department’s chief scientist and sat on the governing bodies of all of the research councils. Changes in BIS have made this impractical, and the creation of a separate BIS chief scientist position, who does not report to the DGKI, created the opportunity for the inclusion of an eminent scientist with a direct view of all science and engineering interests within BIS itself. The MOD chief scientist has an even larger scientific domain covering all defence R&D. The importance of EPS to departmental research and technology is not in doubt, and as such it makes sense in principle to include government chief scientists on Council, however should the places be reserved or contested? No other member of Council is there to represent the interests of his or her employer; they are not delegates. By that logic, the government chief scientists should be actively involved in Council business, and bring to bear their understanding of the importance of EPS to government in general: there are several other departments with substantial EPS portfolios, like Transport or Energy, and major laboratories too (e.g. NPL or HSE), with possibly suitably qualified senior scientists who may be in a good position to devote substantial time to the work of Council and bring forward the interest/ experience of EPS in government R&D more generally. We recommend Council consider the appropriateness of this historical arrangement and the potential for recasting the requirements slightly to ensure a broader engagement with EPS in government and possibly a higher level of engagement than may be possible for a Chief Scientist.

## 2. The size and composition of Council

In this chapter, the Review team presents its findings relating to the second of our 11 review questions. In this case, we sought to test the “appropriateness of the size and composition of Council, including Executive representation, in comparison with good practice in similar organisations, and wider board best practice.” Size and composition are addressed separately in the following two sub-sections.

### 2.1 The size of Council

The EPSRC Royal Charter (2003) specifies the basic parameters for the size of Council, as follows: “*The Council shall consist of a Chair, a Chief Executive and Deputy Chair, and not less than ten nor more than eighteen other members*”. However, it provides no further direction as to how the actual size ought to be determined. The EPSRC Management Statement (2013) further clarifies one small ambiguity; that the EPSRC Chief Executive is the Deputy Chair of Council.

The Council’s current membership stands at 17 people; five more than the minimum (12) defined by its Royal Charter and three less than the maximum (20). The number has remained reasonably consistent over time, with members being replaced one-for-one as they reach the end of their term or step down for personal reasons.

Figure 2 – In order to optimise the effectiveness of the Council, should it’s size be ... (n=15)

| Answer Options                        | Response Count |
|---------------------------------------|----------------|
| Slightly smaller                      | 5              |
| Broadly as it is (no change required) | 10             |
| Slightly larger                       | 0              |

Source: Technopolis survey of Council Members, 2013

Figure 2 presents results from the Council Member survey. In terms of the Council's size, a third of Members would like to see a somewhat smaller Council, while two-thirds are content with its current size. No one voted to make Council larger.

Supplementary comments reveal Council Members’ awareness of the dilemma, or trade-off, faced in choosing between a larger or smaller executive body. Most could see the pros and cons to moving in either direction. Reasons given for not making the Council any bigger included the belief that it would become less manageable, unwieldy and tough to chair, that it would be less effective in discussion and that it would be slower to get through business. At the same time, reasons given for not making the Council any smaller focussed on the fact that this would constrain or weaken the composition of Council and its representativeness of the range of areas / disciplines that make up the broad EPSRC community and its different types of stakeholder, and that it would reduce the balance of perspectives and the range of expertise and backgrounds available for discussion and decision making.

As a result, most concluded that the current size – with its range of expertise, breadth of input, diversity of perspectives, and resulting quality of discussion debate - was probably about right. One Member also pointed out that there were inevitably also absences, meaning that most meetings involved fewer than the full contingent of 17 members.

The few who ultimately argued for a slightly smaller Council (perhaps 1-5 less) argued that there was currently a tendency for most people to feel they ought to contribute to most items, and that fewer people would therefore facilitate a more effective and efficient discussion and decision making process. They also argued that a smaller Council might increase the level of engagement, and encourage individual members to feel greater personal responsibility for the group decisions taken.

The views of the Executive Leadership Team split roughly between those who felt Council should be slightly (1 or 2 people) smaller (to increase engagement and the quality of advice), slightly larger (to allow other stakeholders to be represented), or remain at its current size.

Figure 3 – Stakeholders’ feedback on size of Council, where 5 = entirely appropriate (n=66)

| Answer Options  | 1  | 2  | 3   | 4   | 5   |
|---|----|----|-----|-----|-----|
| To what extent is the <u>size</u> of the Council appropriate to its role? | 2% | 2% | 27% | 52% | 18% |

Source: Technopolis survey of EPS Stakeholders, 2013

The wider stakeholder survey also revealed general satisfaction with the current size of Council, with the very great majority (96%) indicating that they were broadly content with the current size as being appropriate for its role (see Figure 3). However, most follow-up comments to this question then focused on the representativeness of Council (or rather who *isn't* represented), suggesting that respondents in the wider community might be willing to see a slightly larger Council if its membership could then be seen to include a representative more closely linked to their subject area or type of organisation.

Our benchmarking work looked at the current size of Councils and governing bodies for a selection of other research councils, research charities and large technology firms in the UK and internationally. The results, presented in Figure 4, show there is considerable variance in size, with the number of Council or Board Members ranging from eight in the case of the Academy of Finland to 25 for National Science Foundation (NSF) in the US. However, most have around 10-15 members, placing EPSRC's Council at the upper end of this selection, below only the American NSF and European ERC.

There appears to be a geographical factor at play in the public sector: organisations covering larger geographic areas, such as the NSF and the European Research Council (ERC) have larger governing bodies; smaller countries with singular councils, have smaller governing bodies. In the private organisations covered, the size of governing bodies varies between 12 and 15, while the two third sector organisations covered have some of the smallest governing bodies (with 8 and 10 members each).

Other empirical studies also suggest the current size of the EPSRC Council (17) is just a little larger than the norm (14) for such public bodies in the US (Quoted in the paper "What is the best size for your Board," Council on Foundations, 2010).

Figure 4 – The current size of the governing body at selected organisations

| Organisation name   | Sector  | Members |
|---|---------|---------|
| National Science Foundation (NSF)                                 | Public  | 25      |
| European Research Council (ERC)                                   | Public  | 22      |
| EPSRC   | Public  | 17      |
| Arts & Humanities Research Council (AHRC)                         | Public  | 16      |
| Medical Research Council (MRC)                                    | Public  | 15      |
| Natural Sciences & Engineering Research Council of Canada (NSERC) | Public  | 15      |
| GSK   | Private | 15      |
| Economic and Social Research Council (ESRC)                       | Public  | 14      |
| BP  | Private | 14      |
| Technology Strategy Board (TSB)                                   | Public  | 13      |
| IBM   | Private | 13      |
| Science Foundation Ireland (SFI)                                  | Public  | 12      |
| BAEsystems  | Private | 12      |
| Proctor & Gamble  | Private | 12      |
| Rolls Royce   | Private | 12      |
| Science and Technology Facilities Council (STFC)                  | Public  | 10      |
| Wellcome Trust  | Third   | 10      |
| Swedish Research Council (SRC)                                    | Public  | 9       |
| Academy of Finland  | Public  | 8       |
| Carbon Trust  | Third   | 8       |

Source: Technopolis benchmark analysis, using published foundation documents and online statements, 2013

There is no formula to determine the right size of a Council, however the Royal Charter's parameters – anywhere between 12 to 20 members – appear sensible in light of the EPSRC's financial scale and wide-ranging public remit and the resultant need to bring to bear very many quite distinct perspectives from within and beyond the EPS community. These upper and lower bounds hold for each of the UK's other grant-awarding research councils (with the exception of the STFC), who currently have similarly sized Councils to EPSRC (16, 15 and 14 members in the three Councils covered in our benchmarking work).

From our various discussions there is an evident dilemma in changing the size of Council – in either direction. All things being equal, a larger Council will tend to make it easier to ensure a diversity of experience and perspectives and thereby facilitate robust debate and non-prejudicial decision-making. It can also be a positive when it comes to issues of advocacy and resourcing, providing more points of influence in the national political and financial arenas. On the downside, a larger Council will tend to be more difficult to manage (chair) and may even work against a full and frank debate involving all members and all points of view. By contrast, a smaller Council will tend to be easier to manage and ensure a

good quality discursive process, but may also omit important perspectives and produce unintentionally partisan or orthodox decisions.

The empirical analysis suggests that the EPSRC Council is at the upper level of what is typical for the governing bodies of grant-awarding research councils, and Council Member's voting suggests it is at the upper limit too. None voted to make use of the remaining three seats, and comments in subsequent interviews suggest that certain features of (too) large Councils are already in evidence from time to time with the current level of membership. Most on balance, would opt for little or no change to the current size. From a practical point of view (for efficiency and effectiveness of discussion and decision making) it could perhaps benefit from being a couple of people smaller, but concerns over representation (from outside stakeholders) might prevent this being a realistic option. Indeed, many external stakeholders would be happy to see a couple *more* people in Council if this improved representation (from their discipline / area). Calls for additional representation within Council are discussed further in the next section.

## 2.2 The composition of Council

Moving now to the composition of Council, the EPSRC Royal Charter (2003) states that the Secretary of State shall have the final say in individual appointments, and "*at least half... shall be appointed by reason of their qualifications in science or engineering.*" However, beyond these basic parameters, the Charter provides no direction as to how the overall composition ought to be determined.

The EPSRC Management Statement (2013) expands on the Charter's instructions, noting that the Secretary of State will make appointments following consultation with the Chair and the Presidents of the relevant learned societies (e.g. RAEng) as regards the sub-set of all Members (candidates) appointed for their science and engineering qualifications. However, it is silent on any explicit need to embrace any wider perspectives (e.g. the third sector or the lay public), although there is ample room for such extra diversity with a defined minimum quota (at least 50%) of appointees being there by virtue of their science and engineering qualifications. The guidelines also reveal an important feature of any board and its individual members, which is the need to bring to bear personal experiences while acting corporately (i.e. deploying their knowledge of an area, rather than representing its interests).

Finally, the present Government has set a new aspiration that women will comprise 50% of new appointments to public boards by May 2015 (from ~34% in 2013).<sup>4</sup> In order to work towards this aspiration, it has established a Centre for Public Appointments in the Cabinet Office and also intends to publish a cross-Government diversity strategy shortly.

The Council's current membership of 17 people includes the Chair, a deputy Chair (the EPSRC CEO), two government representatives (CSAs from BIS and the MOD), and 13 'ordinary' members from academia and industry. There is also an observer from BIS. The CEO is the only Executive Member of Council, though other members of the executive team do attend and observe Council meetings on a rotating basis, and / or to present.

Ordinary Members are based in organisations that are spread across the UK, covering six English regions and Scotland. Seven of the eight members from academia are based in Russell Group Universities. Members include a mix of ages, backgrounds, disciplines and sectors (all EPS), and include members that have served for anywhere from a few months to 5 years on the Governing Body, in addition to various other past and ongoing posts on other Councils and Boards. There are 3 women to 14 men (18% of the total).

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<sup>4</sup> <https://www.gov.uk/government/news/drive-to-increase-number-of-women-on-public-boards>

Figure 5 – How appropriate is the composition of Council (5 = entirely appropriate)? (n=16)

| Answer Options   | 1 | 2 | 3 | 4 | 5 | Average response |
|--|---|---|---|---|---|------------------|
| The balance of Non-Executive and Executive members                         | 1 | 0 | 3 | 7 | 5 | 3.9              |
| The balance of new and more experienced members                            | 0 | 4 | 1 | 4 | 7 | 3.9              |
| The balance of membership by broad discipline                              | 0 | 0 | 5 | 9 | 2 | 3.8              |
| The balance of membership by sector  | 0 | 3 | 4 | 7 | 2 | 3.5              |
| The balance of national and international experience                       | 0 | 2 | 7 | 3 | 3 | 3.5              |
| The balance of membership across types of academic institution             | 0 | 1 | 7 | 8 | 0 | 3.4              |
| The balance of membership across larger and smaller companies              | 1 | 6 | 2 | 6 | 1 | 3.0              |
| The diversity of membership, in terms of age, gender, race, disability etc | 0 | 8 | 4 | 3 | 1 | 2.8              |

Source: Technopolis survey of Council Members, 2013

Responses to our Council Member survey (Figure 5) show they are broadly happy with Council's current composition in terms of the balance of external and executive Members and the representation across EPS disciplines. However, there is some evident concern about the current composition of Council when looked at from several other perspectives, including members' length of service and economic sector. The two most widely reported areas of concern however were diversity (gender and ethnicity) and smaller firms.

Our interviews confirmed the survey results in large measure, however they also produced several qualitative insights. The first was around the involvement of smaller universities and the more general perception of EPSRC targeting larger institutions for reasons of efficiency, and that as a result, many of the UK's EPS departments are increasingly looking to other funders; the EPSRC is becoming less important within the overall funding landscape.

The second insight came from a remark about the tendency for people to think of SMEs as small tech startups, where a more grounded and heterogeneous view of the world would also include the UK's medium-sized businesses (still SMEs), many of which have a close interest in engineering and technology and also the internal resources necessary to engage with EPSRC directly. It was suggested that EPSRC might be able to strengthen its engagement with SMEs (and increase SME participation in Council) through making use of the supply chains of the big companies already linked to EPSRC.

We did discuss the need for a stronger *international* perspective on Council, given the growing number of countries with people and institutions at the cutting edge of the engineering and physical sciences (China, France, Germany, Switzerland, US...) and the opportunities (and challenges) that presents for research cooperation and even funding. The idea was well received in principle, however Council Members (as well as EPSRC senior managers and several stakeholders) noted the challenge for non-residents to grasp the specificities of the UK's institutional and juridical landscape (on top of any logistical issues): on each of two or three previous occasions, international members are thought to have struggled to contribute. The feeling is that it is rather more practicable to ensure that a proportion of Council Members has substantial overseas experience and that Council's debates more generally should wherever possible give due consideration to any international issues, and be supported by international documentary evidence (such as the international benchmark work that has been undertaken in the past). Some would agree that existing members do have a 'global perspective', and that there is an international angle to some discussions. However, the international perspective is more commonly seen as not as strong as it might be, given the growing importance of 'the global stage' to UK EPS.

Various other observations were made, covering:

- The age and seniority of members: Are vice-chancellors the most appropriate people to bring an academic perspective into the room? Do Members have a good feel for what it is like to be a grant holder or practitioner? Are they sufficiently grounded in the work of the community? Could the perspectives of early career researchers, or even research students be included (as in University Councils)?
- Gender – There might be a smaller pool of women in senior EPS posts to choose from, but does this justify a gender imbalance on Council? Could head-hunters be used?
- Ethnicity - The EPS community has large numbers of leading researchers from a wide-range of ethnic backgrounds, and Council ought to be able to better reflect that diversity

Current members also wondered whether consideration should be given to the inclusion of individuals from the 3<sup>rd</sup> sector or NGOs and from non-STEM disciplines, or whether non-sectoral views of the economy or society would be a useful addition.

The EPSRC senior management team echoed the sentiments of Council Members, however, they also underlined the importance of an individual’s eminence and seniority. Indeed, the Executive place special value on the ambassadorial role of Council Members, and, as a consequence would like to see an emphasis on candidates for Council having extensive contact networks and good links with key stakeholders and (political) decision-makers.

Figure 6 – Stakeholder feedback on composition of Council, 5 = entirely appropriate (n=66)

| Answer Options   | 1  | 2   | 3   | 4   | 5  |
|--|----|-----|-----|-----|----|
| To what extent is the <u>composition</u> of the Council appropriate? | 5% | 17% | 46% | 28% | 5% |

Source: Technopolis survey of EPS Stakeholders, 2013

The wider **stakeholder survey** produced a mixed view on the appropriateness of the composition of Council. While most respondents were content with its current size, people were very much less sanguine about the composition of Council, with a substantial minority (23%) voting to say they consider the current membership inappropriate in some degree.

The written feedback from stakeholders runs to many pages and focuses almost exclusively on the composition of Council and its appropriateness for fulfilling its role as the EPSRC’s governing body. It’s clear from the written feedback that most respondents have taken it upon themselves to look closely at the current membership: people have studied biographies and run the statistics to anchor their comments in a factual analysis. The perceived gaps or areas of imbalance echo those revealed in our survey and interviews with Council members, and are paraphrased and presented below in descending order of frequency. The survey is not statistically representative however, so it is possible that the mix of respondents will have overstated certain issues and under-played other aspects. They are however instructive:

- The Council needs a stronger representation from SMEs
- The proportion of academic members ought to be higher, given the role of the EPSRC
- There ought to be a better balance / diversity across the Council in terms of people’s age, gender and ethnicity
- The proportion of active EPS academics ought to be higher, and must include younger grantholders. VCs are perhaps too removed from current frontier research and also the experience of bidding for EPSRC grants
- The number of industry and other user representatives could usefully be expanded and rebalanced to include people from outside ICT
- The Council ought to encompass the full spectrum of EPS disciplines, and should include people from across the theoretical and applied sciences
- Academic members should be drawn from a wider pool than the ‘golden triangle’ and the Russell Group
- There ought to be greater representation of figures from other European / international scientific communities, given the increasingly global nature of science and innovation
- The Council should improve its representation from across the home countries
- There ought to be some representation from non-EPS disciplines, perhaps from the social sciences or humanities

We also invited stakeholders to come forward with practicable suggestions for improving the composition of Council. While many simply restated the need to adjust the balance in one way or another, one did suggest EPSRC consider re-instating the sub-committee structures, so that a greater diversity of people and perspectives can be captured systematically without needing Council to be very much larger than it is presently (and harder to manage).

We also looked at the composition of governing bodies through our benchmarking exercise. All the organisations studied except for Academy of Finland and Proctor & Gamble have detailed biographies of members of their councils/boards of directors on the web site, which could be used for this purpose. The findings, summarised below and in Figure 7, suggest that the EPSRC Council is broadly in line with other governing bodies, as far as we can see from the published data, except in relation to gender diversity:

- The public and third sector organisations examined here typically have one executive member on Council, which is the Chief Executive, with the remainder being non-Executive or external members. However, in three cases there are no executive members (ERC, NSERC and TSB) on the overarching governing body, with the chief executive attending as a non-voting observer. In these three cases, there is a Managing Board. On

the other hand, companies have on average two executive members on the board of directors, typically the Chief Executive and Finance Director.

- There is an interesting difference between the public research councils when it comes to the professional background of their members. In English-speaking countries, specifically the UK, Ireland, the USA and Canada there tend to be many council members with private sector experience. However, elsewhere in Europe, e.g. Finland, Sweden and the ERC, all members of council are required to be senior academics even where they may also have private sector experience. This contrast is set down in the constitutional guidelines: the UK research councils management statements for example specify that at least half of their Council members must be appointed in respect of their scientific expertise. However, the equivalent documents for the Academy of Finland and the ERC specify that all members of the governing body need to have research experience
- The UK research councils have more varied membership than is typical in Europe or even North America. For example, Arts and Humanities Research Council (AHRC) council includes a writer, a former Royal Naval officer and a TV producer. The Medical Research Council has a person specialised in writing in political philosophy.
- The proportion of women on the Council or Board varies a great deal between research councils, where it ranges from a low of 14% for ESRC up to a high of 50% for the Academy of Finland. The median figure is around 30%. The EPSRC sits somewhat below this, at 18%.<sup>5</sup> In general, the UK research councils tend to have lower shares of women members on their governing body as compared with their counterparts in Scandinavia or North America.<sup>6</sup> There is less information about other aspects of diversity – race or age or disability – however judging from the online biographies it would seem that many Councils continue to be dominated by white, middle-aged men

Figure 7 – The size of governing body at selected research and technology organisations

| Organisation name                                | Sector  | No. Execs | Private Sector | % women |
|--|---------|-----------|----------------|---------|
| Academy of Finland                               | Public  | 1/8       | No             | 50%     |
| Swedish Research Council (SRC)                   | Public  | 1/9       | No             | 44%     |
| National Science Foundation (NSF)                | Public  | 5/25      | Yes            | 42%     |
| Proctor & Gamble                                 | Private | 1/12      | Yes            | 42%     |
| Natural Sciences & Engineering RC Canada (NSERC) | Public  | 0/15      | Yes            | 40%     |
| European Research Council (ERC)                  | Public  | 0/22      | No             | 36%     |
| Medical Research Council (MRC)                   | Public  | 1/15      | Yes            | 33%     |
| Science Foundation Ireland (SFI)                 | Public  | 1/12      | Yes            | 33%     |
| GSK  | Private | 3/15      | Yes            | 33%     |
| Arts & Humanities Research Council (AHRC)        | Public  | 1/16      | No             | 31%     |
| Wellcome Trust                                   | Third   | 0/10      | Yes            | 30%     |
| BAEsystems                                       | Private | 3/12      | Yes            | 25%     |
| IBM  | Private | 1/13      | Yes            | 23%     |
| Science and Technology Facilities Council (STFC) | Public  | 1/10      | Yes            | 20%     |
| EPSRC  | Public  | 1/17      | Yes            | 18%     |
| Rolls Royce                                      | Private | 2/12      | Yes            | 17%     |
| Technology Strategy Board (TSB)                  | Public  | 0/13      | Yes            | 15%     |
| Economic and Social Research Council (ESRC)      | Public  | 1/14      | Yes            | 14%     |
| BP   | Private | 3/14      | Yes            | 14%     |
| Carbon Trust                                     | Third   | 2/8       | Yes            | 13%     |

Source: Technopolis benchmark analysis, using published foundation documents and online statements, 2013

<sup>5</sup> The issue of gender balance was discussed in Council (July 2012), where it was agreed that EPSRC should pursue the matter urgently and seek to improve matters in line with EPSRC's overall goal of achieving the European benchmark of 40% of women in non-executive board member positions by 2020. The EU legislation (Nov 2012) refers to publicly-listed companies rather than public sector bodies, however, the EPSRC senior management team nevertheless adopted this target for its external appointments more generally (e.g. SAN). ([http://europa.eu/rapid/press-release\\_IP-12-1205\\_en.htm](http://europa.eu/rapid/press-release_IP-12-1205_en.htm)).

<sup>6</sup> The National Science Foundation Act (1950) requires consideration is given to diversity, which includes gender and ethnic diversity, type of discipline, type and size of organisational affiliation and geographic location. The NSF also has specific guidelines as to what qualities and qualifications the new board members should have.

- Several private companies (e.g. BAE Systems, GSK) emphasise the fact that their boards are international, and have a significant number of members that are not UK nationals. This appears to be a stronger feature in the private sector than the public sector, with the exception of the ERC, perhaps reflecting greater levels of homogeneity among countries when it comes to the framework conditions of large multinationals

The EPSRC, as a NDPB, must embody the general principles of inclusivity (i.e. Code of the Commissioner for Public Appointments), with Council members from academia, industry and government. The current Council of 17 members has a good mix of academic and industrial members as well as government chief scientists, from BIS and MOD (an engineer and a chemist respectively). There appears to be a good age mix (although perhaps an issue with seniority), but there is less good representation on several other dimensions: women, non-E+P disciplines and eminent individuals from Britain's many ethnic groups. One other possibly important omission given the critical importance of international cooperation in the modern global world is the absence of any members that have a uniquely international perspective. That may be a non-issue given the level of international engagement of its existing members, however there may be a case at least for considering the value and practicality of including members with a very much closer view of developments in key engineering partner / competitor countries, from China to Germany to the US.

The issue of 'representation' of sectors and disciplines has come up commonly. This is not an explicit aim in the composition of Council, but is clearly perceived as such by many outside and inside Council. EPSRC's remit covers a very large number of disciplines, and it would be impossible to represent all through specific individuals on Council. This is perhaps an argument for explicitly not structuring Council in this way. It is possible that if Council was smaller, then each EPS domain would not expect to be represented, and this may open the opportunity for a broader intake (against other criteria). So, paradoxically, a smaller Council may support an earlier realisation of a broader composition.

There has been a tendency to recruit like-for-like Council Members. It is perhaps timely for the Chair, and Council itself, to form a view about the overall composition of Council and to use the resulting grid of skills to inform its ongoing decisions about membership overall and the timing and direction of new appointments. The autumn 2013 recruitment exercise is an interesting departure, inasmuch as the specification invited applications from people with 'an advanced understanding and experience of the policy and government environment, including the way in which UK scientific research is funded and managed.' For the Review team, this reflects a welcome recognition that Council needs good insight about the effectiveness of different types of funding mechanisms as well as the more classical requirements as regards scientific eminence or industrial excellence. One might imagine a situation where Council deemed it important to include one (ideally two) members with globally recognised expertise in *how* to design / run a scientific funding body in order to (i) ensure research excellence, (ii) deliver the best researcher training and (iii) optimise social impact. We also recommend that Council:

- Develop and write down an overarching view as regards the criteria to be used in arriving at the ideal composition of Council, as a group
- Look at additional promotional activities and affirmative action to address the issues of diversity in general and ethnicity and gender in particular, with a view to bringing Council appointments in line with UK government ambitions (Cabinet Office, June 2013)

Lastly, we see a *prima facie* case to re-instate the Council's sub-committee structure, or otherwise devise a means by which the many and various EPS stakeholders can be more systematically and fully engaged in framing decisions taken by Council. This should permit Council to become slightly smaller and to operate as a kind of upper chamber working in concert with the more open and representative advisory committees and thematic teams. Done well, this kind of bimodal arrangement would avoid an expectation that all disciplines and wider stakeholder groups should be represented directly on Council proper. We do however understand that this is a reversal of a recent change and that the recreation of additional structures would inevitably bring additional administrative costs for the EPSRC that is unlikely to be able to resource. The financing of the EPSRC administration is the 'elephant in the room,' which is a priority risk for RAC and warrants further consideration by the full Council. Working SAN and SATs harder maybe the only option at present, but this is harder to orchestrate and may not be sustainable.

## 3. Recruitment, induction and development

### 3.1 Recruitment

The Review turned next to the issue of recruitment, which impacts directly on the preceding question about composition, and sought to test the extent to which the process is sufficiently open, transparent and merit-based to deliver that mix of skills and experience and ensure credibility among the EPS community and wider public support.

The recruitment and appointment of EPSRC Council members follows The Code of Practice for Ministerial Appointments to Public Bodies (April 2012), which is published by the Commissioner for Public Appointments in the Cabinet Office. The Code sets out the framework for public appointment processes and is based on three core principles (merit, openness and fairness), and sets out the essential requirements for meeting those.<sup>7</sup>

The process is run by the EPSRC Council secretariat on behalf of the Chair of Council, and is overseen by the Public Appointments Unit in BIS. The steps in the process are defined as:

- Agree re-appointments and vacancies with EPSRC Council Chair and Chief Executive, including the drafting the role and person specification(s) along with any specific requirements that are foreseen. The specification also underlines Council's especial interest in applications from candidates from all of the various different social groups that are not adequately represented on Council in 2013
- Agree re-appointments, vacancies and role and person specification(s) with Minister
- Advertise the vacancy / vacancies using both online and printed media, in line with the approach followed by all Research Councils (e.g. Guardian, New Scientist, Research Fortnight, Times, Times Higher)

The vacancies are also advertised on the Cabinet Office's Public Appointments web site and EPSRC's own web site. In addition, the secretariat announces all Council vacancies in an email to relevant learned societies (e.g. Royal Academy of Engineering), professional institutes (e.g. Royal Society of Chemistry), industry bodies (e.g. Engineering Employers Federation) and individual universities and strategic partners

In addition, the Secretariat invites the Council Chair, Council Members, the EPSRC senior management team and BIS (including the Minister) to suggest individuals for consideration, and any such nominations can then be written to directly with an invitation to consider submitting an application through the open process

- The Council Secretariat monitors applications and performs an initial sift to identify suitable candidates, based on people's application forms and CVs
- The Council Secretariat convenes / schedules the Interview Panel, which is led by the Chair of Council and includes three other members: the EPSRC Chief Executive, the BIS Director of the Research Base and one independent person
- The Interview Panel meets all suitable candidates and, post-interview, grades interviewees as either 'appointable' or 'not-appointable.' The appointable candidates are then ranked in order of preference
- The interview panel makes its recommendations to the Minister, who consults the Royal Society and Royal Academy of Engineering<sup>8</sup>
- An offer letter is issued by BIS and, following acceptance, the Secretariat makes arrangements for the new member to meet the Chair and Chief Executive and schedule an induction day

Figure 8 presents the results from our survey of Council Members, which reveals a strongly positive view of the recruitment process overall, with a suggestion of there being room for improvement around the search process and the duration of the announcement of vacancies.

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<sup>7</sup> <http://publicappointmentscommissioner.independent.gov.uk/the-code-of-practice/>

<sup>8</sup> More recently, recommendations have also been referred to the Prime Minister's Office for approval. However, this is an additional process step introduced by the current government, and is not prescribed by the Charter.

Figure 8 – How appropriate is the recruitment process for Council members (5= entirely appropriate)? (n=16)

| Answer Options   | 1 | 2 | 3 | 4 | 5 | Average response |
|--|---|---|---|---|---|------------------|
| The clarity of job specification and person requirements | 0 | 0 | 4 | 6 | 6 | 4.1              |
| The robustness of selection processes                    | 0 | 1 | 4 | 5 | 6 | 4.0              |
| The openness and reach of the search process             | 0 | 1 | 5 | 7 | 3 | 3.8              |
| The number and duration of announcements of vacancies    | 0 | 0 | 7 | 7 | 2 | 3.7              |

Source: Technopolis survey of Council Members, 2013

Most Council Members stated that they had a rather narrow view of recruitment, and generally only from the perspective of the person being appointed. Perhaps as a result, several linked this question with other evaluation questions to produce more nuanced answers. For example, one CM reflected “it disturbs me that we seem to recruit the same sort of people all the time. The room is just not diverse enough - at EPSRC we are mostly a white, middle-aged club of Caucasian men, and there is no reason why we should be”. Others, reflecting a similar anxiety, suggested getting help in future recruitment rounds from recruitment experts and that the process should be made less opaque. Other views included one that Council and the EPSRC were too little known in industry and therefore it was very much harder to attract applications from industrialists and in particular from SMEs.

In light of this limited view of the appointment process among Council Members, we elected not to include a question on recruitment in our survey of wider stakeholders.

Interviews with the EPSRC senior management team revealed that recruitment has tended to operate on a like-for-like basis, which is to say that where a Council Member steps down, for whatever reason, the recruitment process will tend to search for an individual with the same profile and background as the leaver. There have been cases where a decision was taken to search for someone with highly specific skills, as was the case with a specialist in public engagement. We were told that each public announcement is accompanied by more informal promotion of the appointment, with the Chair and Chief Executive both taking the opportunity to mention the vacancy/ies to people who may be interested and would make suitable candidates. This informal approach still involves candidates having to submit a formal application and pass through the selection process involving first the secretariat and then the selection panel. What is not clear without further analysis – which is beyond the scope of this report – is the extent to which this group of invited applicants enjoys greater success than applicants that come through more open media channels. One would expect them to outperform all applicants on average, at the first round, however, there ought to be little if any distance between this group and other shortlisted candidates at the second round.

We understand it is typical for an appointment process to attract 40-50 applications, however the quality is usually variable and a majority will simply not have the skills or experience to meet the requirements for the job. The applications from industry are particularly problematic in terms of their relevance or suitability. The number of promising candidates is likely to be in single figures.

The recruitment process is not especially prominent in the public documents of the various Councils we looked to benchmark, and so we have been able to capture only a few insights:

- The other UK research councils are required to follow the same broad process as EPSRC
- The ERC has an independent (standing) Identification Committee, which takes advice on its process and criteria from Council Chair and Vice-Chair but is otherwise independent of it (no members of Council sit on the committee). The Committee’s membership is exclusively scientific (e.g. Professor Ann Dowling from the Department of Engineering at Cambridge University) and its methodology is not dissimilar to that of the EPSRC. It invites selected representative bodies (e.g. European Science Foundation, European Universities Alliance and the European Association of RTOs) to come forward with nominations and it separately searches out additional nominations to address any evident gaps in the scientific community’s recommends. The committee evaluates the applications and makes the recommendations for new members and reappointments, which is submitted to the Commissioner for final approval. The Committee also creates a pool of approved applicants that can be drawn as the Council is refreshed periodically<sup>9</sup>

<sup>9</sup> The results of the most recent exercise and the underpinning methodology are reported in a public document entitled, Standing Identification Committee for the European Research Council, Scientific Council Report on the

- The National Science Board of the NSF plays a central role in what it refers to as the Member Appointment Process (defined in outline in the NSF Foundation Act of 1950). In essence, the Board and its secretariat play a central role in drawing up nominations for a pool of prospective new members, which are submitted to the White House and the Office of Science and Technology Policy. The President is able to add to this pool of Board nominations as necessary, for evaluation by the Office of Presidential Personnel. Ultimately, people are appointed by the President with a swearing in at an open meeting of the Board. As with the ERC, the NSF's Member Appointment Process makes multiple appointments at each cycle. The whole process takes around 18 months and is running almost permanently: one third of the Board is appointed every two years, with each member appointed for a 6-year term and the possibility of serving two terms (12 years) with a two-year extension to allow for any additional efforts required to find a replacement. The National Science Board of the NSF is the exception, with most other Research Councils in our selected group having terms of office of three or four years
- In Sweden, the appointment process is somewhat more open and democratic: the majority of the members of the Governing Board of the Swedish Research Council are elected by means of a delegate-voting system, with the voting delegates having been elected by researchers and teachers across Sweden's universities and colleges. The nomination process is similarly open. The Chair and Deputy Chair are appointed by the Government from among the nominated people
- In other research councils, members of the governing board are similarly appointed by the government, however there is no detail in the publicly available documents we found as regards either the nomination or selection process
- In the case of private companies, board members will be identified through many different routes, formal and informal, and with a heavier reliance on professional recruitment consultants to speed up the process, increase success rates and minimise the burden on the corporate system. Ultimately, however, as with the EPSRC and the Minister, all board members are appointed by the company's shareholders.

Our interviews overall confirm the appointment process follows the Code of Practice, and we understand that both BIS and the Cabinet Office closely monitor the individual recruitment exercises. We are content that the process as defined is good practice and we are fully confident that the actual appointment process is robust in terms of its transparency and fairness. We were left with just a few small anxieties:

- Is the advertising process sufficiently expansive and creative to generate a good cross-section of applications? Could EPSRC usefully and cost-effectively add in several additional channels, including its grantholders, key partner agencies such as the Technology Strategy Board and its Knowledge Transfer Networks and intermediaries with a particular focus on smaller firms, like the Federation of Small Businesses. Social media could play a bigger part too, whether that is a professionally-oriented site like Linked-In or more general blogs or tweets. There are also the EPSRC's Strategic Advisory structures, through which four current Members of Council have come.

Enlarging the communications strategy in this way will inevitably increase costs for the secretariat and indeed the EPS community: open recruitment costs more than closed strategies. The additional cost – more notifications and more applications – must be met by additional benefits, in the first instance through a bigger and better pool of applications and the opportunity that presents to achieve a Council that is worldclass in its expertise and diversity of perspectives. The application form invites applicants to say where they first heard of the opportunity, which ought to provide the EPSRC secretariat with the data it requires to monitor the effectiveness of its advertising campaigns. It might be helpful to extend the current menu of options, as all of the channels proposed in this bullet point would have to be written as free text and classified under 'other.' It would also be helpful if the Secretariat could produce a short analytical report for Council, to improve Council Member's understanding as to the number and origin of all

applications and the appointable candidates.<sup>10</sup> This may mean looking at several appointment processes together to avoid the results being disclosive

Using recruitment consultants may help bypass any bottlenecks inside the EPSRC Secretariat, however that is a costly option and would almost certainly require an upfront fee, as the annual honorarium is too small for a conventional royalty-based funding model

- Is a paper-based sift followed by a single interview of shortlisted applicants sufficient? Would a two-stage interview allow Council to be more inclusive? The first round interviews could give a hearing to a larger and broader mix of applicants, and reduce the risk of appointing eminent individuals with very similar and rather orthodox backgrounds as they are the only applicants that can meet the technical requirements definitively. There is also a question in our mind as to whether candidates should be invited to present themselves to Council as part of the selection process, which would be a useful test of people's readiness to contribute to debates and the collective decision making process
- Does the role and person specification say enough about the nature and extent of the contributions expected from Council Members? The specification includes some basic information about the requirements of office, ergo: up to 5 Council meetings a year and an expectation that people will contribute to the work of Council outside its main meetings. It also includes a list of essential skills, several of which imply a wider range of activities in for example interacting with the media or advocating EPSRC priorities to government and academia. It may be helpful to add in a sentence to describe very briefly perhaps two of the more common activities outside Council, such as contributing to a high-level working group on behalf of Council or standing as a member of a Council sub-committee. The appointment is part-time, with a maximum 25 person days a year, and an honorarium of £6,850 a year (c. £275 / day). The upward revision in the number of days, from 18 days in previous job ads, is welcome. Given several of the most active current Members state they are contributing two or three times the number of days expected, the 25 day upper limit is perhaps still a little too low. However, asking for 30-50 days may narrow the pool of potential applicants to an unacceptable degree – especially for independents and smaller organisations – and would also make the current honorarium unworkable
- The role of the Minister and the Learned Societies is not entirely clear, as the panel and the appraisal process should follow the evaluation criteria and be entirely merit based such that one could provide clear and defensible written feedback to all unsuccessful candidates. Moreover, the process is overseen by BIS and by the Cabinet Office, so is entirely robust. However, we recognise that this arrangement is defined in law and set out in the Royal Charter of all research councils. We also acknowledge that it echoes the approach taken almost everywhere else in the world, however, the idea that the final choice might differ from the recommendation of the selection panel seems rather outmoded (whether as a result of the input by a President, Prime Minister or European Commissioner). For the Review team, it would be more appropriate for the Minister and the Learned Societies to have a say in defining the essential requirements of a given post and selection criteria, but to then leave the final decision to the Selection Panel

When we invited stakeholders to come forward with practicable suggestions for improving the composition of Council, several contributors came forward with interesting and non-obvious suggestions relating to the recruitment process. These included:

- Consider making greater use of learned societies and professional institutions in order to generate wider interest in Council appointments. The Review team understands this happens already to some extent, so this suggestion may do no more than prompt the Chair and Council to consider the good sense / sufficiency of the current list
- Consider running an election of sorts among current grantholders, to identify younger or mid-career researchers to sit on Council

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<sup>10</sup> The Review team wonders if the research councils (RCUK) and the Cabinet Office is making best use of the possibly large numbers of short-listed (appointable) applicants that are not appointed. Those individuals may continue to search for a suitable public appointment, however, the near misses may constitute an interesting target group for future vacancies. Could the application form invite applicants to opt in to future targeted invitations, in the event they are not successful on the occasion in question?

- Consider eliminating the automatic allocation of seats to government officials and ex officio members, perhaps involving those individuals indirectly as observers or through the subsidiary committee structures

### 3.2 Induction

The issue of induction is also rather important, and concerns the need to support individual members, from multiple different backgrounds, come together to function as a singular, effective corporate body. Given the high-level of expertise required for people to be appointed to Council, the current induction-day rightly focuses on those aspects likely to be new to members, explaining Council’s responsibilities, its modus operandi along with an overview about EPSRC priorities and operations.

The Secretariat coordinates the induction of new members. This consists of

- An introductory ‘welcome’ conversation, which runs through the basics about the “when,” “where” and “what” of Council meetings, their role as Council Members and what they should expect. The Secretariat asks them about their initial information / knowledge needs, to pick up anything specific we need to emphasise in the induction day
- A day’s induction at Swindon, with a mixture of EPSRC executives and members of the Secretariat talking through the standard material and discussing with them their expectations and understanding (so more specific to the individuals present). In recent years, one or more existing members have also been present for the induction day.

Figure 9 presents the results from our survey of Council Members and shows that people are reasonably content with the induction process with a small minority expressing some reservation about its appropriateness.

Figure 9 – How appropriate are the following aspects of Council’s induction process? (n=16)

| Answer Options   | 1 | 2 | 3 | 4 | 5 | Average |
|--|---|---|---|---|---|---------|
| Scope of the induction process   | 0 | 1 | 4 | 5 | 6 | 4.0     |
| Time devoted to induction of new members of Council                          | 0 | 1 | 5 | 4 | 6 | 3.9     |
| Ongoing support to new members of the Council during first year              | 0 | 1 | 5 | 4 | 6 | 3.9     |
| Timing / delivery of the induction process                                   | 0 | 1 | 6 | 3 | 6 | 3.9     |
| Relevance and alignment of the induction process with Council members’ needs | 0 | 2 | 5 | 5 | 4 | 3.7     |

Source: Technopolis survey of Council Members, 2013

The survey feedback revealed a small number of additional reflections as regards the main aspects of induction process that could be improved:

- Timing/delivery challenges are a function of people’s busy schedules, so only a minor concern
- Allow inductees to see a video of 1-2 prior meetings before attending their first live one
- Provide a guide to abbreviations and non-obvious terms
- EPSRC is a large complex organisation. Getting to grips with it takes time. The formal induction is tackled in a single day, which may be a little too intense
- Not all new members attend the induction, and some have joined by phone. I didn't find that very satisfactory.
- It’s difficult to judge its value after 12 months. Also dependant on time availability of new members. However it feels to be "one size fits all," which is not ideal

Turning to the interviews, several Council Members complimented the EPSRC for allocating a whole day to brief new members on both Council’s roles and the EPSRC administration itself, where in other executive bodies new joiners may be expected to pick things up as they go along. Members reaffirmed the view expressed in the survey that the induction process works pretty well, however several also referred to the very different starting points as regards Council Members’ understanding of the EPSRC. Academics will tend to be more familiar with EPSRC structures and processes, as compared with business people for example. Beyond this most obvious split, several interviewees also picked up on the diversity of backgrounds of new people – even within industry or academia – and recommended EPSRC consider giving more tailored support.

There was a general sense that it takes most Council Members one or two years to get up to speed, and that this is rather too long given the importance of their role and the limits to the number and duration of their terms in office.

Our interviews with the EPSRC senior management team recognised the limitations of a one-day induction course, but they consider this to be a reasonable compromise given the general busyness of the people concerned. The senior management team also acknowledged the challenge of bringing new members up to speed and the highly variable experience linking back to people's backgrounds. There was also a comment about the difficulty of finding time for new appointments to attend one or two council meetings as observers, given the appointment process can take up to nine months and tends to overrun the required start date for the new appointment. The solution to this is not obvious, as there is a substantial bottleneck around Ministerial approval that will not be overcome easily given the scope of the Minister's science portfolio. It may be possible for Council and the secretariat to begin the process a little earlier and to possibly develop a pool of 'approved' candidates to allow a different sequencing.

Our benchmarking was not instructive here. The responsibility for briefing and training new members typically lies with the Chair of the governing body. However, there is almost no information about the induction or development process detailed in any of the English-language publications we were able to identify from among our benchmark organisations. The one small point worthy of note is that in the ERC they invite new members to come as observers to the council meetings before their term in office starts.

Notwithstanding the positive feedback above, we believe there is room for improvement in the packaging and presentation of the generic information provided to new Members. This is based on our reading of the Induction Slides, which we appreciate are not complete without the accompanying oral presentation, however, as written they leave a little to be desired, and should be improved. The following bullet points elaborate our critical reflections

- The slides should be written from the perspective of Council and not the senior management team, as is the case at present. The slides are in the wrong "voice" and imply / tell the incoming Council Member that he or she will join a group of eminent individuals that reflects on strategic issues and gives advice to the Chief Executive of the EPSRC. The schematic showing the EPSRC's reporting line to Parliament omits Council
- The presentation of the EPSRC business cycle – strategy, planning, implementation, monitoring – is rather thin, and while that may be necessary in a presentation, the slides or accompanying notes miss any cross-references to the organisation's written operational manual or standard operating procedures (SOPs)
- The slides miss an overview – schematic – of the administration's core processes, where and how these are managed and how performance within those functions is measured and reported to Council
- The slides miss any sense of how new policies are developed, whether that is to make full use of opportunities like a new EU RTD Framework Programme or deal with challenges ranging from new government policies (e.g. on open access or researcher careers) to financial pressures on the administration itself
- The content of the individual slides is somewhat arbitrary, for example, the presentation of basic statistics shows a curious set of financial data that use different time frames, cover one type of expenditure but not others or merge EPSRC data with that for the other Research Councils. Audiences would need to know a great deal about UK science funding to follow this material, and the slides still miss the basic perspective found in the EPSRC's own annual reports. There are also issues with input data being grouped together with output data, while elsewhere the slides muddle up the EPSRC business cycle with the government's spending review cycle and even throw in references to ad hoc reviews that don't fit with either framework (e.g. the Government's 2013 Triennial Review of the Research Councils<sup>11</sup>)

The EPSRC Secretariat has recently created an internal document entitled, 'Council Membership Lifecycle Support,' which is a 'living document' that provides desk instructions for staff in supporting the Council. It includes (inter alia) a complete and practical view of

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<sup>11</sup> [www.gov.uk/government/consultations/triennial-review-of-the-research-councils-call-for-evidence](http://www.gov.uk/government/consultations/triennial-review-of-the-research-councils-call-for-evidence)

Council's roles and responsibilities, as well as a chapter relating to the Council Member induction process, with explanatory text designed to accompany PowerPoint slides. We fully support the idea of an operations manual; a modular guidebook covering all of the key aspects of the Council's roles and responsibilities and stretching into the EPSRC's key processes too, but would suggest that there may also be some benefit in making at least some of the content of this document available to Council Members themselves.

### 3.3 Development

Staying with the idea of maximising the potential collective value, it seems reasonable to assume there will be a requirement for ongoing support for Council Members, whether through ad hoc briefings or more formal training, to keep Council Members abreast of important new issues or otherwise develop new insight.

We understand from the Secretariat that 'learning and development' support for members is comprised of the following four elements:

- The induction of new members
- The appraisals with Chair and deputy Chair (EPSRC Chief Executive)
- The 1-1 relationships with members of the EPSRC Executive Leadership Team
- Learning on the job

We also understand that all new members are offered governance training as a matter of course, although historically people have not taken up the option. So the Chair has wisely decided to move to a more active stance: they have lined up an external trainer and are now looking to set up dates for a day's training that will be open to all Council Members, both recently joined and existing.

Figure 10 presents the results from our survey of Council Members, which explored the sorts of ongoing support for development we believe people may find relevant and beneficial to their role on Council. Overall, the great majority is strongly in favour of occasional briefings on topical issues and informal discussions among Council members to support peer learning. There is less widespread support for other forms of developmental support and it is worth noting that the idea of external mentoring is viewed rather negatively by most. By contrast, several people noted that mentoring of new Council Members by (experienced) Council Members may be a worthwhile addition to the one-on-one support currently provided to Members by the EPSRC Senior Management Team. The idea of a Council Member to Council Member 'buddy-system' was not tested explicitly, so could merit further discussion.

Figure 10 – To what extent would the following development activities be relevant? (n=16)

| Answer Options  | 1 | 2 | 3 | 4  | 5 | Average |
|---|---|---|---|----|---|---------|
| Briefings on topical and emerging issues                        | 0 | 0 | 1 | 10 | 5 | 4.3     |
| Informal discussions among Council members (peer learning)      | 1 | 0 | 1 | 8  | 6 | 4.1     |
| Observing / shadowing senior EPSRC staff carrying out key tasks | 1 | 1 | 3 | 9  | 2 | 3.6     |
| Training to address any specific skills gaps                    | 1 | 2 | 6 | 6  | 1 | 3.3     |
| Structured appraisal to agree development opportunities         | 1 | 2 | 6 | 6  | 0 | 3.1     |
| External mentoring of new council members                       | 2 | 7 | 4 | 3  | 0 | 2.5     |

Source: Technopolis survey of Council Members, 2013

The written feedback included a number of suggestions for other types of development activities, which the individual contributors thought would be relevant and beneficial:

- Visiting a wider range of universities
- Accompanying EPSRC staff members on external visits to PIs
- I appreciate the open invitation to accompany EPSRC on visits, however I am struggling to make any. Having some indication of the Chair's or Chief Executive's upcoming visits – 6 to 12 months out – would be really helpful, inasmuch as it would allow me to programme those dates into my diary (before the dates are booked for other things)
- More opportunities to discuss the progress and achievements within the scientific domains we are funding
- Given the people on council there is no shortage of skills, but sometimes there are gaps in our knowledge. It would be useful to hear more from the DGKI in BIS, a few Pro-VCs of Research, and some academics (established and young). We have had some of this,

but more would be good. We have plenty of informal discussion amongst members, but some time set aside to discuss substantive issues would be welcome

The one-to-one interviews with Council Members confirmed this is not an area of huge concern or interest for Council, among new or established Members.

One further issue that arose during our conversations related to Council Member appraisals, and the extent to which these are being carried out systematically and in a manner that is helpful to Members settling in or generally looking to strengthen their contribution over time. In several cases, Council Members were unsure of the process: if, when or how it works. In another instance, a Member stated that it was perhaps too informal, happening around the edges of Council meetings, while another commented that the process was a little wishy-washy and could usefully be sharpened to keep Council on its toes. These asides suggest it may be worthwhile the Chair and Chief Executive taking a closer look at the current arrangements with a view to better supporting Members. We appreciate appraisal is a non-trivial task and that any changes will need to be considered carefully: we are not suggesting Council should move to implement the very much more intensive performance assessment system one might find within a corporate environment.

Looking across the interviews where we did probe this development question, people tended to say they are pretty well informed already and are learning continuously through their work in Council and elsewhere (the day job). By definition, learning-by doing works best for those Council Members that are most actively involved with Council and have a greater opportunity for interaction with and reflections about the EPSRC system.

Several people also mentioned the ‘buddy’ system, with each Member assigned to a member of the senior Executive team so that they can discuss any issues they may have and otherwise improve their understanding of how things work. This did not come up often, and where it did, the picture was a bit mixed. Several people – new Members – said they found this 1-1 relationship really very helpful in getting up to speed with things, while others felt there was little development value and that rather they were being “man-marked and managed.”

We also found something of a mixed picture as regards the ad hoc development efforts that take place presently, with several people saying that the poster sessions while appealing in principle were not working well in practice. The amount of information – and the need to understand what one is looking at – is really quite challenging and doesn’t easily lend itself to a poster presentation and gentle browsing during breaks. The topic was not widely discussed with Council Members, however one individual contrasted the posters with the facilitated session on the EPSRC’s grant process. This was far more exciting and interactive; it began with a quiz, inviting all Council Members to write down their personal views on the process before telling the room how it really works! No one scored more than 30%, which came as a bit of a shock and really caught people’s attention.

*“More of this kind of creative interaction could be good for helping to really understand things. We could do with an overview of EPSRC operations showing us where big chunks of staff time are going and how those processes work in broad terms, or how key operations and decision points work, etc.”*

Thinking back over the past several years, we might imagine a session on the implications of the introduction of Full-Economic Costing (FEC), the Research Excellence Framework (REF) or the implications of the reductions in the capital allocations to the current the science budget. There are very many topical issues where one might imagine Council Members would welcome the opportunity to learn more, whether that is new ways in which to balance the ideas of academic freedom and wealth creation or new types of tools that promise increased effectiveness under given conditions (e.g. inducement prizes).

The Review team remains convinced that an ongoing programme of topical briefings and events is useful, and some further reflection on how these activities might be fitted within what is already a very crowded timetable. This development activity may become rather more important in future, if the composition of Council is rebalanced somewhat and comprises a very much more diverse group of individuals some of whom may well have no previous experience of high-office and lower levels of prior knowledge of the EPS community. Moreover, the issue of ongoing development may become more important as Council drives harder at the idea of the EPSRC as sponsor rather than funder.

## 4. The Council’s culture and behaviour

The culture and behaviour of any governing body will bear heavily on its effectiveness. This is especially so for science governance and an organisation like the EPSRC where the issues at hand are complex and the implications of Council decisions are not easily revealed through plenary discussions or even more involved processes designed to model possible outcomes. This intrinsic uncertainty is one of the principal reasons why public investment in frontier science is almost everywhere determined primarily by research excellence: inputs have tended to weigh more heavily than outputs in the allocation of funding.

The nature of the challenge is revealed in the Council’s constitutional documents and Council Member’s role and person specifications, where we find the following types of personal qualities and soft skills listed as essential requirements: good judgement, ability to act corporately, confident and diplomatic in debate, well-informed as regards the issues in the realms of science, industry and policy making, and so on. Council Members are similarly required to observe the Seven Principles of Public Life (“Nolan Principles”), which include behavioural attributes of central importance (e.g. selflessness, objectivity, openness, etc.).

Examining organisational culture in any objective sense is always challenging, as so much of what we do is rooted in unspoken and possibly unconscious habits, belief systems and ways of working and when one adds these personal qualities together with a group dynamic, things can become even more complex. We did not have the luxury of being able to carry out a formal cultural analysis here, however we were able to make good use of the experience and reflexive abilities of the individual Council members to comment on the style and efficacy of the Council’s decision-making and advice.

Figure 11 presents feedback from our survey of Council Members, and shows that the great majority has a strongly positive view of most aspects of Council's culture and behaviour.

Council’s conduct is clearly orderly, respectful, even-handed and inclusive. These are all critical qualities to the functioning of any governing body, however, they are not a given, and as such this performance is praiseworthy. The feedback suggests there may be room for some small improvement in several other areas, however, including the openness and transparency of Council’s work and the challenges put to Council and the senior management team by individual members. The lowest scores suggest that Council needs to work harder at its curiosity and innovativeness.

Figure 11 – How conducive to effective operation is the Council’s culture and behaviour? (5=entirely; n=16)

| Answer Options  | 1 | 2 | 3 | 4  | 5  | Average |
|---|---|---|---|----|----|---------|
| Orderly and respectful  | 0 | 0 | 2 | 4  | 10 | 4.5     |
| Even-handed, non-partisan   | 0 | 0 | 2 | 10 | 4  | 4.1     |
| Inclusive and collegial in debate                                 | 0 | 0 | 4 | 7  | 5  | 4.1     |
| Diligent in respect to preparation and timely progress of actions | 0 | 0 | 5 | 8  | 3  | 3.9     |
| Open and transparent  | 0 | 1 | 4 | 8  | 3  | 3.8     |
| Thorough-going and challenging                                    | 1 | 1 | 2 | 8  | 4  | 3.8     |
| A good listener, intellectually curious                           | 0 | 2 | 4 | 7  | 3  | 3.7     |
| Pursuing new areas or approaches and otherwise being innovative   | 1 | 1 | 9 | 4  | 1  | 3.2     |

Source: Technopolis survey of Council Members, 2013

Various additional comments were provided, which add a little colour to voting:

- Very civilised and friendly, and good chairing
- Thoughtful confident people make their views known, so pretty full and frank discussions
- We don’t always challenge the management team enough on matters of substance. We can be a bit inconsistent in our consideration of issues. Some meetings, or topics, are very animated while other matters (of equal importance) go by without much comment
- Time pressure on the agenda: we have become better at finding the time for the key issues but it is always a challenge
- I don’t think we always know when we are being asked to make a decision. And we don’t always know the full implications of our decisions

- Council is a high quality body in the sense that it operates in a collegiate manner for the best interests of science & engineering. Occasionally people's individual bias creeps in but the majority are generally good at limiting partisan influence
- Council could be more visible to external stakeholders
- Academicians are very cagey about appearing to disagree with each other. I sense sometimes that (my) disagreeing with an academic would not garner support (where there might otherwise be) for this reason
- The level of debate is not very deep. Sometimes policy issues are not discussed in sufficient depth, and important decisions are made 'on the fly' by the executive. The executive has frequently referred to Council as being advisory, and being an endorsing body, rather than the body with overall responsibility. Council needs to speak out more boldly for science and engineering innovation and discovery, and be less cowed by government into talking mainly about economic benefit. We need to spend more time simply debating - more than 3 hrs/quarter as at present. We seem to be hampered by the threat of freedom of information (FOI) from having and recording full debate.

In the interviews, several Council Members commented favourably on what they perceived as recent improvements in the way members conducted themselves in Council meetings, which they attributed to the change of chairman. And, as the survey responses show, people are broadly content with the way Council conducts its meetings and how members interact with each other.

Most Council Members think that there is a fundamental robustness among members. However, there is room for improvement, with the following main issues arising:

- Several Members expressed a concern that the Council is insufficiently challenging. While some of this concerns the member-executive relationship (of which more below), criticism mainly revolves around the impact/excellence dilemma. "At the moment, the Council does not determine science policy –BIS does- we need a more creative tension" and the Council needs to be more robust in speaking up boldly for engineering, science and innovation and to be less cowed by the 'economic benefit' argument. Too often, it was said, evidence is not sufficiently robust and is presented "dressed up as a press release".
- A more neutral view but nonetheless interesting is expressed thus: "the biggest axis of controversy in Council is the trade-off between two communities: on the one hand, government, public, industry wealth creation and on the other, academics research science"
- Another criticism is that discussion is somewhat formulaic. "There is definitely a Swindonesque way of talking about things. We don't spend enough time on an issue to enable the startling to emerge. Instead we tend to 'rail road'. We've used post-its and so on and this is fine but it does not deal with what we need. The papers that are presented are formulaic and we use them in a formulaic way. Very rarely do we have a Council member presenting something –why not?"
- The reference in the preceding paragraph to 'the startling' links with a further concern that the way discussion is managed –including the presentation of papers- may not put a sufficiently high premium on the Council's capacity to be innovative or creative in its own internal discussions and relationships.

Executive colleagues, and some Council Members, reflecting on the experience of Shaping Capability, felt that that the executive, somewhat unfairly, shouldered the biggest burden of culpability for the public relations difficulties. "When the outside world gets upset, the Council blames the exec (even if the Council was directly involved in the decision and there is an audit trail to prove this)".

## 5. Members' knowledge of the organisation

Following on from the question about induction and development, the Review went on to explore Council Members' knowledge of the EPSRC, as an organisation, and their engagement with its business. To what extent do Council Members know enough about the business of the organisation they oversee to provide effective leadership and supervision?

Council Members are not required to have good knowledge of the EPSRC's operations prior to joining, however there is an expectation – set out in the recruitment advertisement – that all Members will have an appreciation of the EPSRC's work and the broader research and innovation landscape here in the UK.

*“Applications are sought from highly senior individuals with experience including the research environment or business, with knowledge of EPSRC's work.” From 2013 recruitment advert and person specification*

There is also an expectation that Council Members will develop their knowledge of the organisation over time, in order to perform their duties, as is revealed in the Council Member induction slides:

- 'Member responsibilities' include “contribute to / attend subsidiary bodies: audit, ad hoc activities, e.g. project groups
- 'What do we need from Council members' includes “expertise and knowledge of the research and innovation ecosystem”, and “active engagement in our business”
- 'Effective board attributes' include: “walks the floor of the organisation and interacts with employees to best understand the culture”, “cares about the morale of all employees”, “is intellectually curious about how the organisation operates”, and “actively engages in understanding, building and improving the culture of both the whole organisation and the Board itself”.

The further development of this knowledge begins immediately upon appointment, with the EPSRC Secretariat running an induction day for all new Members, assigning them to a member of the Executive Leadership Team for one-to-one advise and support, and adding new Members in to the information notes about various other development opportunities, from governance training to accompanied visits to EPS universities and observing peer review exercises. Lastly, Council's plenary meetings are currently used as a platform for regular and structured engagement with key EPS universities.

The overriding point in all of this is that Council Members are expected to “get their hands dirty” from time to time, in order to be able to make an effective contribution to Council's deliberations and wider work. There is a question of calibration: what is sufficient knowledge or engagement? Council Members are wary of adding yet more work into their already very busy diaries and members of the senior management team are similarly wary of Council Members getting too close to the operations and possibly beginning to try to micro-manage various activities.

Figure 12 presents the results from our survey of Council Members, where we invited people to self-assess their knowledge of the organisation and their engagement with its business. Overall, it shows Council Members in general believe they have good knowledge about the organisation, including its mission, strategies, metrics and programmes.

The feedback reveals a clear split between Members' knowledge of the organisation and their engagement with its business, with the former being more widely rated as good or very good. There is a much broader spread of votes around 'engagement,' with a significant minority of Council Members rating their current engagement with the EPSRC's business as less good or even poor. This split is arguably as it should be, given Council Members are knowledgeable people working with the EPSRC on a part-time basis, however, perhaps the numbers of Members that feel their engagement is not quite good enough does point to a future challenge for Council, jointly and severally.

Figure 12 – How would you rate your current knowledge / engagement with the following aspects of the EPSRC’s business (5=very good)? (n=16)

| Answer Options   | 1 | 2 | 3 | 4  | 5 | Average |
|--|---|---|---|----|---|---------|
| Knowledge of the EPSRC’s mission and principal goals                           | 0 | 0 | 1 | 6  | 9 | 4.5     |
| Knowledge of the EPSRC’s current strategy and delivery plan                    | 0 | 0 | 1 | 8  | 7 | 4.4     |
| Knowledge of the EPSRC’s key organisational challenges                         | 0 | 0 | 4 | 7  | 5 | 4.1     |
| Knowledge of the EPSRC’s performance and key metrics                           | 0 | 0 | 2 | 12 | 2 | 4.0     |
| Knowledge of the EPSRC’s key programmes  | 0 | 0 | 4 | 10 | 2 | 3.9     |
| Knowledge of the EPSRC’s organisational structures and instruments             | 0 | 1 | 5 | 7  | 3 | 3.8     |
| Engagement with other key bodies that influence EPSRC (e.g. Learned Societies) | 0 | 2 | 5 | 3  | 6 | 3.8     |
| Engagement through participation in EPSRC strategic advisory routes            | 2 | 2 | 4 | 6  | 2 | 3.3     |
| Engagement with the EPSRC through participation in programme committees        | 2 | 4 | 8 | 0  | 2 | 2.8     |
| Engagement with the EPSRC through participation in project committees          | 2 | 4 | 8 | 0  | 2 | 2.8     |

Source: Technopolis survey of Council Members, 2013

The interviews confirm that Council Members feel they have a good understanding of the EPSRC’s current strategy and delivery plan. The autumn 2013 appointment of a new Member with a particular awareness of science policy ought to also improve Council’s collective ability to understand its place within the wider research and innovation landscape.

In the interviews, several Council Members were critical of the group more generally: people’s contributions to Council’s work and their engagement with the business of EPSRC was thought to be more variable than it should. One Member bluntly said that the contributions and level of engagement was “not good enough” in several cases. Another echoed that sentiment, stating that “the heavy lifting is done by too few people.”

Executive colleagues tend to agree with this assessment and also added a wider concern about Council Members being prepared to identify themselves in public fora as members of Council and actively representing Council and the EPSRC to various stakeholders. “This is an essential part of a Member’s duties, and is stated clearly in their terms of reference.” A sympathetic observation from an executive colleague was that it was difficult for VCs to be ambassadors for EPSRC on tough or controversial decisions –in a large university there would inevitably be departments affected whose members would not take kindly to their VC justifying a loss of research revenue. He saw this as a “fundamentally conflicted role”. The extent to which Council Members are performing this ambassadorial role to the extent they should is perhaps as much to do with their personal performance, as it is to do with their knowledge and engagement with the EPSRC business. Notwithstanding this question about scope, we would expect Members to be more confident in this external role where they have good knowledge of the EPSRC’s structures / strategies / operations.

The comments reflect a view that Council Members need to expect to engage more proactively than they currently do on EPSRC business – but there is a sense that not all Members are aware that this may be an expectation.

Expressing a different perspective, one Council Member considered that it was rather difficult for someone with a full diary to engage in the EPSRC’s wider business operations without a more comprehensive forward-plan or schedule of opportunities. Another view was that visits to HEIs and research centres and so on were generally carried out by convention by the chair and chief executive and that opportunities for other Council Members were generally not well-known. A more extreme expression of a similar point: “Only the chair and chief executive are allowed to speak to outsiders, the rest of us are muzzled, and they don’t consult with us when they go on these visits.”

On balance, ‘knowledge of the organisation’ is not an issue the majority of Council Members has any concern about. If there are doubts, it is to do with the level of engagement with EPSRC business – walking the floor – where the balance of opinion suggests Members could usefully do rather more, time permitting.

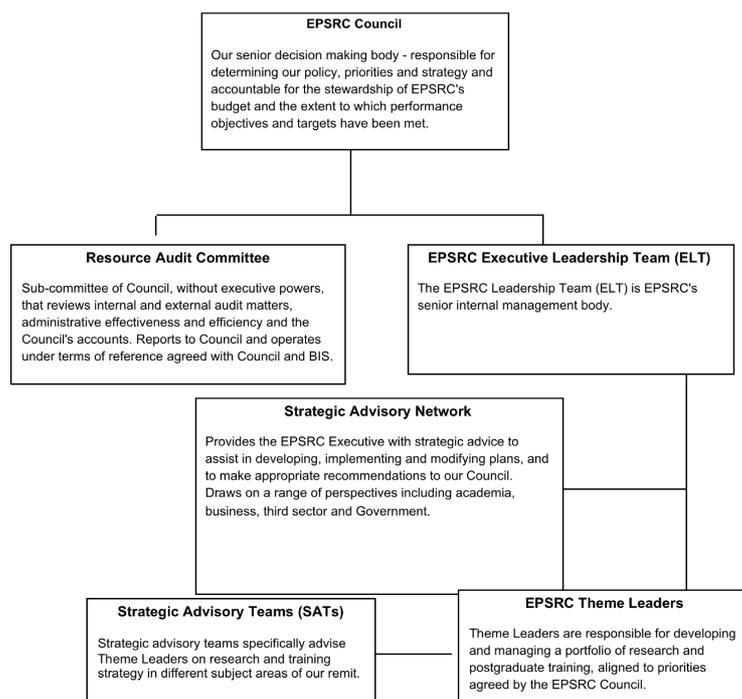
## 6. Council’s operational frameworks

The next question considered Council Members’ clarity about, and the effectiveness of, the operational frameworks that Council uses in fulfilling its functions. This includes the framework of delegation to the Executive, the rigour and transparency of decision-making, and the risk management system.

EPSRC Council members serve on a part-time basis, and as such responsibility for day-to-day operations is delegated necessarily to the Chief Executive and EPSRC staff, to the maximum extent practicable within a framework of strategic control. This is the same for all UK research councils and indeed the various other research councils we looked at as part of our international benchmarking.

The framework of delegation is not described in any detail in any of the Council’s foundation documents. The Management Statement states shortly that “the governing body should decide on all issues of major importance”, while “responsibility for implementing the decisions of the governing body is delegated to the Chief Executive”<sup>12</sup>. The EPSRC web site and Council induction slides are also rather brief, with the latter stating that Council has “responsibility for determining strategic priorities and objectives, and monitoring progress against those”, while day-to-day operations are delegated to the CEO. The slides used in the induction of Council Members do however present a summary of the advice and decision structure, which includes the EPSRC Council (see Figure 14).

Figure 13 – Advice and decision structure (Council Induction Slide, 2013)



The EPSRC Code of Practice for Council Members goes slightly further in suggesting that the matters reserved for Council are likely to include issues of corporate strategy; key strategic objectives and targets; major decisions involving the use of financial and other resource; and personnel issues including key appointments and standards of conduct.

The EPSRC Governance Manual does refer to a decision-making framework, however, this does not obviously refer to Council, focusing instead on the EPSRC Executive Leadership Team and an Governance Group that is wholly internal to the administration (no members of Council). According to the EPSRC Governance Manual, “the overall responsibility for the

<sup>12</sup> However, towards the end of this Review the Management Statement was revised, and now includes a statement to say, “The scheme of delegations is available from the Council secretariat on request”.

management of risk process lies with the Associate Director of Finance and Operations with the full support of the EPSRC Executive Leadership Team (ELT). ELT is corporately responsible for managing the strategic risks to EPSRC categorised as ‘corporate risks’. This responsibility is delegated from ELT to the EPSRC Governance Group, which comprises the Chief Executive, Directors and Associate Director Finance and Operations.” Judged in those terms alone, the Governance Manual appears to run counter to the responsibilities assigned to Council, as set out in the Charter and Management Statement. In practical terms, however, it may simply mean that the management of risk is for the ELT while the oversight of the ELT’s management of risk is a matter for Council or the RAC more specifically.

In any event, the Review team concludes that Council should ask the senior management team to draft a fuller and clearer statement regarding each of its key operational frameworks, and make these available to Council Members. Ideally, they could be combined with selected information from the existing Council Membership Lifecycle document, and build into an operational manual for Council members over time, describing the broad approach to each of its key functions and the boundaries between Council and Executive responsibility.

Turning to our survey, Figure 14 presents the results from our survey of Council Members, which invited them to rate the effectiveness of Council’s operational frameworks and delegations. The overall voting places this issue somewhere in the middle ground – in terms of its adjudged performance – with the ‘clarity of roles and responsibilities’ marking the upper bound and external communication of Council outcomes marking the lower bound.

The great majority of Council Members consider the Council’s risk management system to be effective, which echoes the earlier strongly positive feedback about the role of the Resource Audit Committee (RAC). However a significant minority has evident reservations about the effectiveness of each of the other four aspects of the Council’s delegations. There was most widespread concern about the transparency of decision-making and the terms of the delegation to ad hoc working groups.

Members provided no substantive written comments to expand on their scoring, however several people did subsequently say they were unclear about exactly what is delegated to whom (beyond RAC) and would welcome clarification on this point.

Figure 14 – Please rate the effectiveness of the operational frameworks Council uses to structure its activities (5=entirely effective), (n=16)

| Answer Options   | 1 | 2 | 3 | 4 | 5 | Average |
|--|---|---|---|---|---|---------|
| The risk management system                                       | 0 | 0 | 4 | 8 | 4 | 4.0     |
| Framework for delegation to subsidiary bodies                    | 0 | 2 | 7 | 5 | 2 | 3.4     |
| Framework for delegation to the Executive                        | 0 | 2 | 6 | 6 | 1 | 3.4     |
| Rigour and transparency of decision-making                       | 0 | 3 | 5 | 7 | 1 | 3.4     |
| Framework for delegation to work streams and engagement with SAN | 0 | 4 | 6 | 4 | 1 | 3.1     |

Source: Technopolis survey of Council Members, 2013

Our interviews with Council Members confirmed the findings of the survey, and revealed a general confidence in the risk management system. We heard this had improved substantially in the past several years, as a result of the concerted efforts the RAC Chair, Chief Executive, and critically, a new EPSRC director joining from another research council. Where historically, RAC had simply maintained a risk register, the current team is actively engaged in the mitigation or elimination of the key risks. RAC’s concern about the non-replacement of EPSRC Portfolio Managers led to an important exchange with BIS and a clarification that a freeze on headcount was not the same as a freeze on recruitment and that key staff can and should be replaced where they leave unexpectedly.

Several members were also somewhat exercised by the delegation of important questions to ad hoc working groups – or work streams – that involved members of Council shadowing EPSRC senior managers researching an issue and taking advice as necessary from selected experts in order to return to Council (plenary) with an update of some sort. The brief from the Chair or Council more generally, and the report back, seems pretty variable, and might usefully be tightened up. It is a positive step forwards for Members to be actively engaged in this process; that is reassuring.

These remarks about working groups and advisory routes tended to slide into a more general discussion about Council’s decision-making. We heard a number of concerns about debates being a little too light and Council simply deferring to the recommendation of the EPSRC senior management team without the level of interrogation one might wish for.

While people expressed anxiety about the tendency to rely unduly on the EPSRC management team, this was very much intended as a criticism of Council rather than the EPSRC directors. Indeed, most Council Members were extremely complimentary about the work of the Chief Executive and his senior management team. Overall, Council Members believe the senior management team does an exceptional job under difficult and worsening conditions (tight science budget; tighter and tightening management resource).

The nature and extent of the EPSRC's delegations need to be properly documented and those written statements should make clear where the division of labour lies between Council and the EPSRC senior management team, and in particular which matters are reserved for decision by Council. The latter are likely to include:

- Decisions on corporate strategy and the associated strategic objectives and targets
- Decisions involving major financial sums or other major resource commitments, whether relating to new programmes (e.g. renewal / expansion of the national high-performance computing facility) or administrative arrangements (e.g. the outsourcing of back-office functions like procurement to the UK Shared Business Service [UKSBS])
- Staff issues, including key appointments (new Chief Executive), staffing levels and standards of conduct

It is common for governing bodies to delegate responsibility for particular matters to standing sub-committees, as is the case with financial and risk management and the EPSRC RAC. Delegation does not remove ultimate responsibility from Council itself for the actions taken by any individual Council Members, sub-committees or EPSRC staff. From this perspective, Council needs to not only make the final decision on key issues but must also satisfy itself fully that the responsibility it delegates to others is performed effectively and with integrity. Council remains responsible for implementation and results.

The interviews with Council Members revealed a degree of unease around the extent to which it is appropriate for Council to delegate responsibilities to the EPSRC senior management team, with only light oversight of what is a £750M a year undertaking. This is not a question of clarity, per se, but rather more existential: what are matters for Council principally and what can be devolved in full or in part to the professional administration?

Everyone knows Council is the body corporate, however Members also recognise the practical limitations of a Council populated by eminent individuals with demanding jobs elsewhere in the EPS community. Council Members are contracted for 25 days a year, which, even allowing for the fact that most devote rather more time to EPSRC than that, amounts to perhaps 10% of their total personal capacity.<sup>13</sup> While the Chair is contracted for double that time, and the Chief Executive is a full time appointment, it's clear from the resourcing numbers alone (c. <3 FTEs) that Council is reliant on the EPSRC management team to run the £750M a year business on its behalf.

While many are content with an arms-length role, akin to a non-executive director (NED), advising on or scrutinising specific issues raised more often than not by the senior management team, other Council Members believe that the Council ought to have a more complete view of EPSRC business and take a more proactive role in directing or scrutinising all delegated activities.

A Council Member who felt that Members should behave more like company NEDs distinguished between 'old school' and 'new school' non-execs. Of the latter he said: "there is a breed of more engaged, proactive NEDs and chairmen. They are very aware of their fiduciary and holding-to-account responsibilities but they are also more engaged in strategy and giving guidance about operational matters" and it was in this direction that he wanted to see Council moving. A more radical view was expressed by another Member: "What happens in the Council is that members are even weaker than NEDs in the private companies. We are quite often given papers by the executive for 'consultation', with all the thinking done before and all we need to do is to rubber stamp the recommendations ... the Council is a subsidiary committee of a larger company". While this formulation may not be widely supported its basic sentiment may resonate with milder observations from a broader range of Members.

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<sup>13</sup> Our interviews suggest it is not unusual for Council Members to devote two or even three times the number of days contracted, albeit the degree of over-commitment may vary substantially across the 15 members.

## 7. How the Council works with the Executive

In this chapter of the report we explore how the Council works with the Executive on strategy and policy development, operational oversight and evaluation.

The EPSRC Royal Charter, Management Statement and website are clear as regards the roles of Council, however none of those documents explains the process by which Council ought to determine EPSRC policy or strategic priorities or oversee the extent to which performance targets have been met. These key documents are also silent as regards the required division of labour between Council and the Executive.

The absence of procedural guidance is not unusual within the world of research councils, where the seniority and expertise of appointees has tended to allow the associated administration to keep matters simple and trust to the profound a priori knowledge and sound judgement of its governors. As the EPSRC and other research councils develop a more active *modus operandi*, determinedly leading the EPS community in making very much sharper distinctions as to priority areas and the associated funding across all areas, the decision-making process will be more important. Becoming more explicit about due process (norms) can also be seen as integral to the democratisation of science more generally, and the need to consult more widely (the EPS community and the informed public) and more robustly on all matters of consequence, upstream and downstream.<sup>14</sup>

The rationale for research councils is not consistently described in the science policy literature, however one can surmise that such bodies exist to fund people, rather than institutions, to ensure diversity and to facilitate evolution: to guarantee the overall research base is more dynamic than it would be under a very much simpler (and more efficient) institutional funding mechanism, even where such a system is aggressively competitive.

However, it is also widely accepted that research councils can and should do more than respond to proposals from the extant academic community and must play a more strategic role, helping to identify emerging issues or target challenges / opportunities that are not presently being addressed. Most research councils operate both response mode and strategic research programmes, and have done so for very many years, however the EPSRC menu of types of research programmes is expanding. This is relevant to the current Review inasmuch as it underlines the importance of Council Members having a good grasp of the bigger picture as regards the best means by which to deliver research excellence from a national perspective.

In order to understand the current arrangements, the Review team was briefed by the EPSRC Secretariat and then went on to read through selected Council minutes and papers, as well as the Council Membership Lifecycle document (internal guidelines for EPSRC staff supporting Council).

Figure 15 presents the results from our survey of Council Members, which invited people to rate the effectiveness of Council's working relationship with the Executive across each element in the EPSRC business cycle.

The perceptions are broadly positive, however, the scores are generally lower here than for several other aspects of Council performance (e.g. knowledge of the organisation, or Council's culture). The scores gravitated around the middle range for all four dimensions, suggesting Council Members generally consider their working relationship with the executive to be satisfactory in general but would benefit from some kind of improvement.

Overall, Council Members are most widely content with their relationship with the Executive around matters of strategy. There are far fewer people that feel the relationship works well around questions of implementation and less enthusiasm still for their collaboration on evaluation. A minority considers the working relationship to be ineffective on each of the aspects of Council business, beyond strategising. We should emphasise that these scores

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<sup>14</sup> This change in outlook is particularly pronounced in the UK, but it is evident everywhere and is one of the reasons for professionalisation in this domain; research funding systems are increasingly less reliant upon the tacit knowledge of leading scientists. This trend suggests a greater need for understanding the relative strengths of different modes of intervention and a clear view of the EPSRC's contributions to UK achievements in science and technology (broadly defined).

reflect people’s views on the relationship between the two parties, and not the effectiveness of the functions more generally.

Figure 15 – How effectively do the Council and Executive work together across each of the following elements of the EPSRC business lifecycle (5=entirely effectively), (n=15)

| Answer Options             | 1 | 2 | 3 | 4  | 5 | Average |
|----------------------------|---|---|---|----|---|---------|
| Work on strategy           | 1 | 0 | 2 | 10 | 2 | 3.8     |
| Work on policy development | 0 | 2 | 5 | 7  | 1 | 3.5     |
| Work on implementation     | 0 | 3 | 6 | 6  | 0 | 3.2     |
| Work on evaluation         | 0 | 3 | 9 | 3  | 0 | 3.0     |

Source: Technopolis survey of Council Members, 2013

Other areas mentioned, where Council and Executive could work more effectively together, included “the key strategic decisions that just happen, without coming to Council” and “being much more involved in overseeing implementation”.

The **interviews** dealt with this question in both a broader and a deeper way. Some of the themes of the critique described above recur when CMs discuss the way Council works on policy and strategy. There is emerging at this point a common theme that Members have mixed views about the effectiveness of the relationship between Council and the Executive.

### 7.1 Strategy and policy development

This concerns the process by which members come together to define the organisation’s overarching strategy informed by the Executive as regards past achievements, existing commitments and emerging issues. Clearly a superior strategy will have a positive impact on the success of the EPSRC and its ability to deliver on its mission in what is an increasingly challenging global environment. So, how does one best combine the insight, creativity and raw leadership of members of Council with the administrative expertise and evidentiary experience of the professional management team, systematically and creatively? How does one avoid the worst-case scenarios where a board of governors simply rubber-stamps a management team’s proposals or alternatively an executive simply implements the unfettered musings of the great and the good? Good people and good hygiene are the starting point, however there is clearly room too for good processes.

The current EPSRC Strategic Plan (2010) comprises three over-arching strategic ambitions, one of which, Shaping Capability, proved especially troublesome for Council and the EPSRC when it was launched. At first glance, the objective of ‘Shaping’ seems quite innocuous, with the EPSRC simply committing to ensure that the UK research base will deliver the research needed by the country going forward. Looking a little more closely however it is clear that Council is proposing to be more selective in its structuring of the EPSRC research portfolio, focusing on those areas and disciplines it judges to be of greater potential strategic value to the UK. Perhaps unsurprisingly the academic community reacted rather negatively to the new strategic ambition, in the face of uncertainty over exactly who might win or lose as a result of such high-level decision-making.

This decision chimes with the discussions being held in research councils and innovation agencies around the world, and reflects a broadening expectation by governments around the world that its investment in science must deliver more demonstrable social and economic benefits while also allowing for the fact that many benefits will remain unforeseeable and materialise through the interplay of many factors over many decades.

We decided to look at Shaping Capability as a means by which to examine Council’s strategy-making process. The documents provided to us do not distinguish the role of Council per se, however they do show an overall process that appears sensible in comparison with strategic planning exercises undertaken elsewhere in the UK and Europe. To be clear, we understand that each of the following applied in practice:

- There are clear criteria applied across the full portfolio, which were used to rate the relative importance of all fields
- The process was informed by wide-ranging evidence on EPS investment by the EPSRC and others nationally and internationally, the international standing of UK EPS and data from a variety of user perspectives, from BIS work on strategic and emerging industries through to RCUK papers on future grand challenges

- The process also included wide-ranging consultation about these judgements on quality and future importance with the many disciplinary groups, learned societies and universities involved in the field in question
- There was also an open consultation for researchers and research groups, and an open commitment to monitor the effects and also to consider new or emerging themes coming in from left field

The process looks robust. Most commentators, Council Members, Executive Team Members and even some of the wider stakeholders were quite positive about the idea of Shaping Capability, arguing the approach was appropriate and that its priorities were well conceived.<sup>15</sup> People said its principal shortcoming related less to its substance and more to its presentation and communication to the EPS community at the point when it was sufficiently advanced for people to understand the implications and yet not so final that the community would not be given an option to fine tune. There may have been a misjudgement on the part of Council, in their decision to not run a second consultation (in order to avoid the ‘pages of green ink’ that would inevitably follow) and even a failure of leadership in some degree in coming together to defend its decision and its chief executive. Dr Paul Golby’s article in the THES explains these issues at some length and uses the experience to talk helpfully about the importance of openness and engagement with the academic community.

The EPSRC’s full strategic planning process is clearly very demanding of people’s time and resources, and can extend over several years. As such, it may not be the kind of all-encompassing national exercise one can or should do more often. That said, it may be possible for Council to engage in a lighter touch process on an ongoing basis, in order to be confident its headline strategy remains relevant. Several of the industry Members suggested a need for more routine horizon scanning and annual strategy sessions, while acknowledging that Council’s big strategic planning exercises are quite reasonably tracking the government’s cycle of spending reviews. There is also a recognition that the national science base has a slower ‘metabolic rate’ than businesses coping with a fast-moving and increasingly global marketplace, however, people do feel that a regular ‘pulse check’ and possible update on elements of strategy would be good practice. People also argued that being strategic meant more than having a written strategy, and that it was entirely appropriate for Council and the executive to think continuously about matters of strategy and policy.

The EPSRC Secretariat provided the Review Team with a selection of documents relating to EPSRC works streams, which offer a window onto the process by which Council may come to a new understanding of a particular strategic issue. The papers left the Review team with a sense that there is room for improvement.

As a case in point, we examined a specification for taking advice from the EPSRC Strategic Advisory Network on the question of “maximising the value for the UK of EPSRC sponsored research and postgraduate research training.”

Given the level of government interest in the impact of public investment in research, this is a topic Council and the Executive ought to have a clear position on: the appointment of an Assistant Director with responsibility for impact underlines the importance of the impact agenda. The existence of a position paper suggests EPSRC did not have a sufficient grasp of the issues at that point in time (2011), and therefore, it makes sense to address that gap in understanding as a matter of urgency. The specification usefully records the EPSRC owner of the work stream and the people that will be involved in its execution, including EPSRC staff, selected SAN members and other national experts. It also makes clear that Council will be invited to consider participating in the working group. It lists the research questions and the kind of deliverables expected. The specification states that the review process will progress through several stages, beginning with a scoping exercise before going on to review the issues in depth and concluding with the preparation of a proposal for developing an EPSRC policy response. It does not say whether there will be a stop/go decision at each stage, or who would take such a decision, however, that would be a simple additional step.

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<sup>15</sup> We concur. The EPSRC cannot just be about funding excellent research and excellent researchers, otherwise the UK would not need seven distinct research councils or a dual-support system for institutional and project funding. A research council must deliver additional social and economic value over and above the value that would be achieved by any one of a number of possible alternatives, from running the entire science budget through the funding councils through to abandoning the science budget altogether and using fiscal measures to cause the private and third sectors to expand their investment in public research. The benefits of the £30M a year investment in running the EPSRC ought to be revealed in qualitatively different outcomes for the UK.

Less good, the specification does not tie its central question back to Council's needs or indeed to any EPSRC strategy or business planning process. It also gives no indication of timing or the scale of effort foreseen. Arguably, each of these points could be included as a question in a standard template, which would facilitate discussion within Council or the Executive and help to prioritise across questions and work streams. Unfortunately, the specification is so over-ambitious in the number and scope of its questions as to be critically flawed, which raises a doubt about the commissioning process and any monitoring of progress.<sup>16</sup>

The resulting paper – EPSRC 47-12 – does not manage to answer the questions posed in the work-stream specification, adopting a rather more general approach when describing its aims before going on to set down a long list of unsubstantiated conclusions and predictable recommendations. As a case in point, its first finding states that 40% of EPSRC-sponsored PhDs are employed first in posts outside academia and that many more go on to work in the wider economy as their career progresses. It goes on to make the (staggering) observation that less than 0.5% of all doctoral students go on to be professors, before recommending that EPSRC should redouble its efforts to persuade government to invest even more in doctoral training. The paper offers no advice to Council specifically, although it was discussed at some length in the December 2012 Council meeting.

Notwithstanding the preceding grumbles about the specific workstream, the Review team supports strongly the idea of a more robust and structured process of engaging SAN. Moreover, several Council Members were complimentary about the Chair's decision to make more explicit use of SAN expertise as an input to Council's various deliberations, through the active participation of Council Members in these structured work streams.

The Review team also believes EPSRC should look to make more of the SATs, although their function and operation is arguably beyond the scope of this effectiveness review. We believe the disciplines could be invited to work harder at providing Council with the kind of wide-ranging and robust evidentiary platform it needs for taking tough decisions. From our perspective, SATs should have an epistemic overview of the domain they serve, beginning with the basic demographics and statistics about funding sources and the profile of academic outputs and moving on through to more qualitative descriptions of how people do science in a given domain. Disciplines work differently and Council needs to understand that at some level of detail to allow it to more easily model the implications of its ideas for new priorities or funding instruments. We believe this kind of community platform will be helpful going forward. Being progressive and innovative is doubly hard within the context of a flat or declining budget, as any new departure or new initiative is likely to require the reallocation of funds from established areas to new pastures. It is all the harder when Government is insisting the science budget must work harder and deliver more immediately visible social value, through addressing grand societal challenges for example or otherwise boosting the quantum of non-academic impact realised in the wider UK economy.

## 7.2 Operational oversight

We understand from our interviews with the executive that the senior management team encourage Council to focus more on strategy development and issues of policy, to avoid wasting scarce time on detailed operational questions. We were told that Members often take a keen interest in matters of detail, which can divert attention from the big picture and take Council into areas where it simply does not need to go. Reportedly, the Chair has to work hard to keep people on topic and working at the right level.

The most important point of intersection between the Council and the Executive, in respect to operational matters, occurs through: (i) the unprogrammed, but frequent interaction between the Chair and the Chief Executive and (ii) the Chair's attendance at the senior management team's monthly meetings. This tended to happen every quarter historically, however the current Chair has been more actively engaged and is attending more meetings. We note that this additional workload is contributing to the Chair overrunning his contractual time allocation by a factor of three or four. We understand that the Executive holds weekly (1 hour) and monthly (3-4 hours) team meetings, with the longer meetings being used to consider papers and develop policy ideas. The monthly meetings are also used

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<sup>16</sup> This may reflect the work stream's links with a very much larger programme of social science research being carried out by the UK Innovation Research Centre, however whatever the background, the specification was undeliverable.

to review strategic issues (quarterly) and to discuss / plan Council meetings: 6-7 weeks before Council, the Executive will finalise the agenda.

We note that Council discussion (as minuted) and documentation of implementation is more limited than one would expect. We have picked out two items to illustrate our mild concern, the 2012 Civil Service People Survey and the presentation of the results of the first round of the competition for doctoral training centres. The former suggests there may need to be greater openness and transparency between the two parties. The latter suggests the Chair and EPSRC Secretariat may need to give a sharper brief to presenters, in order to ensure Council is provided with a meaningful report that it can debate properly and act upon.

The 2012 EPSRC staff attitudes survey was published on the EPSRC website in November and its headline results are referred to in the Chief Executive's introduction to the 2012 Annual Report. The survey results were not however brought to the attention of Council or RAC, in any substantive sense.

The EPSRC survey followed the standard Civil Service People Survey questions, and presented the results in absolute terms (e.g. % of EPSRC respondents that replied positively) and also indexed against both the median for the total Civil Service cohort (CS2012) and for the high performers (upper quartile for all organisations taking part in CS2012). There are nine themes (e.g. leadership & management) and 57 questions. In 38 of these categories, the EPSRC results were recorded as statistically significant and below the median for the CS2012. In 49 of the 57 categories, the EPSRC responses were below the high performers. In the leadership and management theme, for example, all ten questions scored below the median for the UK civil service overall (ranging from a difference of -6 to -17) and the differences were substantially lower as compared with the top performers. By any measure, the EPSRC's 2012 performance was poor.

During our general review of Council's minutes, we did see occasional mentions of human resource management issues, and we expected therefore to see the 2012 report described above presented and discussed by Council either in 2012 or at least in the March 2013 meeting. However, it does not seem to have been presented and our interviews with Council Members, including the RAC Chair, confirmed that people were unaware of the report.

The survey was mentioned at the July 2013 Council meeting as part of a more general executive report on HR, and it was also acknowledged by the Chair, however there was no discussion of the results or the possible explanation or implied lessons. Staff attitude survey results are generally taken very seriously in public service organisations, and this seemed to be an unnecessarily light treatment of an important issue. We note that it is reported in the opening pages of the 2012-13 Annual Report (p8) and that presentation concludes with a public commitment by the Executive Leadership Team to achieve in the longer term an overall performance that matches or betters the performance of the upper quartile.

There may be many factors that explain the report and there may well have been management actions set urgently in train to confront and deal with the issues –these are not our concerns. We mention the report here at some length because its absence from the Council's consideration may represent a broader conflicted notion of the role of Council and Council Members. When questioned, one executive colleague explained that the report "was not any of their business", yet our reading of the role of Council suggests that it is very much the business of RAC and the Council more generally.

Turning to the July 2013 presentation of the results of the CDT outline call for proposals, this was instructive up to a point, but *as presented*, arguably did not warrant its inclusion as a main discussion item with a 45-minute slot. It would have been possible to present an overview of the application numbers, success rates and distribution of successful bids by discipline and institution through a 10-minute presentation or even a poster session. At 45-minutes, we would have expected a much more strategic report, underlining the added value of this mechanism as compared with the alternative doctoral training awards along with an explanation as to how the new approach would be monitored and evaluated (the EPSRC web site does include an evaluation plan for the new instrument). In the presence of the Minister, the room got rather carried away with the number of excellent proposals that had been rejected and began to press the Executive to look to secure additional funding from the Minister for the best unsuccessful outline proposals. The majority of Council Members seemed unaware of the implications for such a departure from the competition process more generally, and the Executive did not seem inclined to disabuse the room.

### 7.3 Monitoring and evaluation

The EPSRC – as with all other UK research councils – has a pretty comprehensive monitoring and reporting system, including its Annual Report and Accounts, its biannual Scorecard reporting progress on its Delivery Plan and its annual Research Performance and Impact Statement.<sup>17 18</sup> The format of the latter is driven by BIS to a large extent, and as such it puts most emphasis on eye-catching case studies, however it does include more objective data, including a list of key performance indicators (e.g. around 2,400 people began EPSRC-sponsored PhDs in 2011/12; a fall of around 25% on the level of new starts two years earlier). The metrics link back to the EPSRC's corporate KPIs, which include a good cross-section of indicators (e.g. share of research grants that are collaborative; number of user organisations that are involved in collaborative grants; income leveraged from industry and third parties; etc)<sup>19</sup> that are clearly defined and associated with baselines and performance targets. EPSRC has also been an active proponent of the new, cross-council information system for research outcomes (ROS), which will provide a project-level view of portfolio-wide outputs.

Council Members did not refer to these documents or offer any views on EPSRC performance based on any of the KPIs or metrics in those documents. In fact, Members said they felt they had a less good view of EPSRC performance than they might wish for. Council agendas suggest these various monitoring reports are presented to Council routinely, though generally 'for information' rather than discussion.

The EPSRC also has an evaluation manager (and a strategy of sorts, online) and is commissioning occasional programme evaluations and impact assessments, however there is no overarching evaluation programme as far as we understand things and no connection between Council and that portfolio of performance reviews. Indeed, Council Members were only dimly aware of the EPSRC's programme of discipline-level International Reviews (e.g. International Review of Chemistry, April 2009) and were unaware that the Executive had decided to stop the programme at the end of the last cycle (December 2010), for reasons of economy. There was a similarly low-level of awareness of more recent evaluations (e.g. the Measuring the economic benefits of mathematical science research in the UK, Deloitte for the EPSRC, November 2012; The Value of PhDs: the Impact of Doctoral Education in Research Intensive Employers, DTZ for the EPSRC, June 2011)<sup>20</sup>, which suggests Council and the Executive are not working as closely together as they might on this important source of insight and learning. By contrast, the Economic and Social Research Council has a separate evaluation sub-committee chaired by Council, which oversees the rolling programme of evaluations and formally receives the reports to ensure transparency and to feedback learning into the administration.

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<sup>17</sup> [www.epsrc.ac.uk/newsevents/pubs/corporate/reporting/Pages/framework.aspx](http://www.epsrc.ac.uk/newsevents/pubs/corporate/reporting/Pages/framework.aspx)

<sup>18</sup> The former includes an informative management statement from the Chief Executive (the EPSRC's Accountable Officer), but no statement from the Chair of Council, which would be commonplace in the private sector. The Annual Impact Report has no foreword by either person, which may be prohibited

<sup>19</sup> We chose this small selection because each relates to impact pathways and each is flat or in decline over time.

<sup>20</sup> <http://www.epsrc.ac.uk/newsevents/pubs/reports/Pages/schemeevaluations.aspx>

## 8. Documentation of Council's roles and responsibilities

This chapter of the Review presents our findings on the first of two communications-related questions. It considers the clarity with which Council describes to others in its documentation *its* role and functions and those of its subsidiary bodies. The following chapter considers the Council's success in communicating the outcomes of its work.

The question was explored through each of our work packages, from desk research through to the survey of Council Members and benchmarking of other research councils' approaches.

The Council's purpose and shape is defined in its Royal Charter. It is a short document, however, and The Council's roles and responsibilities are elaborated more fully in another accompanying document: the EPSRC Combined Management Statement and Financial Memorandum (2013). This combination of brief Royal Charter and detailed Management Statement is the basic approach followed by the Government with all of the grant-awarding research councils.

As with other Royal Charters, the language is somewhat legalistic and a little antiquated, which makes it less accessible for a modern audience. Perhaps more importantly, the text defining the Council's three 'objects' is to our mind poorly drafted. All three encompass multiple goals and the distinction between the first and second 'objects' is hard to discern. By contrast, Science Foundation Ireland (SFI), which was incorporated in 2003, has a clearer constitution, both in respect to its structure and its use of plain English. The legal statute uses short sentences and avoids compound statements, and is easy to understand.<sup>21</sup>

The EPSRC's "Management Statement" is a 30-page document, prepared by senior civil servants on behalf of the Secretary of State, and describes:

- The relationship between the Council and the Department for Business, Innovation and Skills (BIS)
- The aims and objectives of the Council
- An agreed understanding of the roles and responsibilities of the Council and of BIS
- The arrangements for the payment of grants in aid towards the expenditure of the Council
- The conditions applying to the grants in aid and to all other income from whatever source, together with other rules, regulations and guidelines relevant to the exercise of the Council's functions, duties and powers, as well as specifying how the Council will be held to account for these

To underline this point about the somewhat difficult language used in the Charter, the EPSRC senior management team has a 'Key Messages' presentation that it uses in the induction of Council Members and in its wider communications activities, in which it describes the roles of Council in very much simpler and clearer terms:

- Growth: engineering and physical sciences fuel growth and prosperity: this is our overarching message about why we do what we do
  - EPSRC promotes world-leading discovery
  - EPSRC fuels innovation
  - EPSRC supports ingenious people

The Management Statement is also quite a complex document that has to reuse many of the terms defined in the Charter. However, perhaps by virtue of its greater length, it is rather more accessible, expanding on necessary legal obligations with a more comprehensive explanation of what is meant or involved. It has two basic problems however: it is rather too long to be used by Council members as a quick reference; and a second issue, which may be unavoidable in any public appointment, the document devotes more pages to issues of personal conduct, probity and the obligations of public office than it does to the active

<sup>21</sup> <http://www.irishstatutebook.ie/2003/en/act/pub/0030/sec007.html#sec7>

contributions Members are appointed to make. In the interests of balance, the latter could usefully be deepened and promoted.<sup>22</sup>

Both the EPSRC Charter and Management Statement are provided to Council Members as part of the induction process. While we as independent reviewers are critical of the legibility of these two documents, Council Members were rather more sanguine about them, and expressed themselves as being content with the key texts.

Figure 16 presents the results from our survey of Council Members, and suggests most Members are reasonably content with the current presentation of Council's core functions, its membership (biographies) and the related EPSRC strategy and delivery plan. The distribution of opinion shifts left, as the communication aspects move beyond the more factual documents (e.g. strategy documents) to the more abstract (e.g. Council's relationship with the EPS community). Lowest scores were given to the public presentation of the relationship with BIS, the EPS community and the Council's broader stakeholders, where almost half of the respondents rated current documentation as insufficiently clear.

Figure 16 – To what extent are the Council's online presence and supporting documentation sufficiently clear and complete to ensure the research community and wider public can understand the following dimensions (5= entirely clear). (n=16)

| Answer Options  | 1 | 2 | 3 | 4  | 5 | Average |
|---|---|---|---|----|---|---------|
| Council's strategy documents (e.g. EPSRC strategy, delivery plan, annual report)  | 0 | 0 | 4 | 6  | 5 | 4.1     |
| Council members' biographies and specialist skills                                | 0 | 0 | 4 | 8  | 4 | 4.0     |
| Council's ad hoc publications (e.g. press releases, position papers, advice, etc) | 0 | 0 | 6 | 7  | 2 | 3.7     |
| Council's primary functions (e.g. Royal Charter)                                  | 0 | 0 | 6 | 10 | 0 | 3.6     |
| Work of council's subsidiary bodies (e.g. RAC agendas, minutes and key papers)    | 0 | 0 | 9 | 3  | 3 | 3.6     |
| Council's principal and subsidiary bodies   | 0 | 0 | 8 | 8  | 0 | 3.5     |
| Council meetings, including agendas, minutes and key papers                       | 0 | 1 | 8 | 6  | 1 | 3.4     |
| Council's relationships with the Executive  | 0 | 3 | 6 | 4  | 1 | 3.2     |
| Council's ad hoc activities   | 0 | 6 | 7 | 3  | 0 | 2.8     |
| Council's relationships with BIS  | 0 | 5 | 8 | 2  | 0 | 2.8     |
| Council's relationships with the EPS research community                           | 0 | 6 | 7 | 2  | 0 | 2.7     |
| Council's relationships with other stakeholders (e.g. RCUK or learned societies)  | 0 | 7 | 7 | 1  | 0 | 2.6     |

Source: Technopolis survey of Council Members, 2013

The free text comments focused on the need to improve the presentation of the Council on the EPSRC website in the main, while also suggesting greater levels of engagement with the EPS community and societies (going beyond the quality of the Council's documentation):

- The website is very dense and not always easy to follow
- The website feels like a government site and does the job required. If the objective is engagement with the general public, however it needs to be made more user friendly
- Stronger links need to be established with the scholarly societies both in the transmission of informational about operational practices of EPSRC and also to include stronger buy in to key strategic decisions
- Executive / Council has failed to recognise the difference between engagement and communication. Putting something on the website is not engagement

The interviews with Council Members did not add a great deal of colour to the scores and opinions described above.

One person remarked on the lack of visibility of Council itself in the 'About Us' section of the EPSRC website, with visitors needing to drill down two or three levels to find a reference to Council as the governing body and no automatic presentation / link to Council from an open Google search. This may reflect the linguistic challenge for the designers and copywriters, having to work between the EPSRC and the EPSRC Council, but it feels as though Council could be given more prominence. There is also a slight difficulty with navigation, inasmuch as following the links from About Us down through the Governance and Advisory Bodies page to Council disconnects the site visitor from the other parts of the About Us pages (e.g. Strategic Documents, Facts and Figures, Partnerships, etc), which gives the sense that these

<sup>22</sup> The core governance documents (Management Statement, Financial Memorandum and Code of Practice) were updated during the latter stages of this Review, as part of a collective exercise between Research Councils. While these documents remain somewhat complex and could be improved further, an earlier recommendation for their update and improvement has been removed. The new (2013) versions have just been agreed between RC CEOs and BIS, and we have been informed that Council would have only limited control over their shape and content.

and the Council belong to the EPSRC the organisation, which may be a little confusing in terms of hierarchies and ownership.

Council Members were not particularly exercised by the quality of the online documentation or Council-related downloads, albeit several people remarked on the (possibly unavoidable) rather dry quality of the text and the need for any reader to work quite hard to get to the detail on anything other than the most basic of issues. This suggests some further thought might be given to adding to the selected key messages online, expanding on key elements such as the relationships with learned societies and other stakeholders. There was a presumption that this is described already to some degree in the supporting management statements and code of practice.

Council Members were rather more exercised about the Council’s real-world visibility, and accessibility, with a majority feeling that the EPS community would be uncertain about very many of the basic functions and descriptions referred to in this test.

Our survey of the EPS community and wider stakeholders found that around 75% of the people responding were reasonably clear as to Council’s principal roles and responsibilities and 25% indicating they were rather less clear.

Figure 17 – Understanding of the EPSRC Council’s main roles and responsibilities? (n=66)

| Answer Options  | Response   |
|---|------------|
| 1 – Completely unaware of the Council’s roles and responsibilities    | 9%         |
| 2   | 15%        |
| 3   | 17%        |
| 4   | 37%        |
| 5 – Fully aware of the Council’s principal roles and responsibilities | 20%        |
| <i>Average Response</i>   | <i>3.5</i> |

Source: Technopolis survey of EPS stakeholders, 2013

Stakeholders’ qualitative feedback suggests that much of the uncertainty relates to the absence of any readily accessible and reasonably detailed description of Council’s specific roles and responsibilities: what does Council actually do. Several people suggested there is a need for a description that sits between the 30-word abstract on the EPSRC web site and the 130-page EPSRC Council Code of Practice.

There were various more specific – and generally negative – remarks made about the clarity of the formal relationship between Council and BIS and about Council’s interaction with SAN or SAT. The uncertainty expressed regarding key aspects of Council’s roles was accompanied by a series of critical remarks concerning the effectiveness of Council, particularly coming from academics in the areas most affected by the Shaping Capability strategy. Specifically, people raised a question mark over the independence of Council in an increasingly politicised field and its capacity to intelligently direct the EPSRC administration.

The wider stakeholder survey findings were broadly consistent with the views expressed by Council Members, with the great majority indicating that they were broadly content with the clarity of the Council’s online descriptions and documentation. A small minority does not agree with this positive outlook however, with 10-20% of respondents stating that they found the material unclear or hard to find. People were most widely critical about the descriptions of Council relationships with other bodies and the location of the key documentation.

Figure 18 – To what extent would you agree that ... (n=61)

| Answer Options   | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Average response |
|--|-------------------|----------|---------------------------|-------|----------------|------------------|
| The material is sufficiently accessible in terms of its language   | 3%                | 8%       | 15%                       | 49%   | 24%            | 3.8              |
| The public description(s) of the Council’s principal roles and responsibilities are clear and to the point | 5%                | 13%      | 23%                       | 36%   | 23%            | 3.6              |
| This documentation is clear as regards the Council’s subsidiary bodies and their respective roles          | 7%                | 14%      | 23%                       | 39%   | 18%            | 3.5              |
| The material is sufficiently accessible in terms of its location   | 8%                | 14%      | 17%                       | 42%   | 19%            | 3.5              |

Source: Technopolis survey of EPS community, 2013

Notwithstanding the generally positive outlook, we received many tens of individual suggestions about how to improve matters, which we have grouped together as follows:

- Strengthen the online presentation of the Council, with more depth / detail about the Council's roles and responsibilities. As an example, more information about the Council appointment process would be welcome, both to understand how people were chosen but also to prompt others to think of applying
- Provide more information about what isn't part of the remit of the Council. Explain the division of labour with the EPSRC senior management team. Improve the description of Council's relationships more generally, including for example the links with SAN and any obligations to take advice or act on it
- Improve the prominence of Council within the EPSRC web site overall, and strengthen navigation and links with the rest of the EPSRC website. Several people said the EPSRC web site has become more difficult to navigate since its facelift in the last year, and while any one page works well the big picture is hard to hold on to
- Improve the presentation of Council minutes, so they show more clearly what was agreed rather than just what was discussed, and what actions are being taken as a result
- Include links to examples of past work leading up to important decisions

Our benchmarking suggests that the EPSRC Council's online and documentary presentation of its roles and responsibilities is in line with the approach taken by other governing bodies in other research councils and research charities. Quite reasonably, given these are science funders, first and foremost, the home page of all agencies focuses on current funding opportunities, scientific achievements and other notable news items. Governance is not prominent, and typically is found a layer down in the 'About Us' pages or the 'Organisation' Pages. Having drilled down to find the relevant page, the treatment is pretty similar with a simple overarching statement about roles and responsibilities and a link to (i) members and (ii) minutes. The Technology Strategy Board's treatment is a little more eye-catching than the EPSRC's design, with photographs and biographies of current members, for example, but information content and functionality is no different. Admittedly, in most cases, one has to consciously search out the key constitutional documents, as they are not always linked directly to the Council or Board members' web page. As noted already, the more recently created bodies tend to have foundation documents that are written more simply, with less use of legal terminology or technical jargon, as compared with the EPSRC Charter.

## 9. Communication of the Council’s work and outcomes

This chapter deals with the second question about communications, and specifically the quality of Council’s communication of its work and outcomes in its documentation.

The EPSRC has a communication strategy, which is led by the Director of Communications (a member of the Executive Leadership Team) and implemented by the EPSRC Communications and Stakeholder Engagement Team (CSE Team). It is responsible for internal and external communications across EPSRC. The Communications Strategy is developed against the EPSRC Delivery Plan, and as such the Executive Leadership Team agrees its content in the first instance and ultimately Council approves it. The strategy does not deal specifically with the role of Council in the various communication activities, however there is a presumption in the Induction slides that the Chair and Chief Executive will be responsible primarily for the formal communication of Council decisions or recommendations. We are not aware of any guidance on written documentation, however there is clearly a keen interest on the part of several Council Members to be able to share information appropriately through their blogs and a similarly strong ambition on the part of the CSE Team to make much greater use of Council members as EPSRC ambassadors.

Figure 19 presents the results from our survey of Council Members, and shows that Council considers this aspect of their written communications to be rather weak overall. The distribution of votes is more heavily skewed to the left – the less good – than is the case for all of the other dimensions covered. Scores are low across all five of the dimensions tested.

Figure 19 – To what extent do you agree with the following statements about the Council’s written communications (5=strongly agree)? (n=16)

| Answer Options   | 1 | 2 | 3 | 4 | 5 | Average |
|--|---|---|---|---|---|---------|
| The EPS community would be able to distinguish the Council’s influence within the current EPSRC strategy and delivery plan           | 1 | 6 | 5 | 3 | 1 | 2.8     |
| They would be able to name the chair and several council members   | 1 | 8 | 2 | 4 | 1 | 2.8     |
| Council members will take every opportunity to present the work of the Council to the EPS research community at various events       | 1 | 4 | 9 | 2 | 0 | 2.8     |
| The EPS community would be familiar with the Council’s contribution to debates on topical issues from research impact to peer review | 3 | 6 | 4 | 3 | 0 | 2.4     |
| The EPS community would be familiar with the routes by which they might raise issues with Council                                    | 3 | 6 | 5 | 2 | 0 | 2.4     |

Source: Technopolis survey of Council Members, 2013

Interviews with Council Members underlined this somewhat negative view of things obtained through the survey, with almost all Members saying they felt the visibility of the work of Council was poor. That applies equally to both the EPS academic community and wider stakeholders. There was a general sense that Council needed to devote very much more effort to this aspect of their communications, and several complimented the current Chair for having made this a point of priority.

Transparency to the EPS community, it is said, needs to improve, “especially when taking decisions that may be unpopular”. Communication needs to be brief, supported with the evidence supporting the espoused position “but not at such a level of detail that encourages people to dissect the evidence *ad nauseam*.” On a positive note, several Members commented that while visibility is low it is improving. Another contributor noted, “the Council is doing good work on impact but the message is not widely disseminated, for example, to other government departments, many of whom will have an interest”.

Several CM members see one of the key problems as branding. “EPSRC is very lightly branded. The majority of its grant holders and wider stakeholders may be unaware of its support for various activities or what value it is adding to UK science and industry more generally”. One CM thinks that the name ‘EPSRC’ “is a mouthful and not easy to recognise or distinguish. Branding is important and not a superficial issue. We need a snappier name, amongst other factors. Branding should be seen as part of a broader communications strategy and we should get external help in setting our house in order.”

Members mostly felt that the influencing capability and the appreciation of the Council's contribution to topical issues were limited. In particular, Members were self-critical in their own or each other's individual performance of the role of promoting the work of the Council.

Our benchmarking suggests that other governing bodies tend to keep a similarly low profile, as regards their written communications and do not publish (at least on their web sites) newsletters, position papers or other articles that are immediately and directly linked to the Council or Board itself.

As is the case with the EPSRC, each of the institutions publishes an annual report setting out its financial accounts alongside an overview of its achievements in the year. In several cases, those reports – or separate impact reports – offer a much fuller explanation of the qualitative and quantitative outcomes made possible by their respective investments. This is available on their web sites. The extent to which these documents 'belong' to Council is less clear-cut. That said, it is not unusual for the Chair of the governing board to write a separate introduction to an organisation's annual report or to sign the introduction to its strategy. This is something the EPSRC Council does not do at present, and might reasonably consider from the perspective of value added and appropriateness given the EPSRC Chief Executive is the Accountable Officer.

As with other research councils, the EPSRC publishes the agendas and minutes of Council meetings. There is necessarily a substantial delay before the approved minutes can be released, however there are differences in the level of detail in these documents. The minutes and meeting summaries published by the ERC, the Medical Research Council and the NSF are rather more detailed than those of the EPSRC, although that does not automatically mean they are more instructive or consequential. In several cases, the minutes amount to little more than a confirmation of the final agenda and when and where the meeting was held; the EPSRC greatly exceeds this rather cursory treatment. At the other extreme, the Board of the National Science Foundation releases audio recordings of its annual open session.

Figure 20 presents the results from the wider stakeholder survey, which is broadly consistent with views of Council Members inasmuch as 46% of respondents judge the Council's written documentation to be insufficient to permit the community to understand key decisions. By contrast, just 23% of respondents judge the material to be sufficient

Figure 20 – To what extent is the Council's written communication sufficient to permit the EPS research community to understand it's key decisions? (n=62)

| Answer Options            | Response |
|---------------------------|----------|
| 1 – Entirely insufficient | 15%      |
| 2                         | 31%      |
| 3                         | 32%      |
| 4                         | 21%      |
| 5 – Entirely sufficient   | 2%       |
| Average Response          | 2.6      |

Source: Technopolis survey of EPS stakeholders, 2013

We received many tens of suggestions for practicable improvements from contributors, which taken together suggest there is a keen interest, among the academic community in particular, for Council to do a great deal more to tell the world what it has been doing and to what end. The overall impression is that Council is saying too little, too late:

- It would be helpful if minutes could be approved and posted rather more quickly than is the case presently, and ideally without having to wait for the next Council
- The minutes are bland and uninformative. For example, they refer extensively to papers that Council considered, but no copies of these reports, or even a summary, are available. The minutes that do get published give the strong impression that Council operates as a rubber-stamping process
- A "meet the Council" session would be beneficial, which could be tackled through an annual open meeting of Council or more meaningfully through Council's presence at a major conference of science festival<sup>23</sup>

<sup>23</sup> The Council subsequently held an 'open forum' on 15<sup>th</sup> October 2013 to 'bring together and engage with current scientists and engineers from across engineering the physical sciences'. This day included presentations from Council Members, a Q&A session and group discussions between Council and members of the EPS community.

- Do more to tell the world what important decisions Council has taken and why, and be explicit about advice / evidence from the SAN or others. Please also give more thought to explaining the options considered, and their relative merits (and disbenefits)
- Regular updates to the academic and user communities as regards key decisions that have been taken by Council: bulletins with key decisions
- Possibly a short post council blog/report would help the community understand the key issues of the moment and potential issues that affect the community
- Earlier communication of Council decisions, perhaps by a newsletter produced shortly after each meeting, might be helpful. From experience of other research Council board memberships, there is tremendous advantage in "knowing stuff" at an early stage.
- More communication of both the work of the Council, and its impact. Perhaps decisions should be followed up after 1 year and 3 years and case studies provided?
- More effort should be taken to actively communicate its work with stakeholders
- More articles by Council Members in the EPSRC magazines, to complement the occasional features by the Chief Executive and Chair. Maybe some more digested, area specific communication could happen, e.g. discussions that affect support for training, or chemistry research or etc. One problem is general information overload"
- Council should report annually to the research community. This should be done in a different document from all other reports to other stakeholders. It should say what it is doing to hold the executive to account and apologise for the many egregious planning errors that it has failed to prevent

It is not always easy to separate out people's views about the visibility and engagement of Council itself and the EPSRC's overall communication strategy. One might argue that as the Council is the governing body, there should be no difference between the messages from Council and those from elsewhere in the EPSRC and the wider community should not therefore need to be able to discern the role of Council in specific strategic decisions or policies. This is perhaps overly simplistic, and feedback from Council Members and Stakeholders would suggest that would welcome a stronger and more visible input by Council, to combat the appearance of a governance system that is overly technocratic or even political. More written communication by Council ought to help build or enhance the EPSRC's reputation among the academic, user and wider stakeholder communities.

The communications issue goes beyond the completeness and transparency of the Council's written documents, although that is clearly a key area for further improvement, and also reflects the degree to which Council and its Members are willing and able to explain the thinking behind the tough choices that must be taken in a difficult financial environment.

The academic community is a dependent community by definition and will quite naturally argue forcefully and persuasively against any change in the volume or shape of the financial support provided to it. Those arguments need to be had; and before the policy is fixed. A published strategy and a written communiqué is unlikely ever to be sufficient. From this perspective, the issue may be less to do with Council's written communication and more to do with Council Members being visible advocates of their strategies, helping to persuade the EPS community of the correctness of those policies. This of course assumes the decisions taken by Council and the resulting funding strategies and prioritisation are in some way the best way forward or even the least-worst option.

## 10. Organisation and management of the Council’s business

This chapter of the Review presents our findings on the organisation and management of Council business, including formulation of agendas, content and quality of papers, quality of discussion, quality of minutes and management of subsequent actions.

The Review process has had to contend with a very much narrower approach here as compared with most other questions, relying principally on feedback from Council Members and the Executive Leadership Team on the one hand and the Review team’s selected reading of Council minutes and papers. The Review team also observed two meetings of Council, which was most helpful. Unfortunately, we did not have the time or resources to compare approaches used in other UK or international research councils, and the wider stakeholders have no direct view of these internal matters.

All but one of the five annual meetings are half-day sessions (the October Council is a one-day meeting spread over two working days), concluding with a dinner together and an external speaker. The 2013 October Council meeting also included an open forum in the morning, with a facilitated question and answer session. Once a year, the Council Meeting is organised to coincide with a visit to a university or strategic business partner. In addition, the Council holds one closed session, when the members of the EPSRC Executive Leadership team and other observers are asked to leave the room.

The Council agenda is largely determined by the EPSRC senior management team, picking up on various topical issues as well as including standing items. However, the Chair and Council do have the opportunity to review forthcoming agendas and can comment, and ask for changes or additions. For example, in the July 2013 Council Meeting, one of the last items on the agenda was ‘council forward business’, and a Council Member did ask for an additional item at this time.

Figure 21 presents the results from the survey of Council Members, which sought people’s views on each of eleven aspects, from agenda formulation to implementation of decisions.

Overall, the feedback shows that Council is broadly satisfied with the way its business is organised. While there are fewer ‘5s’ scored here as compared with other Review questions, there are also far fewer very low scores: the spread of opinion is generally tighter. There are detractors however. In every case, there is at least one Member – and sometimes as many as three – that considers current performance to be ineffective in some degree.

The worst score relates to a tension between the time available for discussion and the number and complexity of topics to be discussed. Managing this conflict is clearly a challenge, and an issue where Members generally would like to see more creative solutions.

Figure 21 – How effective are the following aspects of the organisation and management of Council business (5= entirely effective)? (n=16)

| <b>Answer Options</b>  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>Average</b> |
|--|----------|----------|----------|----------|----------|----------------|
| Content and quality of board papers                                      | 0        | 1        | 4        | 8        | 3        | 3.8            |
| Formulation of the agenda  | 0        | 2        | 2        | 10       | 2        | 3.8            |
| Accuracy / completeness of the minutes                                   | 1        | 1        | 1        | 11       | 2        | 3.8            |
| Relevance / focus of the agenda  | 0        | 1        | 4        | 10       | 1        | 3.7            |
| Quality of discussions   | 0        | 1        | 4        | 10       | 1        | 3.7            |
| Timeliness of communication and correspondence                           | 0        | 2        | 5        | 5        | 4        | 3.7            |
| Quality of presentations   | 0        | 1        | 6        | 7        | 2        | 3.6            |
| Implementation of decisions and agreed actions                           | 0        | 3        | 2        | 8        | 2        | 3.6            |
| Suitability of venues  | 0        | 2        | 7        | 3        | 4        | 3.6            |
| The use of Member's time outside of Council meetings (e.g. work streams) | 0        | 2        | 4        | 9        | 1        | 3.6            |
| Time available compared with topics to be covered                        | 1        | 3        | 7        | 4        | 1        | 3.1            |

Source: Technopolis survey of Council Members, 2013

The qualitative feedback was rather more fulsome than with just about any other topic, reflecting the immediacy of these issues for individual Council Members. We invited people to give feedback on aspects that would benefit from further work and aspects that they would judge to be good practice. Given the small number of respondents, most views were only

offered once, albeit several of the critical remarks are quite expansive and rather pointed. The observations were carefully drafted, and have therefore been repeated in full below.

Aspects that work less well:

- Personally, I think the meetings are too short. I am happy to spend a full day on EPSRC business 5-6 days a year. This would enable a much wider discussion of issues, and allow members time to hear presentations from people outside of the Council and Executive that could help inform the debate
- Agenda issues are too much shaped by executive. Council needs to be able to criticise the executive where needed, hence some sessions without the executive are essential. Documentation of decisions is weak. Documentation of issues that may constitute criticism of EPSRC's operations is underplayed. Need more and deeper discussion; more rigorous documentation of decisions; more rigorous follow up of execution on those decisions; more use of peers in the review process, particularly to assign reviewing tasks; better, more robust identification of scientific and engineering expertise for advice
- A lot of time is spent briefing us on some issues, not much on others, often not in relation to the complexity or importance of the issues. Too much time spent briefing us on things we should have read – not sure the pre- and post-Council briefings really add value. Need more discussion time for the big issues. More informal time together as a Council, all our dinners seem to be with hosts from other universities, so we don't get a chance to talk informally about EPSRC issues amongst ourselves
- Papers are short, but tend to be uninformative and start with a whole page of unnecessary statements, sometimes of the blindingly obvious like the statements about why Council needs the paper (potential risk of...)
- My experience is limited, but compared with the Council of the Royal Society - a much more old fashioned body you would think – EPSRC's Council operates relatively opaquely, and I have found it hard to make significant contributions to directions, despite having some strong views about where things need to be changed.
- Solicit Council Members input on content of agenda

Aspects of good practice:

- Very well chaired
- The dinners associated with Council provide a good opportunity to discuss relevant issues and hear speakers on "macro environment" issues affecting EPSRC
- Quality of debate, range of expertise available, relationship with executive
- Adoption of BoardPad software. Poster sessions to inform members of key issues. Rotation of SMT members into Council meetings

In the interviews with Council Members, one of the main preoccupations was the time available to Council to work through its business. For most, there was a tacit acceptance that the time available was never going to be sufficient for the size of the agenda each meeting has to face. It was appreciated that the chairman's attempt to focus on three or four principal discussion items was the right one but there remained anxiety about the number of items that had to be simply 'blessed'. One Member suggested that the Council's working day was much too short. Having committed a full day to Council for its regular meeting, he expected the working day to be longer than it was. "I don't consider this a day -2 till 5 and then dinner is not a day. A day should start at 9ish and finish at 6 then we should have our dinner". Many executive colleagues seem to concur.

A recurrent remark from Council Members was that Council works best when the time or the issue being considered was less structured (an executive colleague made the same observation). A heavy agenda supported by a lot of (structured) papers and structured discussion time gave a sense of having to plough through business rather than explore issues creatively and curiously. Members accept that some of the ploughing through was essential, but the balance of highly structured and less structured time was not quite right.

Some Members would like to see more sessions without the executives (and, occasionally, without BIS –an executive colleague wondered whether the BIS presence occasionally "put a blanket on openness"). While the contributions of the EPSRC executives were appreciated, it was thought by some Council Members that members needed more discussion time on their own. There was genuine and widespread support for the excellent work of the Executive.

Challenged that there seemed to be a paradox between espousing 'being at the heart of the innovation ecology' and the apparently conventional discursive process of the Council, several Members expressed reservations about the use of the plenary present-and-discuss model of discursive process. They would like to see other group processes used. One CM would like to see "iteration between small exploratory groups and larger groups until some sort of insight emerges. You need time and process to innovate." Another suggested using small groups also but outside and between Council meetings, then feeding into Council when the group had something to report. By contrast, another CM disliked small group work: because either the quality of note taking or the nature of disaggregation meant the plenary group's understanding of the small group's thinking was fragmentary, or at worst, distorted.

It was observed too that not all Council Members seemed able to contribute at meetings. First, some Council Members (and executive members) pointed out that members should not feel that they *have* to contribute on every item –this simply prolongs debate without adding a great deal. On the other hand, new members often struggle to get into discussion at all as, it is said, they need a long run-in to feel sufficiently on top of the agenda to make useful contributions (estimates varied from 18 months to four years!). Council needs to do more to bring new members up to speed on historical matters, perhaps briefing them outside of Council on 'the key ten issues' from the past.

The process by which the agenda is formulated is opaque to most and there is a broadly-based request for greater involvement in agenda setting. There is also a suggestion that there should be some forward view of the key issues likely to emerge. While short-term agenda items might be imposed by external, current developments, there should be some controls (some sort of triage) on the capacity of the latter to push the Council to substitute the urgent for the important. In relation to notes, minutes etc., anxieties connected to FoI enquiries may well be inhibiting a more satisfactory recording and communication of Council activity and decisions. Stakeholders commented unfavourably on the balance between 'it was noted' and 'it was decided' entries, and there is clearly an undesirable effect on the perception of the Council (reputation, brand) as a result of such blandness. This is recognised as being largely a matter of Council's own making, and not a problem with poor minute taking per se. Indeed, people were generally very complimentary about the work of the Council Secretariat.

Other matters that need to be clarified between colleagues include the type of documentation that is preferred or required when presentations are made to Council and when discussion or decisions are recorded. We noticed in our review of minutes and papers that there are at least two types of presentation/paper to Council from executives. In the first, much of the thinking has been completed, there are few conversational 'hooks' and the paper focuses on the decisions that Council needs to make. In the second, the considerative process is opened up for exploration by Council Members, there may be options for the way forward and there are several conversational 'hooks' in the paper or presentation. Clearly, both approaches (and probably others) are needed but colleagues may need to be explicit on the bigger issues about which approach they feel is more appropriate for the subject under consideration.

We understand the Chair tries to deal with three substantive items at each meeting, with papers and presentations to support wide-ranging discussions, and to complement focus with a much longer series of papers presenting a monthly report on say finance or HR or risk or various working groups. The idea is that all Council Members will have read the reports ahead of the meeting and will raise any issues they may have on ad hoc basis for immediate discussion (where straightforward) or noting for tackling offline where more involved. This bimodal strategy is entirely sensible given the volume of work to be dealt with.

The review team watched this approach in action at the July 2013 Council meeting, and felt it worked reasonably well. We do have two unresolved questions: how did a presentation about the CDT call for outline proposals make it in to the top-line discussion items and why did no-one have anything to say about any of the 'other' reports?

There were evident hooks, even in the short oral reports. For example, there was a 5-minute oral report on HR issues, in particular, noting that the EPSRC had made some headway with replacing programme managers and stating that they would be back to full complement by the autumn, sufficient to be able to look again at secondments and to cope with maternity leave for example. There was a brief reference to the 2012 staff survey, noting that it pointed to various issues where more needed to be done. There was only one question, with a Council Member asking about the ease with which EPSRC had managed to find programme managers that were well-regarded researchers in the fields they were overseeing.

The presentation about centres for doctoral training (CDTs) seemed a little odd, given its audience. It did not say anything about the rationale for the introduction of CDTs or the added value of this approach as compared with the EPSRC's previous dominant funding model, DTAs, and said nothing about plans for monitoring effectiveness, said nothing about the underlying demand for courses at such centres, among students or future employers, said nothing about global trends in this aspect of researcher training, and so on. Why was the Council given the presentation? If it was for information, why was it allowed 45 minutes when the meeting rushed through issues about HR, audit controls and the legal authority of the Council to move funds from the research budget line to the administrative budget line, in order to ensure its ability to function as an administration?

Returning to the issue of innovativeness, there was a general sense in the survey with Council Members, echoed in our interviews, that Council's discursive processes are a little too staid (i.e. agenda, introductory presentation, questions to presenter, wider discussion, conclusion recapped by Chair) and fall some way short of the more novel and potentially instructive processes being used routinely in several other areas of the public sector. Being responsible for overseeing research and training that will have a positive impact on innovation in the UK does not lead automatically to any conclusion about Council's own processes, however the Review team believes Council should lead by example: being more creative in its use of group processes would be welcomed by a majority of members if not all. Clearly, those processes need to be fit for purpose and deliver additional value and insight; they should not be implemented for fashion alone. There are improvements that could be experimented with (and subsequently evaluated), in particular around ways of exploring and deciding issues. These might include:

- Divergent thinking to convergent thinking
- Small group in-the-room ('buzz' groups)
- Small group outside-the-room
- What-if and scenario planning
- Simulation
- 'Market place' presentation
- Game based approaches
- Critical incident analysis
- Creativity based approaches

Many of these discursive and considerative techniques (explained further in Appendix C) aim to disrupt conventional ways of discussing matters in order to refresh behavioural norms, engender insight, increase variety and produce both more 'owned' and more innovative conclusions and decisions. Not all will suit Council, but an experimental programme would help Council test those assumptions and reveal two or three additional discursive strategies that would be clearly valuable additions to its wider repertoire of review, present and debate.

There is some evidence that Council Members would appreciate learning from each other. Current discursive styles do not explicitly draw on the different worlds represented in Council, but reflective practice techniques and critical incident analysis may help in this respect. So too would the occasional paper directly presented by a Council member.

There is a broadly based request for looser, less structured time and some of the discursive processes mentioned above may produce this. Council members need to discuss among themselves whether and how to re-engineer the different components of Council meetings, how and to what end, however the following are aspects that have been questioned:

- The duration of formal sessions, including what constitutes 'a day' might be re-defined
- The value of externally-hosted Council Meetings, with Council business being conducted within the context of a visit, and the support that provides to its wider objectives
- The place of dinner and guest presentations or after-dinner talks within the Council's day
- The purpose, format and frequency of closed sessions (e.g. who is excluded)

## 11. The relationship with BIS

This chapter presents the final question considered by the Review team, specifically Council Members' clarity about the Council's relationship with BIS.

The relationship operates on several levels and is described most completely in the current EPSRC Combined Management Statement and Financial Memorandum (2013).

In legal terms, the EPSRC is a Non-Departmental Public Body (NDPB), established by Royal Charter and responsible to the Secretary of State for the performance of its duties, as defined by the Science and Technology Act 1965. The Secretary of State is responsible to Parliament ultimately for The Council's conduct and performance, and as such may provide guidance to Council and monitor its performance in order to be assured that it is fulfilling its duties (as well as being ready to answer any questions from MPs). The Science Minister typically takes on those duties, and is helped in this role by the BIS Director General Knowledge and Innovation (DGKI), who has a number of specific duties, including helping EPSRC set its strategy within the wider framework of national science and engineering policy, advising the Minister on the resources needed by Council (and the distribution of the Science Budget across research councils), advising the Minister and the permanent secretary on matters of effectiveness and efficiency and ensuring effective cross-council working. The DGKI meets annually with the Chair and Chief Executive to agree the latter's objectives for the year. He also chairs the panel that reviews the Chief Executive's performance and makes any decisions on remuneration and any performance-related bonus.

The management statement states clearly that Council is required to develop and publish a strategic plan covering a 5-year period and detailing the Council's corporate objectives along with the costed strategies for achieving those goals and with the related performance indicators to be used to measure progress. Other than the fact that Council is required to produce such a document periodically, at a time it considers appropriate, the influence of the government amounts to a non-specific requirement for the strategy to be developed within the broader national STI policy setting and any guidance provided by the Secretary of State.

The management statement also requires Council to prepare a delivery plan annually to BIS setting out its programme of work for the forthcoming year and the planned period. This serves as the management tool for use by Council and the Research Base team in BIS, and covers work items, income and expenditure forecasts, KPIs and performance targets and various other items (e.g. plans for efficiency savings).

At an operational level, it is the EPSRC senior management team that take the lead in drafting these strategic and planning documents for approval by Council and which then serve as the framework for the interactions between EPSRC staff and the EPSRC team within the BIS Research Base directorate on all matters from financing to progress reports. The management statement allows for the secretary of state to *attend* Council meetings, however it also makes clear that the DGKI may deputise for the Minister and in practice it is usually the Director of the BIS Research Base group who attends on behalf of the Minister (although the DGKI does meet Council once a year). The management statement is open as regards the circumstances under which BIS might choose to attend or the nature of the information to be provided, or requested, however the Minister or his civil servants are not Council Members.

Perhaps a little confusing, the BIS Chief Scientist, Professor John Perkins, is a full member of Council, however he participates on the basis of his personal engineering expertise and his overview of governmental interests in EPS research and technology. As a member of Council, he is not part of the hierarchy between Council, the Secretary of State and Parliament.

Figure 22 presents the results from our survey of Council Members, where the question about the relationship with BIS was one question in a longer list of questions about the clarity of Council's various roles and responsibilities. The more extensive list was presented in the opening chapters of the report (see Figure 17), and the relationship with BIS was placed 10<sup>th</sup> out of 11 dimensions based on the average response rates across all respondents.

Figure 22 – How clear is your understanding of Council’s roles and responsibilities in each of the following areas, where 1 is “not at all clear” and 5 is “entirely clear”? (n=16)

| Answer Options   | 1 | 2 | 3 | 4 | 5 | Average response |
|--|---|---|---|---|---|------------------|
| The relationship between Council, the Secretary of State and BIS | 0 | 1 | 5 | 7 | 3 | 3.8              |

Source: Technopolis survey of Council Members, 2013

The distribution of votes shows that a minority of Council Members believes the relationship between Council and BIS is less clear than it might be, which is a mildly worrisome finding given BIS is the departmental ‘owner’ of the EPSRC and the relationship between the two is described in some detail in the EPSRC Management Statement. Moreover, the BIS director responsible for the team that manage the operational relationship attends most Council meetings.

The interviews with Council Members show that members are generally aware of the basic principles governing the relationship and that the implied lack of clarity is more about how the relationship works in practice, for example, who meets with whom and what exactly is discussed and how that might influence the thinking of the Chief Executive or Chair. The relationship with BIS is mediated through the EPSRC Executive to a much greater extent than through Council and that inevitably reduces Members’ awareness, and generates frustration over reporting lines. Notwithstanding this concern, several Council Members were openly complimentary about the Executive’s management of the relationship and the Chief Executive’s reports on his interactions with BIS. Several people were also complimentary about BIS commitment to Council, as evidenced through the regular attendance of a BIS director and the value of his invited contributions. By contrast, other members think Council discussions are restricted in some degree by this attendance and one Member wondered aloud whether it would not be more productive to have the DGKI come along to Council once or twice a year only for a fuller and more structured exchange. Council and the Executive is providing all necessary information and reports to BIS in the interim.

There does appear to be something of a dual reporting line, with the Executive-BIS relationship arguably being stronger and more influential, inasmuch as it deals with the flow of money (income) on the one hand and progress monitoring on the other (scorecards, impact reports, etc) and by all accounts has a pretty immediate effect on the activities of the senior management team. The BIS link to Council, which happens through the Chair is naturally less frequent (more informal) and deals with matters of strategy and broad policy, and is perhaps less critical during the implementation phase.

The interviews also found that several Council Members are somewhat mistrusting of the relationship and the degree of influence BIS has on Council. There is anxiety about the influence of BIS on the Council’s capability to develop policy and strategy independently, thereby “stretching the constitutional arrangement ... and overstepping the mark slightly in terms of interfering too much in the Research Councils’ business”. One comment pointed that the Council should push back harder (in relation to BIS) and mentioned other agencies as exemplars, such as TSB and the issue of the location of catapult projects. The fact that the BIS relationship is seen to be managed primarily by the executive is a further source of concern and there is some demand for greater CM involvement in future EPSRC-BIS connections.

An executive colleague summed up the potentially conflicted understanding of role: “Council Members are appointed by the Secretary of State and so are acting with the mandate of the Secretary of State. But EPSRC is an arms-length body, so the Secretary of State cannot tell them what to do. But where does ‘arms-length’ start and finish? Also BIS do control what the exec must do, and the exec have to follow this above whatever Council says”.

The findings of the wider stakeholder survey revealed a similarly low level of reported understanding of the relationship between the Council and BIS. The respondents split roughly equally between those that judged themselves to have reasonable knowledge of the links and those that have little or no understanding.

When we read the 50+ free-text comments, we see that people are unclear about the exact relationship between the two parties and that this uncertainty is combined with an element of distrust around political interference in the work of the EPSRC that people fear can only be detrimental to the quality of EPS and its international standing.

People understand that the EPSRC (and other research councils) is a BIS executive agency in formal terms and that the Minister approves the appointments to Council, but most are

unaware of what any day-to-day contact looks like and what the relationship means exactly for EPSRC strategy and policy. There is also a high-degree of mistrust, among the academic community in particular, with respect to the degree to which politicians are able to determine the composition of the national research base through their broad policies (e.g. the impact agenda) or specific announcements (e.g. the Chancellor's 2013 announcement of a £21.5M investment fund for graphene research, which will be overseen by the EPSRC but was not defined through the Council's established priority setting process). The learned societies are particularly vocal about the lack of transparency in the relationship and the increasing level of political influence in science funding. They refer frequently to the (apocryphal) Haldane Principle, as does the Science Minister, whereby scientists rather than politicians must decide where to spend public funds on research and by implication that the Minister and BIS's interest should be limited to negotiating with HM Treasury around the size of the science budget overall and coordinating discussions between disciplines to determine the broad funding split. Defining programmes or choosing projects is not considered to be appropriate, and the creation and imposition of new policies or rules, as is the case with the government's impact agenda, is also viewed as an unhelpful intervention favouring applied research over fundamental and affecting the natural order of things. These issues have been argued over for decades, however the objections become very much louder and more pointed when budgets are tight and political priorities or announcements move around existing funds rather than more benignly expending new money. Contributors also have no sense of how the impact reporting framework affects future income or activities.

Figure 23 To what extent do you have a view of the Council's relationship with the minister and the Department for Business Innovation and Skills (BIS)? (n=64)

| Answer Options                             | Response |
|--|----------|
| 1 – Completely unaware of the relationship | 27%      |
| 2  | 20%      |
| 3  | 22%      |
| 4  | 23%      |
| 5 – Fully aware of the relationship        | 8%       |
| Average Response                           | 2.7      |

Source: Technopolis survey, 2013

In terms of simple improvements, the majority of contributors ask that the relationship is more fully described on the EPSRC web site. A smaller number of people went as far as to suggest that describing the relationship in formal terms (who and what is involved) is a necessary but insufficient response and that in the interests of transparency the EPSRC ought to develop some case examples that would show in concrete terms exactly how ministerial guidance on wider S&T policy, for example, influenced the EPSRC strategy. How do new announcements get operationalised? What about new cross-council programmes, and how does EPSRC performance on its various KPIs / targets influence BIS decisions on future work programmes, income or even performance-related bonuses.

## 12. Conclusion and Recommendations

### 12.1 The functions of Council and its subsidiary bodies

#### 12.1.1 The functions of council

The overarching function of Council is entirely clear. All Members understand Council is the executive body responsible for all aspects of EPSRC performance as defined in the Royal Charter. This fundamental position is restated clearly in both of the two other foundation documents, the EPSRC Management Statement and EPSRC Code of Conduct, and is also clear in the EPSRC's induction pack for new Council Members. This understanding is also well understood among the wider EPS community and other stakeholders.

There is however a difference of opinion among Council Members as regards the practical implementation of that executive authority and the extent to which some of its responsibilities can be left in large part to the professionals within the EPSRC senior management team. The great majority of Members consider that Council operates more as a high-level advisory body rather than an executive, and while many consider that to be appropriate given the resources available and the scale of the administrative undertaking, others argue Council must be more active in its basic leadership and supervisory roles.

The review team agree with this latter sentiment, and conclude that Council must be more conscious of the terms of its Royal Charter and show stronger leadership and oversight across the full extent of EPSRC's activities.

We recommend:

**R1.** Council reaffirm its central authority and make greater demands on its senior management team. We suggest Council revisit the 10 functions listed in the current Management Statement and elaborate each of those, turning each sentence into a paragraph with sufficient detail that anyone will easily understand the scope and purpose of those duties. It would be helpful if Council were to consider whether these functions amount to a complete list, and indeed whether they are all necessary and if there are relative priorities.

#### 12.1.2 Council's subsidiary bodies

The majority of Council Members have a good view of the roles and responsibilities of RAC, and are content with its remit. By all accounts, RAC works well and in particular its management of major risks has improved over time with the arrival of a new director with broader experience.

The responsibilities and the work of the Remuneration Committee are very much less visible to Council Members, which is not critical but may be a missed opportunity in respect to broader feedback on ELT performance and wider references for salary and bonus discussions. Moreover, the salaries of key staff may become an issue (risk) going forward.

We recommend:

**R2.** Council consider what more it might do to support the Chair with his work on the Remuneration Committee and indeed his involvement in discussion around the performance of the Chief Executive with the DGKI. We do however acknowledge there are potential privacy issues around remuneration.

#### 12.1.3 Strategic advisory routes

Members do not have a good view of the role of SAN and SAT as sources of strategic advice to EPSRC, nor of the processes by which these groups are constituted or advice sought.

We understand SAN / SAT advice is informing the EPSRC senior management team's reports to Council, however it would be helpful for all parties if the fact that advice has been sought and given were to be made clear and that the advice and the conclusions based on that advice were also spelled out in feedback to Council through oral or written reports.

We also understand that the Chief Executive, in conjunction with the Chair, has begun to make more active use of SAN within a working group format – with questions posed by Council – and involving Council Members directly.

We concur with the conclusion of the Fortier Panel that the purpose, constitution and role of these two structures should be made more explicit as a matter of urgency. The Panel's recommendations on the need to improve transparency include the line of sight to Council, which we endorse fully. However, the changes must go beyond a more fulsome statement of purpose, and ought to include some additional procedures, too.

We recommend:

**R3.** Council review, with the Chief Executive, the type of questions that might reasonably be put to SAN or SAT, and how and when such advice should feed in to Council. Not all questions will be matters for Council, but some will and having clear and agreed criteria will permit the Chair and Chief Executive to more readily distinguish those.

**R4.** Council ask the Secretariat to maintain a list of advisory work-in-progress, which can be made available to Council members through the Council extranet. The list might be accompanied by some meta data, indicating whether the work is being carried out for the Chief Executive and the senior management team or the Chief Executive and Council. Each record might usefully include information about the origin of the request for advice, the question posed, the timeframe for the consideration, the names of the individuals involved in any sub-committee and the names of any Council Members that are part of the working group or somehow following its work. Ideally, the list of current projects should develop into a (complete) archive in the fullness of time. In most cases, we would expect that advice to be recorded in a standard note and possibly cross-referenced to supporting studies or evidence. Most advice will inform thinking or behaviour in some degree, and ideally the repository should also include a linked, brief response from the Chief Executive as regards the key points that have been taken forward.

## 12.2 The size and composition of Council

There is a widely recognised dilemma / trade-off between larger and smaller councils, with larger governing boards making it very much easier to encompass all constituencies and involving necessary multiple skills and perspectives, and smaller bodies tending to be more efficient and effective at decision-making.

Benchmarking the EPSRC against other research councils here in the UK and internationally shows its membership sits within the typical upper and lower bounds of other governing boards (10-20), albeit with a chair and deputy chair and 15 other members it lies towards the upper end of the size spectrum.

The upper and lower size limits specified in its Royal Charter remain appropriate. However, based on feedback from surveys and interviews, we judge Council's current size (17) to be appropriate but at its practical upper limit. That is three places fewer than is possible constitutionally.

We recommend:

**R5.** Council hold to its current size, adopting a lower maximum target of 15 ordinary members for operational purposes, rather than the 18 'other members' defined as the upper bound in the EPSRC Royal Charter

The Council's foundation documents – its Royal Charter and Management Statement – specify the basic parameters as regards the Chair and Deputy Chair, the maximum number of other members and the proportion that must be appointed by virtue of their expertise in engineering and physical sciences. Given the required (long) shelf-life of these key documents, they are silent as regards the more specific skills or perspectives that may be necessary for Council to work effectively. It would be helpful if operational guidelines were developed to assist the Chair and Chief Executive determine the best shape for Council overall (in order to meet its current objectives).

Council has a good cross-section of members from across public and private sector constituencies, however its composition is not ideal when considered from several other important perspectives, including ethnicity, gender and age. The academic community would wish to see an improvement in the representation of all EPS disciplines. The user

community wish to see a stronger input from smaller technology businesses. There were numerous other requests for broadening the perspectives of membership, with suggestions for the inclusion of lay members, 3<sup>rd</sup> sector, international and non-EPS disciplines.

There is an irreconcilable tension between the desire to maintain or even slightly reduce the size of Council by one or two seats, to increase its effectiveness as a decision-making body, and the widespread calls for broader representation on so many dimensions.

The solution may be to move away from any idea that Council is a representative democracy. Members are not *delegates* of particular EPS constituencies, and it may be time for Council to address that explicitly in its rules and processes and written communication. By moving away from the (historical) notion of Council as primarily a body of renowned scientists and engineers, it may be possible to broaden its composition over the next year or two while staying within its current overall size.

The ‘reserved’ positions on Council for two government chief scientists may also warrant further reflection, and a possible switch to a more generic position, whereby Council would commit to include at least two members that can share the ambitions and insight of EPS activities in government more generally.

We recommend:

- R6.** Council should write down a series of criteria or principles about the composition of Council overall, which it can use to create a grid of skills to inform its decisions about membership overall and the timing and direction of new appointments
- R7.** Council should consider the appropriateness of current reserved positions on Council for departmental chief scientists, and the potential for recasting this arrangement slightly to ensure greater engagement with departmental interests across government

### 12.3 The recruitment, induction and development of Council members

The Council’s recruitment process follows the Cabinet Office Code of Practice on Ministerial Appointments. It is robust, transparent and fair; it represents good practice as compared with the approaches of other research councils in the UK and internationally.

Council Members generally have a positive (if limited) view of the process, with just one small concern over whether the advertising process is sufficiently expansive to attract a good cross-section of diverse applicants. Having looked at the current announcement process, we judge the current approach to strike a good balance between numbers and diversity of candidates and the costs of the recruitment process. If Council decides it needs stronger representation from any constituency, whether that is SMEs or young researchers, no doubt the Secretariat will redouble its communication efforts with those intermediaries and media most likely to produce the desired increase in applications.

We recommend:

- R8.** Council ask the Secretariat to consider what practicable additional activities it might pursue (and at what cost) in order to increase the number of suitable applicants from the areas where the current membership is considered lacking (e.g. ethnicity, SMEs). That might also include exploring the costs and benefits of using recruitment consultants, but should in any event, include an action to establish the relative effectiveness of different advertising communication strategies

The current induction day rightly focuses on some of the most important and relevant aspects for new recruits, and Members are reasonably content with the content and the process. However, there were some useful additional ideas put forward by Council Members who had recently gone through the induction process, including a deepening of the information such that the resulting modules – and course content overall – might be better tailored to individual needs and starting points. There was also a general interest in the possibility of Council Member to Council Member mentoring.

The Council Secretariat is continuously improving the content and scope of this material, but there remains room for improvement in the generic information provided and how it is presented, as well as in the customisation of induction to individual needs. The presentation slides also give the impression that Council will advise the Executive, rather than vice versa.

We recommend:

**R9.** Council ask the Secretariat to improve the presentation of the generic information provided during induction, consider how this support might be usefully extended through online resources (a Council governance toolkit), and how the process might better be tailored to individual needs

Formal development activities are limited, and involve mainly ‘on the job’ learning through Council Members participating in Council meetings and working groups and attending various EPSRC visits. Occasional briefings on key processes or topical issues are welcome, however, Council Members in general do not feel a strong need for additional structured development. The ‘buddy’ system, where members of the EPSRC senior management team provide on demand support to individual Council Members, is generally appreciated by newer members although not all. Members’ general satisfaction with their prior knowledge and learning by doing is at odds with the assessment by Members and Executives that most new people take at least 18 months to get up to speed and will invariably perform more strongly in their second term as compared with their first. That rate of learning is too slow given the importance of the Council’s work and the finite number of places at table.

We recommend:

**R10.** The Chair and Council look to make greater use of the appraisal process to support Member development

**R11.** Council ask the Secretariat to reflect on how an ongoing programme of topical briefings and events might be usefully included within the existing timetable

#### **12.4 The Council’s culture and behaviours**

Council’s conduct is clearly orderly, respectful, even-handed and inclusive. These are all critical qualities to the functioning of any governing body, however, they are not a given, and as such this performance is praiseworthy.

The feedback suggests there may be room for some small improvement in several areas, however, including the openness and transparency of Council’s ultimate decisions and the robustness of the challenges put to the EPSRC senior management team by individual members. There are some small residual concerns that newer members find it harder to contribute to debates and that certain Members feel they must be heard on every item. The new Chair has these matters in hand however and is also managing to halt discussions as they move into the detail or simply revisit past debates that are settled already.

We recommend:

**R12.** The Chair continue to strengthen his management of the room, to ensure the everyone with something to say has that opportunity and to guillotine discussions that are becoming repetitious or not moving forward

**R13.** Council Members, jointly and severally, increase their efforts to make sure robust challenges are put to the senior management team on both major presentations and (critically) standing business and short oral reports, in order to ensure the highest standards

#### **12.5 Members’ knowledge of the organisation, and engagement with its business**

Overall, Council Members believe they have good knowledge of the EPSRC, its mission, strategies, metrics and programmes, and that they are sufficiently well informed to do their job well. We were not able to test this objectively, however listening to Council discussion of the results of a particular funding competition and hearing feedback about a session on the grant-awarding process, does suggest that this self-assessment may be a little rose-tinted and that Members will benefit from ongoing briefing sessions on core processes and more immersive activity.

We recommend:

**R14.** Council ask the Secretariat to reflect on how an ongoing programme of briefing sessions on EPSRC activities might be usefully included within the existing timetable.

Council Members are part-time appointments, and engagement with EPSRC business is somewhat limited. Many would wish to do a little more, busy diaries permitting. In reality though, the heavy lifting is often done by too few Council Members.

The EPSRC senior management team (and some Members) would like to see Council Members being more actively engaged outside of Council meetings (particularly externally in advocacy, lobbying, defending decisions). However, not all Council Members are aware of these expectations, or fully agree with them.

We recommend:

**R15.** The Chair and Council to clarify expectations of Members regarding engagement, and make these expectations more explicit in future rounds of recruitment and induction, as part of a better explanation of the nature and extent of the commitment required

**R16.** The Chair with the help of the Secretariat map the contributions of all Council Members using a simple grid showing membership of subsidiary committees, working groups, representation at EPS events, attendance on extra-Council visits, and so on, with a view to better understanding the scale of personal investment. This should be done with consideration in order to provide a basis for a discussion in Council about how best to improve the balance of contributions across members

**R17.** The Council ask the EPSRC Secretariat to develop a forward programme (12 months out) with information on opportunities for increased engagement in different aspects of EPSRC business, from strategic visits with the Chief Executive to observing major peer review exercises

**R18.** Council consider all its options for increasing the effective capacity of Council to look more closely at more of the EPSRC business:

- One might do that by rewriting Members' contracts in order to increase individual contributions, perhaps doubling the required input. Such a change would be costly in financial terms, albeit one might offset the cost to some degree by moving towards a smaller Council. However, doubling contributions may be more problematic for Council Members, and might easily reduce or otherwise change the pool of available candidates
- One might also increase effective capacity through a more conscious division of labour among Council Members, perhaps assigning two or three Members to take a lead on behalf of Council in championing and monitoring one or other core business function (e.g. operations). Ultimately one might create more sub-committees, following the model of the RAC, in order to obtain a fuller and deeper engagement at key points. At present, every Member is equally responsible for every area and activity. There are risks attached to this kind of efficiency through specialisation, potentially encouraging a descent into factionalism, which is the exact opposite of what is needed from an executive body
- More radically (requiring a new Charter), one might recast independent Council Members' as NEDs and in parallel promote the three EPSRC directors in the senior management team to full membership of Council, so Council includes both the individuals responsible on a day-to-day basis for the principal functions of the EPSRC (e.g. operations, finance, communication) and external EPS experts with the experience and insight to challenge or guide Council debates as necessary
- This last option would formalise what is happening to some degree already through the active participation of members of the senior management team in both reporting to Council and joining in the discussions. However, formalising a change in status from 'attending' Council to being a member of Council may be problematic. The Royal Charter leaves open the possibility that some members may be appointed for reasons other than to do with their expertise in EPS. However, even such a change would not require a new Royal Charter it would set the EPSRC apart from most other grant-awarding councils. STFC does include directors on Council. It would also run counter to the current thinking of the Chair and Chief Executive, and indeed historical arrangements where individual directors would attend on invitation and not sit at the table with Council. There may also be disquiet among the academic community, if the professional administrators are given greater weight at Council and the resultant dilution of influence – in numerical terms at least of both the academic and user communities

## 12.6 Strategy, policy development, operational oversight and evaluation

The Council's key documents do not explain the process by which Council ought to determine EPSRC policy or strategic priorities, or oversee the extent to which performance targets have been met. Those key documents are also silent as regards the required division of labour between Council and the Executive.

The effectiveness of Council's working relationship with the Executive is seen as broadly positive, although most agree that it could benefit from improvement in some respects. The relationship is most effective around strategy development, although beyond Council's big strategic planning exercises, a regular 'pulse check' and possible update on elements of strategy would be good practice and welcomed.

Members express a high degree of trust in the Chief Executive and the members of the ELT more generally, however, they also feel pressure to support the Executive's proposals where they can, unless there are obvious and material shortcomings, in the interests of efficiency. There is also an occasional sense of a 'them and us' mentality, on both sides, which suggests that the two parties may need to be talking more to one another to dispel the kind of conspiratorial anxieties that can arise at a distance.

Council discussion (as minuted) and documentation of implementation is certainly more limited than one would expect. Discussion of evaluation and monitoring reports within Council also appears limited, and Members had little sight or awareness of recent International Reviews and evaluations undertaken by EPSRC (beyond the evaluation sub-committee). Several Members also mentioned a lower than desired level of oversight of implementation of agreed policies / actions.

Finally, as mentioned previously, there is a lack of clarity as to when and where the ELT has sought advice, and to what extent and how information put to Council reflects that advice.

We recommend:

**R19.** Council consider assigning one of its annual plenary meetings to a full review of all draft reports concerning EPSRC performance, from Delivery Plan Scorecards to Annual Impact Reports and the Annual Report itself<sup>24</sup>

**R20.** Council consider asking the EPSRC senior management team to draw up a programme of independent evaluations, covering the full extent of its operations, and running over a three-year period. This could be loosely costed to inform prioritisation, but may also seek to focus on work to test / demonstrate social and economic impact on the one hand and the sustainability and effectiveness of novel instruments on the other

**R21.** Council consider formalising its recent practice of asking for presentations to be developed through a tiered process or stages of reflection, from think piece to policy, perhaps echoing Government's use of 'green papers' and 'white papers'. Council could also consider developing a written protocol to structure the preparation and presentation of papers to Council, with more systematic labelling of purpose and origins and with a sharper one-page summary of the key messages. It would be helpful if the protocol would also include other key meta data and references to working groups or specific evidence including SAN advice or papers

**R22.** Council ask the EPSRC senior management team to review the extent to which it is able to reasonably simply and cost-effectively make clear what aspects of Council's papers and other items are based on the work / advice of SAN or other strategic advisory routes

## 12.7 The effectiveness of the operational frameworks

EPSRC Council members serve on a part-time basis, as such, Council must rely on the EPSRC management team to run the business on its behalf, and responsibility for day-to-day operations is delegated necessarily to the Chief Executive and EPSRC staff. However, the details of the framework of delegation (to Executive and other bodies) is poorly documented and generally not well understood by Members. There is also a degree of unease around the extent to which it is appropriate for Council to delegate its responsibilities, with what several members consider to be only relatively light oversight. However, the practical limitations of

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<sup>24</sup> Some reports concerning EPSRC performance are already provided to Council – though just 'for information', and are therefore not systematically discussed

a Council populated by eminent individuals with demanding jobs elsewhere in the EPS community are also well recognised.

There is concern regarding the rigour and transparency of decision-making, particularly in relation to the inflow of strategic advice from external sources (e.g. SAN), but also in respect to the depth of debate and discussion within Council. There is an anxiety in some quarters too about relying unduly on the EPSRC senior management team, which is a criticism of Council behaviour at least as much as it is a criticism of the operational frameworks used to structure the process of delegation to the Executive.

The functioning of the RAC and its oversight of the EPSRC risk management system is well regarded by Council Members and independent members of RAC.

We recommend

**R23.** Council should ask the EPSRC senior management team to draft a fuller and clearer statement regarding each of the key operational frameworks, from decision making to risk management, specifying the division of labour / relationship for each major component of the EPSRC business, detailing the scope of individual management reports (function by function) and key performance metrics, along with the arrangements for exception management and periodical review. This clarification will allow a more informed or conscious decision about where Council must draw the line in terms of its involvement, given its natural capacity and the relative importance of different functions

**R24.** Council should use those draft texts to arrive at a more robust view as to where the lines of responsibility lie and the implications this has for the content and frequency of reporting and the standing agenda items. This work should make clear where the division of labour and responsibility lies between Council and ELT, and in particular which matters are reserved for Council decision

**R25.** Council should consider the extent to which these additional reflections can be transformed into documented protocols that are readily available to Council Members

## 12.8 The clarity of documentation about the role and functions of Council

The Council's role and functions are described succinctly online and elaborated in rather more detail in several key documents, including the EPSRC Royal Charter (2003) and the more expansive EPSRC Combined Management Statement and Financial Memorandum (2013). There is a third document, which is very much longer, and entitled the EPSRC Code of Practice for Members of Council (2013). The three documents are clearly closely aligned, however the status of the two accompanying texts and the relationship between them is a little ambiguous. Moreover, there is a fourth document that includes relevant material, and that is the EPSRC Governance Guide.

The language of the Royal Charter is somewhat legalistic and not very accessible to a modern audience, and could be better drafted. While the EPSRC Management Statement improves and expands upon this constitutional document, it is still rather complex, and does not easily serve as a quick reference. It also focuses on issues of personal conduct, probity and obligations in office, and perhaps gives insufficient consideration to the active contributions that Members are expected to make. However, we understand that Council has limited control over the shape and content of these key documents.

The EPS community at large is aware of factual documents (biographies, strategy, delivery plan) that provide basic information on the Council's roles and responsibilities, however, our surveys reveal widespread concern over the clarity and coherence of the explanations and also with the limited information available on several of the most important issues (e.g. the influence of Council's relationship with BIS on strategy and funding).

The relevant sections of the website were a particular focus of concern for the wider community, who see it as dense and difficult to navigate, with (mention of) the Council somewhat hidden or invisible amongst other information about funding opportunities and general news items. While Council Members were not particularly exercised by the quality of online documentation specifically, they were concerned with a need to improve communication with the Community more generally, and increase Council's 'real world' visibility and accessibility.

The Review team concur with this assessment and would add one further observation, which may be rather more challenging to respond to. The online presentation of Council conveys a separateness from the EPSRC, and does not give any sense that the EPSRC strategy, delivery plan or performance are all 'owned' by Council. This is a function of site design to some degree, and possibly even nomenclature, however it is arguably symptomatic of the sometimes less than central role of Council in the business of the EPSRC, at least from the perspective of its grantholders. The EPSRC (the Council) is defined in the Royal Charter as the body corporate, and as such that would be difficult to change, however one could rename the Executive more easily as the senior management team or management board with operational responsibility for the EPSRC administration. The Technology Strategy Board has struggled with these naming issues more recently, and may offer some insight as regards a more distinct / unambiguous treatment.

We recommend:

**R26.** Council ask the EPSRC Communications Director to come forward with a costed-proposal to improve its online presentation, with Council being given more prominence overall and with the individual elements more fully described and with improved cross-references to the different aspects of Council's functions, constitutional texts and outputs. Some further thought might be given to adding to the selected key messages online, expanding on key elements such as relationships with stakeholders.

**R27.** Council give further thought to its 'ownership' of the EPSRC brand and associated communication strategy and materials, with a view to testing its options for overcoming the separation between the two

**R28.** Council give further thought to its options for combating the potential confusion caused by current EPSRC nomenclature, whereby The Council and the EPSRC are used interchangeably to mean the same thing or different things; they can both be referred to as 'the Council'; and the Council is the executive, while the Executive is the senior management team

### 12.9 Council's communication of its work and outcomes

Council Members are greatly exercised by this aspect of Council communications, and far more so than the communication about their roles and responsibilities. A majority feel the visibility of the work of Council is poor in general and that this reduces credibility among the EPS academic community and its influence over other stakeholders from users to government.

The survey of stakeholders confirmed these anxieties; people are generally unaware of the specific contributions of Council. The inability to distinguish the work of the Council from the work of the EPSRC more generally is arguably the right result; the two should be one. However, the feedback suggests people are aware of EPSRC material and do not consider that the output of Council. The Executive has a profile, Council very much less so. This could be seen as appropriate, but many would welcome a stronger and more visible input by Council to combat the appearance of a governance system that is overly technocratic or even political.

We recommend

**R29.** Council consider asking the EPSRC Director of Communications for advice on how best to develop improved awareness among key stakeholder groups, possibly through more and better branding of key documents (e.g. a chairman's introduction to the EPSRC strategy or Annual Impact Report). No doubt there will need to be changes on a broader front than just additional branding, perhaps with more written output by Council Members, from newsletters to blogs and more active involvement as Council Members in EPS events / congresses whether in person or online (webinars)

**R30.** Council should consider the possible value (and affordability) of creating an annual public event for the EPS community (building on the recent open forum); a national or even international congress of some sort, to showcase scientific achievements, facilitate professional interaction and provide a platform for presenting policy ideas and other administrative innovations

## 12.10 The organisation and management of Council business

The organisation and management of Council business works well most of the time, and continues to improve in response to feedback from the Chair and Council and more general reflection on what works well and what works less well.

The Council Members and senior management team all express concern over the perennial challenge of making best use of Council's time, given the scope of EPSRC business and the number and complexity of the issues in hand at any one time. There is a general sense among Council Members that Council has yet to find an entirely robust solution to the challenge of too many issues and too little time. People support the Chair's decision to use a kind of triage, splitting plenary meetings in two, with the first part focusing on the three of four most substantive or pressing issues, and then covering all other items in the second part, whereby Members are invited to comment on previously circulated reports, raising issues as necessary, and with various standing items tackled as brief oral reports.

The discipline in the room is improving too, such that discussions are kept on subject and where they stall or get sidetracked, the Chair is able to get people back on subject, close the debate or possibly constitute an ad hoc review group to consider matters further offline for bringing back to Council plenary at a subsequent meeting. There remain some concerns about the extent to which all items are looked at sufficiently, and a sense that Council can be tougher or more lenient on an issues for reasons that have nothing to do with the importance of the issue itself. With this kind of prioritisation, there is a pretty heavy reliance on the Chair and the EPSRC senior management team to get the agenda right and more generally identify all of the issues of concern.

Council Members would welcome more clarity / openness about the agenda-development process, and a more concerted effort on the part of the Chair and the EPSRC senior management team to seek input to the draft agenda by other members of Council. There was also a request made in several quarters to encourage Council Members to take the lead more often on review items and work streams and for Council Members to be making at least some of the presentations. As with other remarks about Members' engagement, these ambitions need to be understood against the backdrop of people's finite contractual commitments and (more important for some) impossibly busy diaries.

Several Council Members remarked on the tendency for Council to devote most of its time and energy to debating current issues and spending very much less time discussing reports from the senior management team on progress with implementation of past decisions. Indeed, several people remarked on the tendency to debate without deciding and that it was not always clear what or if any decision had actually been made.

Several Council Members and a large number of external stakeholders took the view the formal minutes are pretty anodyne, and in the case of one Council Member, not a good reflection of full extent of the discussion or advice given.

We recommend:

- R31.** Council to reconsider the full complement of structures at its disposal, and their tactical use in order to maximise the time Council proper can devote to matters of substance (e.g. ad hoc working groups, community consultations or commissioned work)
- R32.** Council consider experimenting with the use of more novel methods for debate and reflection (see examples in Appendix C), to encourage more innovative insight and decisions
- R33.** Council to consider if and when it would be appropriate / most helpful for Council to hold some part of some or all of its meetings in a closed sessions, without members of the senior management team present and/or other observers (e.g. BIS). The use of a closed session might even be limited to those points in time where it is judged to be helpful, or possibly more routinely as a time when Council might consider more pointed issues about its relationship with the senior management team or BIS. Ad hoc or routine, the use of closed sessions would still benefit from some kind of protocol to ensure the process has structure and direction
- R34.** Council invite the EPSRC senior management team to explain the agenda setting process, as the basis for coming forward with practical options to encourage greater input by Council Members on possible items for inclusion and possibly a broader involvement of Council in the prioritisation of those items

## 12.11 Members' clarity about the Council's relationship with BIS

The relationship with BIS emerges as one of the three areas of Council activities that are of greatest concern to Council Members, with the other items on the 'must do better' list being the visibility of strategic advice and the quality of communication of Council outputs.

A majority of Council Members believe the relationship between Council and BIS is less clear than it might be, which is a worrisome finding given BIS is the departmental 'owner' of the EPSRC and the relationship between the two is described in some detail in the EPSRC Management Statement. Moreover, the BIS director responsible for the team that manages the operational relationship between BIS and the EPSRC Executive attends most Council meetings and is able to respond to specific queries or indeed take issues away with him.

Members are aware of the basic principles governing the relationship and the roles and responsibilities of the key players. The implied lack of clarity is more about how the relationship works in practice, for example, who meets with whom and what exactly is discussed and how that might influence the actions of the Chief Executive or Chair and their subsequent advice or questions for Council.

Our consultation of the wider EPS community revealed widespread unease about this relationship. People understand that the EPSRC (like other research councils) is a BIS executive agency in formal terms and that the Minister approves the appointments to Council, but most are unaware of what any day-to-day contact looks like and what the relationship means exactly for EPSRC strategy and policy.

There is also a high-degree of mistrust, among the academic community in particular, with respect to the degree to which politicians are able to determine the composition of the national research base through their broad policies (e.g. the impact agenda) or specific announcements (e.g. the Chancellor's 2013 announcement of a £21.5M investment fund for graphene research, which will be overseen by the EPSRC). The learned societies are particularly vocal about the lack of transparency in the relationship and the increasing level of political influence in science funding. Contributors also have no sense of how the EPSRC's impact reporting framework affects future income or activities.

We recommend:

**R35.** Council consider its options for improving the transparency of its relationship with BIS, as a matter of urgency, through for example simple improvements to the web site description of the purpose and structure of that relationship. It may also help to develop some case examples that would show in concrete terms exactly how ministerial guidance on wider S&T policy, for example, influenced the EPSRC strategy.

Council should also consider the extent to which the management of the relationship can reasonably be delegated to the Chair and Chief Executive (and his team), and in particular whether a more substantial and formal exchange between Council and BIS, once or twice a year, might offer an efficient and productive mode of interaction.

## Appendix A The Review specification

### A.1 BACKGROUND

The Engineering & Physical Sciences Research Council (EPSRC<sub>1</sub>) is the main UK government agency for funding research and training in engineering and the physical sciences, investing more than £750 million a year in a broad range of subjects – from mathematics to materials science, and from information technology to structural engineering

The EPSRC is a corporate body with executive responsibilities established under the Science and Technology Act 1965 and by Royal Charter.

We are a non-departmental public body principally funded through the Science Budget by the Department for Business, Innovation and Skills (BIS). We employ around 200 staff in Swindon.

Our mission is to:

- promote and support, by any means, high quality basic, strategic and applied research and related postgraduate training in engineering and the physical sciences.
- advance knowledge and technology (including the promotion and support of the exploitation of research outcomes), and provide trained scientists and engineers which meet the needs of users and beneficiaries (including the chemical, communications, construction, electrical, electronic, energy, engineering, information technology, pharmaceutical, process and other industries), thereby contributing to the economic competitiveness of Our United Kingdom and the quality of life.

Our vision is for the UK to be the most dynamic and stimulating environment in which to engage in research and innovation.

### A.2 ROLES AND RESPONSIBILITIES OF THE COUNCIL

The role and responsibilities of Council are described in the Code of Practice for Council Members which incorporates the Royal Charter, and the Management Statement which sets out the governance relationship between EPSRC and its parent department, BIS. See:

<http://www.epsrc.ac.uk/about/governance/council/Pages/codeofpractice.aspx>

### A.3 AIMS OF THE REVIEW

Cabinet Office/HMT guidance<sub>2</sub> on the governance of Boards prescribes it as good practice that independent evaluation of the Council is carried out at least once every three years.

The aim of the review is to assist the Council in pursuit of its mission as an arms-length, non-departmental public body and in line with its Charter. The review seeks to identify ways to enhance the performance of Council as our corporate decision-making body. In line with good governance practice, the Chair of the Council is seeking to assess current effectiveness and identify where there is scope for improvements.

### A.4 SCOPE OF THE REVIEW

The review should cover all aspects of the operation of the Council as the EPSRC's governing body, and its subsidiary bodies (Resource Audit Committee and Remuneration Committee), including the interaction of the Council with the Executive.

Specific aspects the review should address include:

1. Members' clarity about the functions of Council and its subsidiary bodies (Resource Audit Committee and Remuneration Committee), including members' understanding of the respective roles and responsibilities of Executive and Non-Executive members, their understanding of the responsibilities of the Chair and the RAC, and the relationship with EPSRC's strategic advisory routes; (including members' involvement in SAN<sub>3</sub>appointments);
2. The appropriateness of the size and composition of Council, including Executive representation, in comparison with best practice in similar organisations, and wider board best practice;

3. The recruitment, induction and development of Council members;
4. Members' knowledge of the organisation, and engagement with its business;
5. The Council's culture and behaviours;
6. How the Council works with the Executive on strategy and policy development, operational oversight and evaluation;
7. Members' clarity about, and the effectiveness of, the operational frameworks Council uses in fulfilling its functions, including the rigour and transparency of decision-making, the framework of delegation to the Executive, and the risk management system;
8. The clarity with which Council describes/explains to others in its documentation its role and functions and those of its subsidiary bodies;
9. The quality of Council's communication of its work and outcomes in its documentation;
10. The organisation and management of Council business, including formulation of agendas, content and quality of papers, quality of discussion, quality of minutes and management of subsequent actions;
11. Members' clarity about the Council's relationship with BIS.

The supplier should make recommendations for improvement or changes to any of the above.

#### **A.5 NOT IN SCOPE**

The review is **not** required to consider the activities of the EPSRC Executive arm other than in connection with its support to the Council (the governing body).

#### **A.6 REVIEW SPONSOR & OVERSIGHT GROUP**

The review is commissioned by, and will report to, the Chair of Council. The Chair has delegated a sub-set of the Council members to act in an oversight capacity for the duration of the review. This Oversight Group will be responsible for the selection of the supplier, and for monitoring the delivery of the review and ensuring that the review deliverables meet the specification.

#### **A.7 DECISION PROCESS & TIMESCALES**

Tenders will be subject to an initial evaluation and shortlisting against the criteria. 3 suppliers will be selected to attend an interview (see below). The supplier will be selected in early June, and the review will take place between June and December 2013. The Oversight Group must be in a position to brief the Chairman of Council on the review outcomes before Council's meeting in December.

Key dates are:

- Sourcing Document Available – 19th April
- Proposal return – 11am 15th May
- Evaluation of Proposals – 15-22nd May
- Notification of outcome – 23rd May
- Interviews (see below) – 3rd June
- Notification of outcome – 6th June
- Estimated Contract Award – 7th June
- Review kick-off meeting – w/c 10th June
- Final report delivered – 22nd November

#### **A.8 INTERVIEWS**

Forty-five minute interviews will be held in London. Suppliers will be required to give a presentation (no more than 10 minutes), and answer questions.

#### **A.9 DELIVERABLES**

- A work-plan for the review – to be agreed at the kick-off meeting;
- Progress reports, to be based on the milestones in the work-plan;
- A draft report to be delivered on 30th October;

- A final report to be delivered on 22nd November.

#### A.10 REQUIREMENTS

The tender should:

- Describe a work programme for compliance with the review aims and scope, detailing your proposed methodology and activities, and a timetable and key milestones;
- Specify the resources to be committed to the review, including the experience and skills of the review personnel;
- Show relevant experience in both the private and public sector and demonstrate an understanding of the public sector environment within which the Council operates, and in particular its role as the governing agent for a Non-departmental Public Body;
- Indicate a total cost for the work.

#### A.11 EVALUATION CRITERIA

Bids will be assessed against the following equally-weighted criteria:

- Compliance with the requirements; **25%**
- Ability to comply with the timetable; **25%**
- Price/Value for money; **25%**
- Version 0.3 5
- Track record of undertaking board effectiveness reviews in complex organisations, including experience and understanding of the NDPB sector; **25%**

An additional criterion will be used at interview stage and the weightings will be **20%** for each:

- Commitment to the project.

## Appendix B Contributors

### B.1 Interviewees

#### B.1.1 Council Members

- Dr Paul Golby - CBE, FREng (Independent) - Chair EPSRC
- Professor David Delpy - FMedSci, FRS, FREng - Chief Executive EPSRC
- Professor Anne Anderson - OBE (University of Glasgow)
- Professor Andrew Blake - FRS, FREng (Microsoft Research Ltd)
- Jack Boyer (Entrepreneur)
- Professor Anthony Finkelstein - FREng, FCGI (University College London)
- Professor John Fisher - FMedSci, CBE (University of Leeds)
- Professor Sir Richard Friend - FRS, FREng (University of Cambridge)
- Professor Andrew Hamilton - FRS (University of Oxford)
- Professor Richard Jones - FRS (University of Sheffield)
- Professor Dame Julia King - DBE, FREng (Aston University)
- Professor Helen Neville (Proctor & Gamble)
- Professor John Perkins - CBE, FREng (Chief Scientific Advisor, BIS)
- Professor Roy Sambles - FRS (University of Exeter)
- Dr David Watson (IBM UK Ltd)
- Professor Jeremy Watson - FREng (Arup)

#### B.1.2 EPSRC Executive Leadership Team

- Dr C (Clive) Hayter, Associate Director - Capability
- Dr A (Alison) Wall, Associate Director - Impact
- Dr N (Neil) Viner, Associate Director - Leaders
- Dr L (Lesley) Thompson, Director - Science and Engineering
- Mr A (Atti) Emecz, Director - Strategy and Business Relations
- Mr A (Andrew) Lewis, Director Operations

#### B.1.3 Other stakeholders

- Mr J (Jeremy) Clayton, Department for Business Innovation & Skills, Observer
- Ms R (Rosie) Drinkwater, University of Warwick, RAC
- Professor T. Pedley, University of Cambridge, Ex-Council Member
- Sir John O'Reilly, Director General Knowledge and Innovation, BIS
- Professor Sir Christopher Snowden, University of Surrey, Ex-Council Member
- Ms Caroline Walker, Peterborough and Stamford Hospitals NHS Foundation Trust, RAC
- Dr Tony Wood, Pfizer, Ex-Council Member

## B.2 Survey respondents

There were 80 responses to the stakeholder survey. Not all respondents gave details of their organisation, but where known these are shown below. Note, however, that individuals were not necessarily responding on behalf of their organisation.

| <b>Universities</b>        | <b>Learned Societies and Government</b>       |
|----------------------------|---|
| University of Strathclyde  | Institute of Physics                          |
| University of Bath         | Institute of Mathematics and its Applications |
| University of Bristol      | London Mathematical Society                   |
| University of Cambridge    | Council for the Mathematical Sciences         |
| University of Edinburgh    | Royal Statistical Society                     |
| University of Glasgow      | National Audit Office                         |
| University of Leicester    |   |
| University of Nottingham   | <b>Businesses</b>                             |
| University of Southampton  | M Squared Lasers                              |
| University of St Andrews   | IP Group plc                                  |
| University of Strathclyde  | GSK   |
| University of Surrey       | E.ON  |
| University of Birmingham   | Disney  |
| Cardiff University         | Airbus  |
| Cranfield University       | BAE Systems                                   |
| Durham University          | Mobile VCE                                    |
| Lancaster University       | Rolls-Royce                                   |
| Loughborough University    | Siemens                                       |
| Open University            |   |
| Oxford University          |   |
| Queen's University Belfast |   |
| UCL                        |   |

## Appendix C Possible discursive processes

**Divergent to convergent thinking** - Structure discussion (e.g. starting with exec position paper) with the explicit intention to expand the number of options that participants might explore. Use De Bono's 'Six Hats' model as part of the rules of engagement to ensure discussion is not closed down too early. Converge discussion to decision point when appropriate.

**Buzz group** – On certain topics, and before asking for a plenary response, give Council 3-5 mins to discuss the topic in triads in order to generate ideas or questions or answers. The word 'buzz' derives from the characteristic sound of many groups of three quietly but animatedly exploring an issue. Often useful when energy in a large group is on the wane.

**Small group outside the room** – This approach is well-tried and also well-known as the 'break-out' session. To be used sparingly, but with explicit rules: clarify the question to be answered, have generally tight timescales for the discussion (but be willing to negotiate end-points), specify the report-back process and say what the product should look like. Notice that small groups fragment the group but can also fragment the discussion so some sort of re-integration process subsequently is wise.

**What-if and scenario planning** – 'What if' approaches can vary from informal thought experiments to formal, written option appraisals. The informal can often be useful in seeking opposing views or keeping other possibilities open. This can help with resisting 'group think' and with avoiding closing down an issue too early (the bane of creative thinking).

Scenario planning is a rigorous decision-support process developed by Arie de Geus and colleagues at the Shell Corporation in the 1970s. It is a long-range planning approach that acknowledges the long-term planning is not feasible on a purely evidential, rational basis because trends are discontinuous over long time spans. Instead, scenario planning (a) uses both data and the imagination of 'experts' and 'wise' people to create (generally three) written scenarios (desired, undesired and another future). This is a complex piece of work, often requiring a skilled person (b) The latter then become the basis for an analysis by the decision-making groups who explore what underlying (system) factors are driving the three scenarios and (c) finally, the decision-making groups consider and decide what strategic actions have to be taken to aim for the desired scenario and to avoid the undesirable one.

**Simulation** – We refer here principally to behavioural simulations which are a part of the portfolio of 'experiential learning' and which derive from game theory. Such simulations are comparatively complex and expensive to develop. The simulated element is the environment in which the issue is being explored; the environment is described in a written format and represents a 'simplified' (not very!) view of that world. This first highly-analytical-phase of the process takes place before the simulation event itself. The group is then invited to start the simulation and each individual plays their own role or one with which they are familiar – trying to role-play an unfamiliar role (eg a national press reporter) is unwise. The behaviours thus exhibited are close to 'real'. This phase –the 'play' phase- is lightly facilitated, with the emphasis on free development of choices and consequences by the group. The final phase is a learning phase, using external observers, the groups own perceptions and a framework of reflective practice –this phase is highly facilitated.

**Market place presentations** – This technique is related to the Council's current use of posters. Small group work that is then presented serially in a plenary group can sometimes be tedious, repetitive and selective. Market place encourages the development of posters or flipcharts around a 'stall' that is staffed by one or more people from the small group. The wider group can wander around any of the stalls that interest them in a free way and explore issues and questions with the stallholders. It would be helpful for the chair and another to visit each stall and offer the plenary group a summary of the issues identified.

**Critical incident analysis** – CIA uses a significant event (often something that has gone badly wrong; but it could also be the opposite) to generate learning. The group is encouraged to analyse the causal factors that may have lead to the final effect (the critical incident), clustering causes and being rigorous about the evidence. These causal factors then represent the first level of causation. It is often instructive to carry out a second analysis; consider each of the first-level causes as symptoms or effects or products of something deeper. This should produce a second level of causation. It is at this second level that the best insights can be generated.

**Creativity based approaches** – There is quite a large number of techniques and processes available here. Several are borrowed from theatre (eg improvisation); some are visual-based, sometimes combined with verbal approaches; some are games based; others involve physicality. Many of these approaches can be quickly deployed to refresh or energise. But innovation can often not be forced and may need time and repetition to emerge.



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