

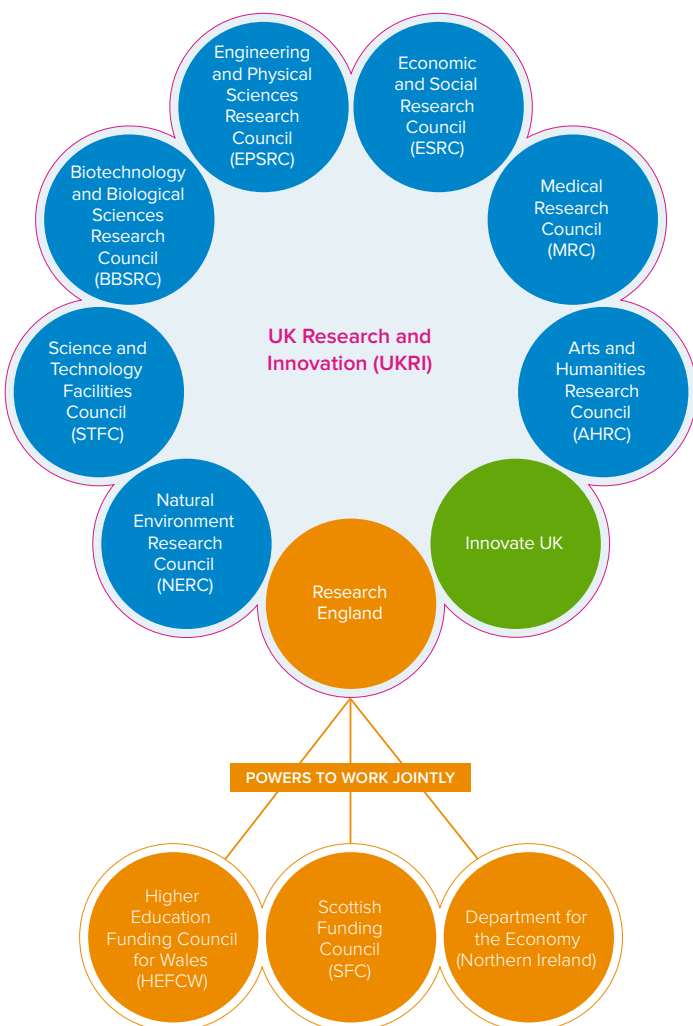
UK Research and Innovation (UKRI)

What is UKRI?

UK Research and Innovation (UKRI) was established by the Higher Education and Research Act 2017 and was launched in April 2018. The purpose of UKRI is to create a strong, agile and joined up funder of research and innovation for the UK. UKRI brings together the seven Research Councils, Innovate UK and Research England (formally the Higher Education Funding Council for England (HEFCE)). UKRI and its constituent Councils published their first Delivery Plans in June 2019¹.

UKRI delivers the majority of public funding for research and innovation in the UK. It will play a central role in realising the UK Government’s ambition of 2.4% of gross domestic product (GDP) investment in research and development (R&D) by 2027. This explainer summarises UKRI’s structure, governance and operation to support discussion over how this funding is distributed.

FIGURE 1 Who makes up UKRI?



UK Research and Innovation (UKRI)

UKRI is made up of nine Councils: seven Research Councils, Innovate UK and Research England.

Research Councils

The seven Research Councils, divided by scientific discipline, support excellent research by providing grant funding, access to excellent research facilities and investing in infrastructure and institutions.

Innovate UK

The UK’s innovation agency, works with companies to de-risk, enable and support innovation, including through providing innovation grants and investing in Catapult centres.

Research England

Research England supports English Higher Education providers to deliver funding for research and knowledge exchange formerly performed by HEFCE. This includes quality-related block grants to higher education institutions.

Devolved counterparts

Funding of higher education institutions is a devolved matter and so a similar function to Research England is performed by Higher Education Funding Council for Wales (HEFCW), the Scottish Funding Council (SFC), and the Department for the Economy (Northern Ireland).

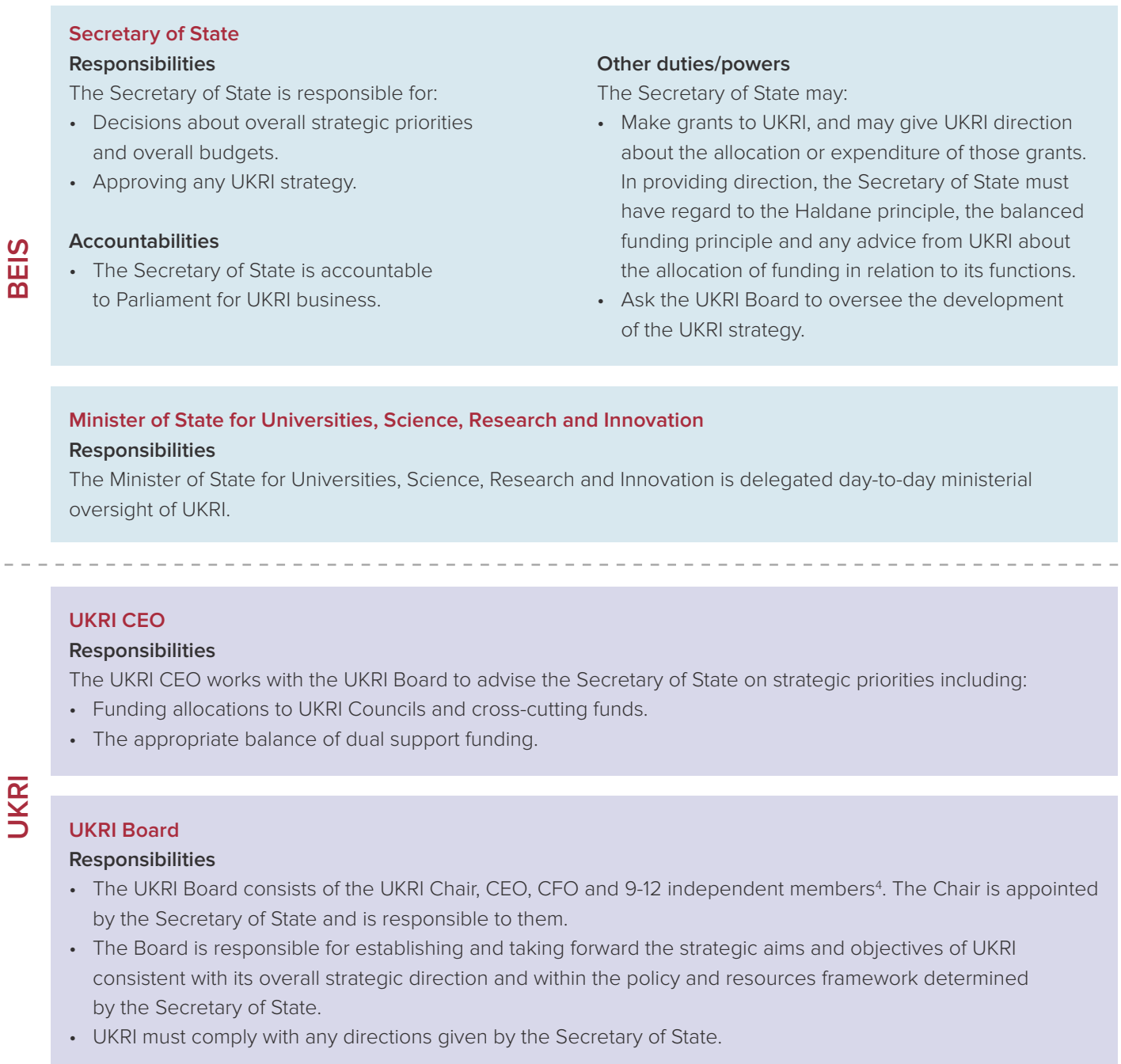
The Government has committed to increase levels of R&D investment in the UK to at least 2.4% of GDP by 2027². Research and innovation in the UK must flourish to achieve this.

1. Delivery Plans 2019, UKRI, June 2019.
 2. Spending Round 2019, HM Treasury, 4 September 2019.

How does UKRI work?

UKRI is a non-departmental public body (NDPB) sponsored by the Department for Business, Energy & Industrial Strategy (BEIS)³. Figures 2 and 3 illustrate the governance relationship with BEIS and the internal governance of UKRI.

FIGURE 2 UKRI governance relationship to BEIS



3. Higher Education and Research Act 2017.

4. As of July 2019, composed of the Chair (Sir John Kingman), CEO (Sir Mark Walport), CFO (Mike Blackburn) and 9-12 independent members (Sir Peter Bazalgette, Executive Chair, ITV; Professor Julia Black, Pro Director for Research, London School of Economics; Professor Sir Leszek Borysiewicz, Chair, Cancer Research UK; Lord John Browne of Madingley, Executive Chairman, L1 Energy; Professor Sir Ian Diamond, Chair, Social Security Advisory Committee; Fiona Driscoll, Chair, UKRI Audit Committee and Chair of Nuffield Health Audit Committee; Professor Alice Gast, President, Imperial College London; Sir Harpal Kumar, Head of Johnson & Johnson Innovation EMEA; Professor Max Lu, President and Vice-Chancellor of the University of Surrey; Vivienne Parry, Head of Engagement for Genomics England; Mustafa Suleyman, Co-founder and Head of Applied AI, DeepMind; Lord David Willetts, Executive Chair, Resolution Foundation; Professor Dame Sally Davies, Chief Medical Officer, attends in a personal capacity).

FIGURE 3 UKRI internal governance arrangements

UKRI Board

Responsibilities

The UKRI Board is responsible for approving the individual UKRI Councils' strategic delivery plans. Decision-making is delegated to each UKRI Council in relation to their discipline area.

UKRI CEO

Responsibilities

The UKRI CEO is a member of the UKRI Board and is the Chair of the Executive Committee. They lead the implementation of a programme of work to deliver the UKRI strategy.

UKRI Executive Committee⁵

Responsibilities

The Executive Committee consists of the CEO, CFO, Executive Chairs of each of the nine Councils of UKRI and other members that the CEO may appoint. Their responsibilities are to:

- Act as a day-to-day coordinating body for UKRI operations.
- Provide leadership to the organisation including across the collective activities of the individual UKRI Councils to ensure strategic and operational coordination and collaboration.

Accountabilities

- Individual members are accountable to the Board and Executive Committee for the development and approval of the individual Council strategic delivery plans
- The Committee reports to the CEO on cross-cutting activities.

Other duties/powers

- Provide strategic advice to the Board.

Individual Councils

Responsibilities

The UKRI Councils are statutory entities which deliver against their specific discipline focus and are each led by a governing council composed of an Executive Chair and supported by up to 12 independent members.

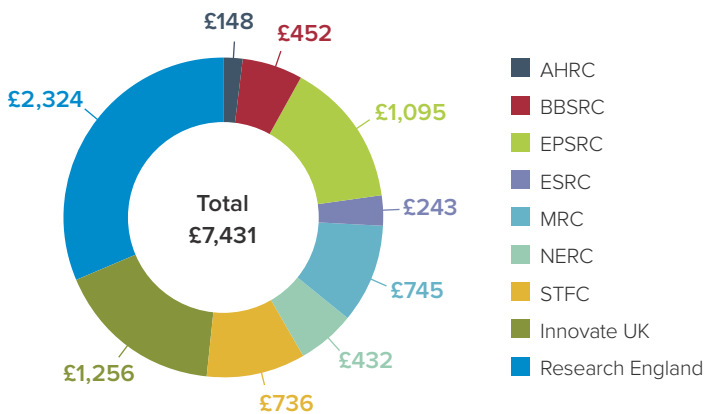
5. As of July 2019, composed of the UKRI CEO, Chair, CFO, Executive Chairs of the Councils (Professor Jennifer Rubin, ESRC; Dr Ian Campbell (interim), Innovate UK; Professor Lynn Gladden, EPSRC; David Sweeney, Research England; Professor Mark Thomson, STFC; Professor Andrew Thompson, AHRC; Professor Fiona Watt, MRC; Professor Melanie Welham, BBSRC; Professor Duncan Wingham, NERC), and Emma Lindsell and Isobel Stephen, joint Executive Director, Strategy and Governance, UKRI.

What is UKRI's budget?

Funding for UKRI and its constituent Councils is allocated through grants made by the Secretary of State. When the Secretary of State makes these allocations, they announce how much should be allocated to each of the nine Councils within UKRI (Research Councils, Innovate UK and Research England) and UKRI cannot make changes to these allocations.

In doing this, the Secretary of State must 'have regard' to the 'Haldane principle', the 'balanced funding principle' and advice from UKRI. This legal requirement to 'have regard' creates accountability to Parliament, meaning that, should the Secretary of State choose not to follow these principles or UKRI's advice, parliamentarians can question their reasoning for doing so. The Haldane principle does not apply to the government's funding of innovation and the activities of Innovate UK.

FIGURE 4 UKRI Council budgets in 2019/20 (figures rounded to the nearest £million)⁶



Haldane principle

The 'Haldane principle' is the notion that decisions related to the spending of research funding should be made by researchers rather politicians. In the Higher Education and Research Act 2017, it is defined as, 'the principle that decisions on individual research proposals are best taken following an evaluation of the quality and likely impact of the proposals (such as a peer review process)'.

Balanced funding principle and dual support system

Balanced funding principle
The balanced funding principle requires the Secretary of State to consider the importance of the dual support system when allocating funding, striking a reasonable balance between the block grant funding allocated through Research England and the competitive grant funding through the seven Research Councils. The balanced funding principle is a legal reference to the importance of upholding a dual support funding model. It applies to England only.

Dual support system
The dual support system is composed of two distinct and complementary funds:

- Institutional block grants**
Known as quality-related research funding (QR), these are grants to higher education institutions which can be spent according to their own priorities. Funding of higher education institutions is a devolved matter; in England, block grants are administered by Research England.
- Competitively allocated grants**
UK-wide funds administered through the Research Councils for specific research projects.

6. Individual UKRI Council Delivery Plans 2019, UKRI, June 2019.

Overall budget allocations 2017/18 to 2020/21

UKRI's budget comes from a number of sources. Table 1 shows the complete confirmed budgets for UKRI up until 2019/20 and partial indicative budgets for 2020/21.

TABLE 1 UKRI overall budget allocation (figures rounded to the nearest £million)

| | 2017/18 ⁷ | 2018/19 ⁷ | 2019/20 ⁸ | 2020/21 ⁷ |
|---------------------------------------|----------------------|----------------------|----------------------|----------------------|
| Research and Innovation | 4,906 | 4,848 | 4,990 | – |
| National Productivity Investment Fund | 385 | 650 | 1,112 | 952 |
| Official Development Assistance | 233 | 306 | 373 | 240 |
| Science Infrastructure Capital | 857 | 1,016 | 902 | 931 |
| Total | 6,381 | 6,819 | 7,458 | 2,123 |

The Research and Innovation, and Official Development Assistance budgets are partly protected funds. The National Productivity Investment Fund and Science Infrastructure Capital are not protected. The science ring-fence, which partly protects the Research and Innovation budget, only has confirmed plans up to 2019/20.

What is the science ring-fence?

The science ring-fence is made up of a series of policy ringfences which include: Science R&D, Science Infrastructure, ODA (through Global Challenges Research Fund and Newton funds) and does not include Capital Admin budgets. Capital Admin Budgets are operational expenditure which support R&D, and so are eligible for capitalisation under the 2010 European system of accounts.

Since 2015, the Government has committed to increasing the ring-fenced science budget in real terms (in line with inflation). The science ring-fence provides stability and a degree of certainty to funding decisions, which is crucial for research that spans decades or even lifetimes.

7. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 2 p4.

8. UKRI Delivery Plan, UKRI, June 2019, Table 2 p48.

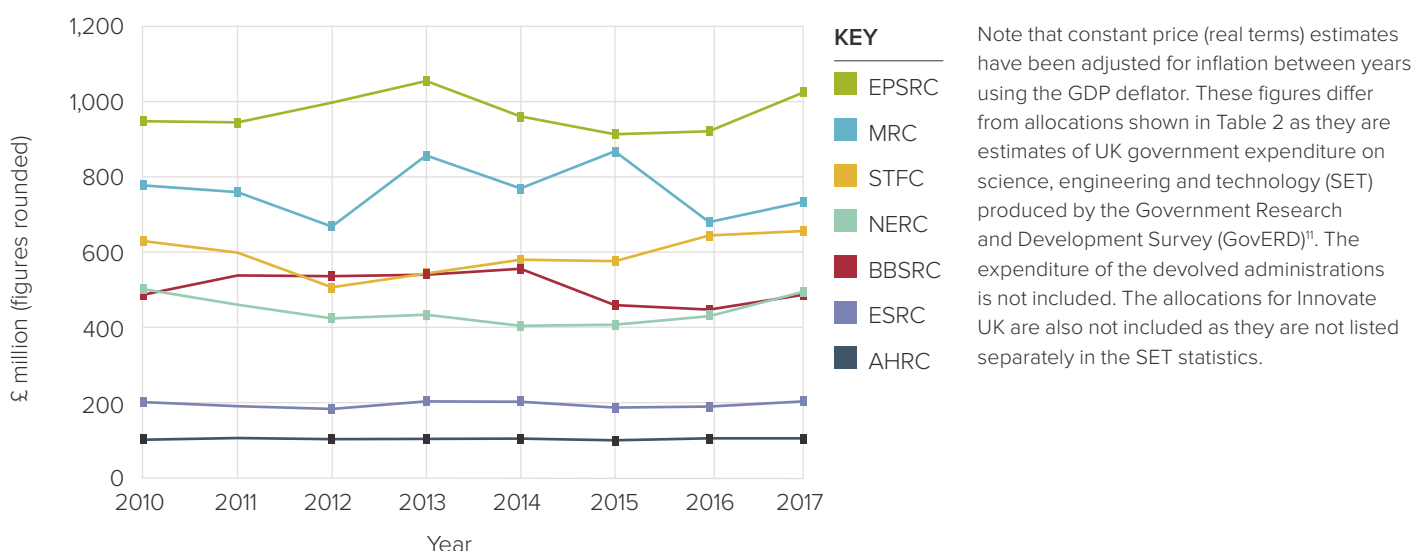
Individual UKRI Council budgets

Table 2 sets out the planned funding allocations for the individual Councils of UKRI. The funding comes from Research and Innovation funds, the National Productivity Investment Fund (NPIF), Official Development Assistance (ODA) and Science Infrastructure Capital. The total budget allocated to the Councils of UKRI may differ to the total UKRI budget. Figure 5 shows the individual Research Council allocations between 2010 and 2017 in constant prices.

TABLE 2 UKRI individual Council planning allocation (figures rounded to the nearest £million)⁹

| | 2017/18 | 2018/19 | 2019/20 |
|--------------------------------------------------------|--------------|--------------|--------------|
| Arts and Humanities Research Council | 110 | 124 | 167 |
| Biotechnology and Biological Sciences Research Council | 446 | 438 | 445 |
| Engineering and Physical Sciences Research Council | 1,052 | 1,148 | 1,110 |
| Economic and Social Research Council | 210 | 224 | 211 |
| Medical Research Council | 727 | 717 | 746 |
| Natural Environment Research Council | 445 | 441 | 404 |
| Science and Technology Facilities Council | 674 | 725 | 697 |
| Innovate UK | 714 | 829 | 906 |
| Research England | 2,013 | 2,217 | 2,355 |
| Total | 6,390 | 6,865 | 7,040 |

FIGURE 5 Research Council expenditure in constant prices between 2010 and 2017¹⁰



9. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 3 p11.

10. Government expenditure on science, engineering and technology, UK: 2017, ONS, 13 June 2019. UK government expenditure on SET covers estimates of expenditure by government departments, Research Councils and higher education funding councils (HEFCs). Most estimates are on a net expenditure basis, that is, 'in-house' R&D performed, plus purchased or funding provided for R&D, less funding received for R&D.

11. UK government expenditure on science, engineering and technology QMI, ONS, 13 June 2017.

How is each source of funding spent within UKRI?

Research and Innovation

The Research and Innovation budget makes up the majority of the Government's investment in science, research and innovation. It includes the science ring-fence (which applies across the breadth of research disciplines) and additional funding for innovation that sits outside the science ring-fence but is allocated to UKRI. It is allocated to organisations to carry out research and innovation activities.

Most of the funding allocated to the individual UKRI Councils comes from the Research and Innovation budget. This money is largely distributed to researchers through competitively allocated grant funding from the seven Research Councils and block grants to higher education institutions from the national funding bodies. Innovate UK uses its allocation to support businesses to help them turn ideas into commercially successful products and services. Programmes such as Smart grants and the nationwide network of Catapult centres also exist to support business growth.

Funding allocations

TABLE 3 Research and Innovation budget allocation (figures rounded to the nearest £million)

| | 2017/18 ¹² | 2018/19 ¹² | 2019/20 ⁸ | 2020/21 |
|--------------------------------------------------------|-----------------------|-----------------------|----------------------|---------|
| Total allocation¹² | 5,655 | 5,497 | 5,421 | 264 |
| Total allocated to UKRI | 4,906 | 4,848 | 4,990 | – |
| Allocated to UKRI | | | | |
| Arts and Humanities Research Council | 94 | 92 | 92 | – |
| Biotechnology and Biological Sciences Research Council | 336 | 330 | 327 | – |
| Engineering and Physical Sciences Research Council | 782 | 775 | 764 | – |
| Economic and Social Research Council | 147 | 144 | 143 | – |
| Medical Research Council | 554 | 545 | 562 | – |
| Natural Environment Research Council | 248 | 244 | 282 | – |
| Science and Technology Facilities Council | 392.5 | 402 | 413 | – |
| Innovate UK | – | – | 743 | – |
| Research England | – | – | 1,647 | – |

Note that the individual Research Council funds for 2017/18 and 2018/19 are indicative funding allocations announced in 2016 and may have been superseded – see qualifications in footnote.

12. These figures are taken from the resource budget data in the individual Research Council Delivery Plans that were published in 2016. There are discrepancies across tables as these figures predate the latest BEIS report on the allocation of funding for research and innovation (2018), which does not include the individual Research and Innovation budget allocation by Council. Consequently, while the 2017/18 and 2018/19 data may be useful in considering the relative allocation of the Research and Innovation budget across the individual Research Councils, it should be understood that these include figures that were indicative in 2016 and may now have been superseded. Research England was created by the Higher Education Research Act 2017 and allocations have not been included for the years 2017/18 and 2018/19. Prior to becoming a Council of UKRI, allocations to Innovate UK's budget originated from the departmental R&D budget within BEIS, and not from the Research and Innovation Fund, and so comparable figures are not available.

13. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 1 p3.

National Productivity Investment Fund

The National Productivity Investment Fund (NPIF) was announced in the 2016 Autumn Statement. The Government has allocated £37 billion to the fund over the period 2017/18 to 2023/24. This includes £7.09 billion of allocated funding for R&D over the period 2017/18 to 2021/22. The rest of the £37 billion supports a range of activities in addition to R&D including housing, transport and digital infrastructure.

Funding allocations

TABLE 4 National Productivity Investment Fund planning allocations (figures rounded to the nearest £million)

| | 2017/18 ¹⁴ | 2018/19 ¹⁴ | 2019/20 ¹⁴ | 2020/21 ¹⁴ | 2021/22 ¹⁵ |
|-------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Total allocation | 423 | 839 | 1,509 | 2,017 | 2,325 |
| Scheme total | | | | | |
| Industrial Strategy Challenge Fund | 249 | 386 | 491 | 469 | – |
| Talent | 51 | 126 | 186 | 266 | – |
| Fund for International Collaboration | – | 10 | 45 | 55 | – |
| Quality-related Funding | – | 20 | 88 | – | – |
| Commercialisation | 55 | 93 | 97 | 116 | – |
| Strength in Places Fund | – | 2 | 32 | 82 | – |
| Other | 67 | 132 | 226 | 166 | – |
| To be allocated (including Strategic Priorities Fund) | – | 70 | 344 | 862 | – |
| Total allocated to UKRI¹⁶ | 385 | 650 | 1,003 | 952 | – |

14. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 4 p12.

15. Budget 2018, HM Treasury, October 2018, Table 4.1 p57.

16. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 2 p4.

Industrial Strategy Challenge Fund

What is it?

The Industrial Strategy Challenge Fund (ISCF) is mission-oriented funding that aims to support the development ambitions of the UK Government as set out in the 2017 Industrial Strategy¹⁷. In particular, the fund will seek to support progress related to the 'Four Grand Challenges' identified in the strategy: artificial intelligence and data; ageing society; clean growth; and future of mobility.

How is it allocated?

Funding has largely been allocated in 'waves'. Within each wave are a number of specific challenges that are related to the 'Four Grand Challenges' identified in the Industrial Strategy.

Current status

Seven successful challenges from the third wave of the ISCF were announced throughout June and July 2019. Announcement of remaining successful challenges, still progressing through cross-governmental approval, are expected in Autumn 2019.

Strength in Places Fund

What is it?

The Strength in Places Fund (SIPF) takes a place-based approach to research and innovation funding. The fund recognises that there are 'large regional disparities that need to be addressed in order for there to be prosperous communities across the UK'. It funds consortia of research organisations and local businesses, supported by local leadership.

How is it allocated?

The funding programme will be composed of two stages. The first is the provision of 'seed corn' funding to enable the development of full stage proposals. These proposals will then be submitted for full funding of between £10 million and £50 million over 3 to 5 years. In the first phase, between four and eight proposals will be funded¹⁹.

Current status

The successful full stage projects will be announced later in 2019²⁰. A complete list of shortlisted projects was announced in March 2019²¹.

Fund for International Collaboration

What is it?

The Fund for International Collaboration (FIC) is intended to, 'enhance the UK's excellence in research and innovation through global and strategic engagement'. The fund is designed to support the UK to collaborate with key international research partners including the US, Canada, Japan, Australia, Israel, South Korea, Singapore, China and India.

How is it allocated?

To date, the fund has been allocated through individual calls and projects rather than as any part of overarching fund.

Current status

Thirteen calls and projects for the second wave of the FIC were announced on 9 August 2019¹⁸. UK funding will be matched by international collaborators including India, China, the US and Japan.

Strategic Priorities Fund

What is it?

The Strategic Priorities Fund (SPF) is intended to fulfil the vision of a 'common fund' set out in the Nurse review of Research Councils. The Nurse review suggested that this 'common fund' could support multi- or interdisciplinary research that does not fit within the subject remit of the individual Councils of UKRI, including responses to broad societal needs or emergency situations²².

How is it allocated?

SPF is intended to support multi- and interdisciplinary programmes. It does not yet have a dedicated funding allocation. Funding is drawn from within an allocation of £70 million for 2018/9, £344 million for 2019/ 20 and £862 million for 2020/21.

Current status

The first project from the second wave of the SPF was announced on 9 July 2019, and will provide £10 million toward establishing a Modern Slavery Research Centre.²³ Announcement of remaining projects, still progressing through cross-governmental approval, are expected in due course.

17. Industrial Strategy: building a Britain fit for the future, BEIS, 27 November 2017.

18. UK join forces with international experts to tackle global challenges, BEIS (Press release), 9 August 2019.

19. UKRI Strength in Places (SIPF) Programme Overview, UKRI, May 2018.

20. UKRI stakeholder events focusing on place, UKRI, May 2018.

21. www.ukri.org/funding/funding-opportunities/strength-in-places-fund/wave-1-seedcorn-funded-proposals/

22. Ensuring a successful UK research endeavour: A review of the research councils by Paul Nurse, BEIS, November 2015.

23. Government to launch new modern slavery research centre, Home Office (News story), 9 July 2019.

Official Development Assistance

Since 2013, the UK Government has pledged to allocate 0.7% of the country's Gross National Income to Official Development Assistance (ODA). Some of this funding supports research activity with low and middle-income countries.

Whilst UKRI delivers the majority of the ODA funding, other bodies such as the National Academies, the UK Space Agency and Public Sector Research Establishments deliver ODA funding too.

Funding allocations

TABLE 5 Official Development Assistance planning allocation (figures rounded to the nearest £million)²⁴

| | | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
|---------------------------------------------|--------------------------------------------------------|---------|---------|---------|---------|
| Total allocation | | 340 | 415 | 518 | – |
| Scheme total | Global Challenges Research Fund | 215 | 299 | 393 | – |
| | Newton Fund | 125 | 115 | 125 | – |
| Total allocated to UKRI²⁵ | | 233 | 306 | 291 | 240 |
| Allocated to UKRI | Arts and Humanities Research Council | 9 | 12 | 12 | – |
| | Biotechnology and Biological Sciences Research Council | 33 | 48 | 46 | – |
| | Engineering and Physical Sciences Research Council | 28 | 34 | 31 | – |
| | Economic and Social Research Council | 22 | 37 | 33 | – |
| | Medical Research Council | 51 | 61 | 59 | – |
| | Natural Environment Research Council | 22 | 30 | 29 | – |
| | Science and Technology Facilities Council | 11 | 11 | 7 | – |
| | Innovate UK | 16 | 19 | 11 | – |
| | Research England | 41 | 55 | 63 | – |

24. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 5 p13.

25. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 2 p4.

Global Challenges Research Fund

What is it?

The Global Challenges Research Fund (GCRF) was announced in 2015. It is intended to support research that addresses challenges faced by developing countries. GCRF has three challenge areas: 'equitable access to sustainable development', 'sustainable economies and societies' and 'human rights, good governance and social justice'.

How is it allocated?

Funding is allocated through competitive calls as well as through an uplift to institutional block grants.

Current status

There have been a number of calls to date. In December 2018, 12 Global Research Hubs were announced²⁶. Together these hubs account for £200 million of investment²⁷. The GCRF block grant to higher education institutions accounted for £48 million in 2017/18 and £58 million in 2018/19.

Newton Fund

What is it?

The Newton Fund was launched in 2014. By 2021, the UK Government will have invested £735 million in the programme. The Fund supports bilateral and regional research and innovation partnerships between the UK and selected middle income countries agreed at a national level. The aim of the Fund is to develop science and innovation partnerships that address specific global development challenges affecting the partner country and build science and innovation capacity. Country partners are required to provide matched resources.

How is it allocated?

The Newton Fund has been allocated through a range of competitive calls since 2014.

Current status

There have been a number of Newton Fund grants awarded to date. Examples of grants include Institutional Links and Researcher Links, which are both delivered by the British Council. Institutional Links grants range from £30,000 to £300,000 over two to three years and cover costs associated with the development of research and innovation collaborations between the UK and partner countries²⁸.

26. Institutional Links, British Council, website accessed August 2019.

27. UKRI GCRF Global Interdisciplinary Research Hubs, UKRI, February 2019.

28. New Global Research Hubs to tackle complex development challenges, UKRI, 10 December 2018.

Science Infrastructure Capital

Science Infrastructure Capital funding is used to maintain existing and create new facilities to support scientific research and output. This spend includes the 'World Class Lab' funding, for maintaining and refreshing existing UK scientific infrastructure, as well as funding allocated to bodies to spend in line with their own strategic interests, including those interests that are aligned with the grand challenge priorities that the Government has set out in its Industrial Strategy.

Funding allocations

TABLE 6 Science Infrastructure Capital planning allocation (figures rounded to the nearest £million)

| | | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
|---------------------------------------------|--------------------------------------------------------|---------|---------|---------|---------|
| Total allocation²⁹ | | 1,113 | 1,231 | 1,163 | 1,203 |
| Total allocated to UKRI³⁰ | | 857 | 1,016 | 882 | 931 |
| Allocated to UKRI³¹ | Arts and Humanities Research Council | 0 | 0 | 0 | – |
| | Biotechnology and Biological Sciences Research Council | 69 | 47 | 64 | – |
| | Engineering and Physical Sciences Research Council | 185 | 228 | 196 | – |
| | Economic and Social Research Council | 35 | 42 | 19 | – |
| | Medical Research Council | 35 | 76 | 66 | – |
| | Natural Environment Research Council | 128 | 120 | 89 | – |
| | Science and Technology Facilities Council | 208 | 195 | 185 | – |
| | Innovate UK | 0 | 0 | 0 | – |
| | Research England | 197 | 336 | 308 | – |

29. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 1 p3.

30. The Allocation of Funding for Research and Innovation, BEIS, July 2018, Table 2 p4.

31. The allocation of Funding for Research and Innovation, BEIS, July 2018, Table 6 p14.