Department
for Business
Innovation & Skills

THE ALLOCATION OF SCIENCE AND RESEARCH FUNDING

2016/17 TO 2019/20

MARCH 2016

Contents

Science and research budget allocations for financial years 2016/17 to 2019/20

Science and research are vital to our country's prosperity, security and wellbeing. At a time of tight control over public spending, the Government continues to protect investment and support our world-class research base.

Government is protecting science resource funding at its current level of £4.7 billion, which will rise in cash terms every year, for the rest of the Parliament. At the same time, we are investing in new scientific infrastructure on a record scale - delivering on the £6.9 billion[1] science capital commitment in our manifesto. The total investment of £26.3 billion between 2016/17 to 2020/21 builds on the protections for the science budget in the last Parliament – a decade of protection of the science budget, and a decade of sustained investment by this Government.

This includes a new £1.5 billion investment over the period 2016/17 – 2020/21 in a new Global Challenges Research Fund (GCRF), to ensure UK research takes a leading role in addressing the problems faced by developing countries. This is a unique opportunity for UK academics to work with partners around the world and at the same time to address some of the biggest challenges of our time.

While we're building new infrastructure, we are also ensuring we get the best return on our investments. Sir Paul Nurse set out his proposals to bring together the seven Research Councils under the banner of Research UK, and as the Chancellor confirmed in the Spending Review, the Government will take forward these recommendations subject to Parliament. As such, firm allocations are being provided for 2016/17 – 2017/18; with indicative allocations only for the later years in the SR period, 2018/19 – 2019/20. Allocations will be provided for these years as changes to the research landscape are taken forward.

The allocations made today make clear the Government's commitment to the dual support system. This system provides stability in the funding underpinning our research base through both prospective competitive grant funding for projects and programmes, alongside a block grant for universities, based on an assessment of the quality of their research. The block grant funding supports universities' research capability and infrastructure, enabling them to invest strategically and plan ahead; to develop and support excellent researchers; to explore novel curiosity-driven research, respond to emerging priorities and lever funding from other sources. This funding is an important driver of curiosity-driven research, and budgets allocated today show that for every £1 allocated to Research Councils, its allocation from the research budget increases from 63p as now, to over 65p by the end of the SR period.

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1 Includes £1.1bn spent in 2015/16.

Further details of these allocations are outlined in this booklet.

Jo Johnson MP
Minister of State for Universities and Science
Department for Business Innovation and Skills

Budget Allocations

The Science and Research Budget

Table 1. The Science and Research Budget

Science and Research Budget Total	(£m)					
	16/17	17/18	18/19*	19/20*	*20/21**	**SR15 Total**
Resource budget	**4,808**	**4,896**	**4,990**	**5,094**	-	**19,788**
Of which …						
Global Challenges Research Fund (GCRF)	112	215	299	393	492	1,019
Newton Fund	90	105	115	125	*150*	435
Capital budget	**1,130**	**1,149**	**1,169**	**1,189**	***1,209***	**4,637**
Of which …						
World Class Labs	614	610	588	594	*588*	2,406
Grand Challenges Fund	516	539	581	595	*621*	2,231

*indicative only
Totals may not add due to rounding.
The SR15 period is from 2016/17 – 2019/20.

Firm allocations are provided in the non-shaded columns for financial years 2016/17–17/18, later years are indicative. Indicative budgets for GCRF and the Newton Fund are shown for 2020/21.

Resource Budget

Table 2. Breakdown of the Science Ring-fence and Global Challenges Research Fund.

Resource (£m)					
	16/17	17/18	18/19*	19/20*	**SR15 Total**
HEFCE	1,695	1,716	1,730	1,745	**6,886**
AHRC	101	101	99	98	**398**
BBSRC	353	356	350	347	**1,406**
EPSRC	807	796	790	783	**3,176**
ESRC	155	157	154	153	**618**
MRC	581	594	597	594	**2,367**
NERC *Of which the Antarctic Logistics and Infrastructure Partition*	291 *30*	294 *30*	290 *30*	288 *30*	**1,163** *118*
STFC	388	396	406	414	**1,603**
UKSA	225	221	217	213	**876**
National Academies	98	98	98	98	**393**
International Activities, Science & Society and GO Science	23	22	22	21	**89**
Unallocated GCRF**	-	38	122	216	**377**
Subtotal	4,718	4,791	*4,875*	*4,969*	**19,353**
of which GCRF	112	215	299	393	**1,019**
Newton Fund	90	105	115	125	**435**
Totals	**4,808**	**4,896**	***4,990***	***5,094***	**19,788**

* Indicative only.
** Details of GCRF allocation shown on p20
Totals may not add due to rounding.

Capital Budget

Table 3. Breakdown of the Capital Budget

Capital (£m)						
World Class Lab	16/17	17/18	18/19*	19/20*	*20/21**	**SR15 Total**
HEFCE/ HERC**	225	225	*225*	*225*	*225*	**900**
BBSRC	64	66	*53*	*58*	*58*	**241**
EPSRC	52	52	*52*	*54*	*54*	**211**
ESRC	28	26	*21*	*17*	*12*	**92**
MRC	33	33	*34*	*47*	*50*	**147**
NERC *Of which the Antarctic Logistics and Infrastructure Partition*	40 *7*	39 *7*	*35* *7*	*31* *7*	*31* *7*	**144** ***28***
STFC	124	117	*123*	*114*	*115*	**479**
UKSA	19	19	19	17	17	**74**
Additional Capital investments	29	34	26	31	25	**119**
World Class Lab Totals	**614**	**610**	**588**	***594***	***588***	**2,406**
Grand Challenges	**516**	**539**	**581**	**595**	**621**	**2,231**

* Indicative only.
**Higher Education Research Capital
Totals may not add due to rounding.
The SR15 period is from 2016/17 – 2019/20

Overview

The Science and Research Budget has been protected in real terms, with Resource funding growing from £4.7bn in 2016/17 to £5.1bn in 2019/20, including a new £1.5bn Government investment over the period 2016/17 – 2020/21 in a Global Challenges Research Fund (GCRF).

As well as increasing resource spending we are also investing in new scientific infrastructure on a record scale, delivering on the £6.9bn Science Capital commitment made by the Government.

With the exception of resource spend allocated to specific capital projects, spend is allocated to partners to be spent at their discretion, in line with their own strategic priorities.

This booklet provides a breakdown of the ring-fenced Science and Research Resource budget and the Science and Research Capital budget for 2016/17 – 2019/20. It includes details of expenditure through the new Global Challenges Research Fund and the Newton Fund.

Indicative figures are being provided for the later years in the SR period (2018/19 – 2019/20) for all spend. As announced at SR15, we intend to implement Sir Paul Nurse's recommendations to create a new research funding body, subject to Parliament, and will provide finalised figures for the later years of the SR period as changes to the research landscape are taken forward. A new Research UK body will also have responsibility for creating and managing a new cross-Council research fund proposed by Sir Paul, which will include funding from Research Council budgets. Indicative allocations for individual Councils will need to be altered to take this into account.

The operation of the science and research budget will continue to apply in accordance with the Haldane Principle and dual-support mechanism, as recently stated in the HE Green Paper[2].

Global Challenges Research Fund and Newton Fund

The Global Challenges Research Fund (GCRF) is a new Resource funding stream announced as part of Spending Review 2015. It provides an additional £1.5bn of Resource spend over the next five years to ensure that UK research takes a leading role in addressing the problems faced by developing countries. This fund will harness the expertise of the UK's research base to pioneer new ways of tackling global challenges such as in strengthening resilience and response to crises; promoting global prosperity; and tackling extreme poverty and helping the world's most vulnerable.

GCRF is protected science spend that is also part of the Government's pledge to allocate 0.7% of Gross National Income to Official Development Assistance (ODA).

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[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474266/BIS-15-623-fulfilling-our-potential-teaching-excellence-social-mobility-and-student-choice-accessible.pdf

The Newton Fund Programme budget will be £435m over the period (2016/17-2019/20), and aims to develop science and innovation partnerships to promote economic development and welfare in collaborating countries.

Resource spend

Resource spend is used for many purposes by partner organisations including the running costs of their facilities and Institutes; to provide grant research funding; and to pay for the cost of research.

The Research Councils, HEFCE and UKSA will be allocated a separate budget to cover their administrative and depreciation costs. Those budgets are not covered in this publication.

World-Class Laboratory Capital

World-Class Laboratory (WCL) Capital funding of £3bn over years 2016/17–2020/21 is for maintaining and refreshing existing UK scientific infrastructure, to ensure the scientific community's ability to carry out exceptional science, and to retain the country's prominence in scientific research and output. WCL funding is allocated to partners to be spent at their discretion, i.e. in line with their own strategic priorities.

Grand Challenges Capital

Grand Challenges (GC) provides £2.9bn Capital over years 2016/17–2020/21 for national projects that align to key Government strategic priorities, including energy, health and well-being, and advanced materials. This funding often results in new UK-based Institutes or infrastructure and provides centres of excellence for the UK scientific community. Examples include the UK Collaboratorium for Research in Infrastructure and Cities and the National Centre for Ageing Science and Innovation. For these projects Capital Spend, and any associated Resource spend, is only committed when business cases are signed-off by the Government.

A list of Grand Challenges projects is provided in Annex 1.

Allocations breakdown by organisation

The following pages provide a breakdown of the Science and Research Budget to individual funding bodies. Further detail on how this funding will be allocated to individual programmes and research areas will be set out in organisations' individual Delivery Plans.

The Higher Education Funding Council for England (HEFCE)

	16/17	17/18	18/19*	19/20*	20/21*	Total SR15
Resource Total	1,695	1,716	1,730	1,745	**-**	**6,886**
HEFCE/ HERC	225	225	*225*	*225*	*225*	**900**

* Indicative only.
Totals may not add due to rounding.
The SR15 period is from 2016/17 – 2019/20.

This allocation will provide universities with more security over their research budgets, as a growing proportion of their funding will come from these grants based on an assessment of their research. HEFCE is responsible for distributing Quality Related (QR) block grant research funding and Higher Education Innovation Funding (HEIF) to English Higher Education Institutions (HEIs).

HEFCE will continue to selectively focus funding on excellent research with impact wherever this is found i.e. 3* and 4* – research of internationally excellent and world-leading quality respectively, as assessed by the Research Excellence Framework 2014 – and to incentivise HEIs to work with businesses and charities, leveraging additional investment, and to supervise postgraduate researchers.

HEFCE will work with the Research Councils to sustain the international competitiveness of the UK research base, to support the impact agenda and, with Research Councils and National Academies, to address collectively issues such as health of disciplines and research careers. HEFCE will also prepare for implementation of any reforms associated with bringing the seven Research Councils together under Research UK, including consideration of moving QR research funding to the proposed new body. HEFCE will work with the Research Councils and BIS to prepare for the implementation of any reforms.

Higher Education Innovation Funding (HEIF) plays a key role in supporting effective university-business engagement which provides a competitive advantage for the UK. HEFCE will continue to support knowledge exchange through HEIF, using established

approaches while balancing predictability in funding with more regular rewards for dynamism.

HEFCE will continue to focus research capital funding on maintaining excellent departments, allocating funding by reference to Research Council and other external income. In addition, a specific allocation will be made to Scotland, Wales and Northern Ireland administrations for distribution to HEIs across the UK, to be matched by each of the Devolved Administrations. HEFCE will continue to administer the UK Research Partnership Investment Fund to support major research infrastructure projects in HEIs across the UK. £400m will be available out to 2021.

Research Councils

Council	Resource	16/17	17/18	18/19*	19/20*	20/21*	Total SR15
AHRC	**Resource Total**	101	101	99	98	**-**	**398**
BBSRC	**Resource Total**	353	356	350	347	**-**	**1,406**
	World Class Labs Capital	64	66	*53*	*58*	*58*	**241**
EPSRC	**Resource Total**	807	796	790	783	**-**	**3,176**
	World Class Labs Capital	52	52	*52*	*54*	*54*	**211**
ESRC	**Resource Total**	155	157	154	153	**-**	**618**
	World Class Labs Capital	28	26	*21*	*17*	*12*	**92**
MRC	**Resource Total**	581	594	597	594	**-**	**2,367**
	World Class Labs Capital	33	33	*34*	*47*	*50*	**147**
NERC	**Resource Total** *Of which the ALI Partition*	291 *30*	294 *30*	290 *30*	288 *30*	**-**	**1,163** ***118***
	World Class Labs Capital *Of which the ALI Partition*	40 *7*	39 *7*	*35* *7*	*31* *7*	*31* *7*	**144** ***28***
STFC	**Resource Total**	388	396	406	414	**-**	**1,603**
	World Class Labs Capital	124	117	*123*	*114*	*115*	**479**
	Resource Total	**2,676**	**2,694**	**2,686**	**2,676**	**-**	**10,732**
	World Class Labs Total	**341**	**333**	**318**	**321**	**320**	**1,313**

* Indicative only.
Totals may not add due to rounding.
The SR15 period is from 2016/17 – 2019/20.

The Research Councils have a major role in supporting the UK's world-class science and research base contributing significantly to the growth, prosperity, and wellbeing of the UK. Together, the seven Research Councils provide public investment in research across the full spectrum of academic disciplines from the medical and biological sciences to astronomy, physics, chemistry and engineering, social sciences, economics, environmental sciences and the arts and humanities.

The overarching ambition is to ensure that the UK is the best place in the world to do research, to innovate and to grow businesses contributing both nationally and internationally to challenges such as tackling poverty; managing the environment responsibly; and in promoting physical health, social cohesion; as well as contributing to the wellbeing of the UK and the world. Collectively and individually the Research Councils will continue to invest in developing skills, leadership and the infrastructure needed to deliver for the nation. The Research Councils will prepare for the implementation of any reforms associated with bringing the seven Research Councils together under Research UK as proposed by Sir Paul Nurse, to take responsibility for research strategy, simplifying transactional operations and reducing the administrative burden on the Councils.

To underpin the excellence of UK research, it is vital that researchers are able to engage and collaborate with the brightest minds, organisations and facilities wherever they are placed in the world. The Research Councils will continue to invest in excellence wherever it is found, building capability to address global challenges and responding to new opportunities requiring interdisciplinary solutions.

The collective ambitions of the Research Councils will be published shortly in the RCUK Strategic Priorities and Spending Plan 2016-2020 and will include the strategic direction for each of the seven individual Research Councils.

The UK Space Agency (UKSA)

	16/17	17/18	18/19*	19/20*	20/21*	Total SR15
Resource Total	225	221	217	213	-	**876**
World Class Labs Capital	19	19	19	17	17	**74**

* Indicative only.
Totals may not add due to rounding.
The SR15 period is from 2016/17 – 2019/20.

The UK Space Agency leads the policy, regulation and delivery of UK civil space activities. They target investments at key priorities for the UK's space sector, worth £11.8bn to the UK economy and growing at more than 8% per year.

The Agency's work is delivered in part through the UK contribution to the European Space Agency (ESA), enabling access to a broader field of collaborative space programmes. The UK's contribution to ESA is complemented by a National Space Technology Programme and bilateral international partnerships tying industry with key markets overseas. The Agency's work covers a broad spectrum of activity, from fundamental research into the origins of the Universe to investment in down-to-Earth uses of space, such as weather forecasting, telecommunications and safety critical navigation. The Agency also supports the wider STEM agenda, inspiring students across the country with space activities and careers information.

Key Priorities for this Spending Review period include:

- The successful delivery of Tim Peake's *Principia* mission to the International Space Station, including the wider education programme, reaching hundreds of thousands of students across the country.
- The European Space Agency's Council of Ministers in December 2016.
- The Agency's International Partnership Programme, helping emerging economies build capability through UK industry in areas such as telecommunications, weather forecasting, disaster mitigation and safety and security.
- The delivery of major space missions, including the launch of the UK-led Biomass satellite, built to measure the carbon stored in the Earth's forests; the UK contribution to the James Webb Telescope, NASA's multi-billion pound successor to the Hubble Space Telescope; and the ExoMars rover, Europe's robotic mission to Mars, being built in the UK and due to launch later in this Parliament.

The National Academies

	16/17	17/18	18/19*	19/20*	20/21*	Total SR15
Resource Total	98	98	98	98	-	**393**

* Indicative only.
Totals may not add due to rounding.

The UK's four independent National Academies – The Royal Society, The British Academy, The Royal Academy of Engineering and the Academy of Medical Sciences - provide leadership and promote excellence across all fields of UK research, to the benefit of society. They receive funding for key programmes that help deliver Government priorities by:

- Supporting excellent research and outstanding researchers.
- Developing research links and collaborations with the best researchers overseas. This allocation provides stable funding for the British Academy's BASIS programme.
- Utilizing the knowledge and experience of their Fellows, and their well-established UK and international networks, to ensure UK research is used to support overseas development including new programmes through the Global Challenges Research Fund.
- Providing authoritative and independent advice that contributes to the evidence base for public policy making.
- Supporting activities that help to increase the size and diversity of the research workforce.
- Encouraging public engagement in science and engineering issues.

As Fellowships of many of the world's distinguished scientists, researchers and engineers, the National Academies are dedicated to achieving extraordinary improvements in prosperity and well-being.

Additional Capital Investments

Capital Investments	16/17	17/18	18/19*	19/20*	20/21*	Total SR15
NPL World Class Labs Capital	23	26	16	20	19	**85**
UKAEA World Class Labs Capital	6	7	10	11	7	**34**
Totals	**29**	**34**	**26**	***31***	***25***	**119**

* Indicative only.
Totals may not add due to rounding.

Some of BIS' Delivery Partner's fall outside of the Science Resource ring-fence, but are funded through the Science Capital budget. These partners include the National Physical Laboratory (NPL) and the UK Atomic Energy Authority (UKAEA).

International Activities, Science & Society and GO-Science

	16/17	17/18	18/19*	19/20*	20/21*	Total SR15
Resource Total	23	22	22	21	-	**89**

* Indicative only.
Totals may not add due to rounding.

This funding supports international activities, skills and public engagement programmes and the Government Office for Science Foresight programme.

Global Challenges Research Fund

GCRF (£m)	(£m) Resource					
	16/17	17/18	18/19*	19/20*	20/21*	SR Total
National Academies	11	11	11	11	11	45
AHRC	5	7	7	7	7	25
BBSRC	10	20	20	20	20	70
EPSRC	10	15	15	15	15	55
ESRC	5	10	10	10	10	35
HEFCE	20	37	37	37	37	130
MRC	14	34	34	34	34	115
NERC	5	10	10	10	10	35
STFC	0	4	4	4	4	11
International Partnership Programme	32	30	30	30	30	122
Unallocated GCRF	**0**	**38**	**122**	**216**	**315**	**377**
Totals	**112**	**215**	**299**	**393**	**492**	**1,019**

* Indicative only.
Totals may not add due to rounding.

This table shows how the Global Challenge Research Fund has been allocated amongst delivery partner budgets. These allocations are included in the earlier tables.

The Global Challenges Research Fund will deploy the world class research capability within the UK to address the challenges facing the developing world. This will harness the expertise of the UK's research base to strengthen resilience and response to crisis.

The Fund forms part of the UK's Official Development Assistance (ODA), promoting the welfare and economic development of developing countries.

The primary delivery partners will be Research Councils and the National Academies who will support a collection of programmes focused on global challenges as part of this fund. As with existing Research Council strategic programmes, project selection will be managed through independent review in accordance with the Haldane principle.

HEFCE funding will support the bedrock research infrastructure and capability in higher education institutes, ensuring we are supporting the full economic costs of research.

The new International Partnership Programme will focus on improving the capability of developing countries by providing basic services including telecommunications in locations which are often remote, and using earth observation techniques to provide a rapid response to disasters such as earthquakes or typhoons. The programme will build on the successes of the pilot.

The unallocated GCRF will promote multidisciplinary research, in line with Sir Paul Nurse's recommendations. This approach will be developed with delivery partners over the coming months.

Annex 1. Grand Challenges projects

Below is a list of all Grand Challenges projects. Those projects with an asterisk next to them are still subject to business case approval.

HEFCE

- Research Partnership Investment Fund

EPSRC

- The Sir Henry Royce Institute for Advanced Materials*
- National Nuclear Users Facility (NNUF)*
- Flagship NMR facilities*
- The Institute for Physical Sciences*
- The UK Collaboratorium for Research in Infrastructure and Cities
- Quantum
- Alan Turing Institute

ESRC

- Data Infrastructure for Societal Challenges*
- Integrating the Biosocial*

MRC

- Investment in Bio-banking*
- National Centre for Science Aging and Innovation (NASI)
- Imaging Centre of Excellence
- Dementia Research Institute*

NERC

- ESIOS - Energy Security and Innovation Observing System for the Subsurface (NERC)*
- New Polar Research Ship

STFC

- Hartree Phase III
- The X-ray Free Electron Laser (XFEL)
- Square Kilometre Array (SKA)
- European Spallation Source
- The Higgs Centre for Innovation

UKSA

- ESA Capital
- PLATO Space Mission

Other

- Inspiring Science Capital Fund (The Wellcome Trust)
- HPC Super Computer (Met Office)
- Polar Satellite EUMETSAT (Met Office)

*indicates subject to approved business case

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