Institution: University of Sussex

Unit of Assessment: 17 – Business & Management

1. Unit context and structure, research and impact strategy

1.1 Introduction

UoA 17 is based in the University of Sussex Business School and has a distinctive research profile. While we possess strengths across the 'traditional' business disciplines – including accounting, finance, international business, management, marketing and strategy – we are world-renowned for our expertise in three interdisciplinary, policy-focused areas: energy, sustainability and innovation. Our success in conducting research in and across these rapidly-evolving, globally significant subjects has enabled us to develop a dynamic research environment that draws top talent internationally and facilitates impactful research of outstanding quality. These strengths place us at the forefront of research into some of the greatest challenges facing modern government, industry and civil society: from climate-induced inequality and global trade, through sustainable supply chains and energy production, to technological innovation and the future of work. Building on the University's radical history as a pioneer of interdisciplinarity, we aim, like the University as a whole, to be *disruptive by design* (see REF5A). We seek a deeper and broader understanding of the world than can be afforded by any single discipline in isolation, and we recognise the continuing need to develop new investigative tools and innovative approaches to meet the growing challenges of the modern world.

This ethos is reflected in an environment that has facilitated tremendous growth in research activity over the current period and yielded some of the most well-funded, influential and impactful business and management research in the country. Sussex Energy Group (SEG), for example, is arguably the largest energy research group in Europe, while the department in which it resides – the Science Policy Research Unit (SPRU) – is consistently ranked in the top three science and technology think tanks in the world (Global Go To Think Tank Index). SPRU is also the founder and UK lead of the Transformative Innovation Policy Consortium (TIPC), which pioneers ground-breaking models of research co-creation and knowledge exchange. Since 2017 we have secured more research grant funding than all but two UK business schools, and produced some of the world's most cited research, with four of our faculty appearing in the top 1% of researchers globally – across all disciplines – by citation count (source: Clarivate Analytics). Along with our impact cases, such examples illustrate the reach and influence of our research both within and beyond academia, and demonstrate the success of our environment in supporting high-quality, policy-focused research yielding real-world impact and wide-ranging societal benefit.

1.2 Unit Context and Structure

1.2.1 School and Departments

The School combines the academic pedigree of much older institutions (two of its constituent departments – Economics and SPRU – are over 50 years old and world-renowned in their own right) with the verve and dynamism of a thoroughly modern business school. At barely ten years old in its current form, and having already gained dual (EQUIS and AMBA) accreditation, the School has quickly established itself as an ambitious and disruptive player in the global marketplace.

UoA17 comprises four of the School's departments: Accounting & Finance, Strategy & Marketing, Management, and SPRU. The composition of departments ensures critical mass in all fields associated with a classical business school, and we consistently produce some of the best disciplinary research in the world. For example, recent research in accounting, operations management, international business, and marketing and branding has won awards and

appeared in the most highly ranked journals in those fields (see Section 4). Disciplinary excellence is highly valued for its own sake, but also as a necessary foundation and key enabler of interdisciplinarity and innovation in research.

1.2.2 Mission and Strategic Approach

Drawing on the University's track-record of radical innovation, the University Strategy – *Sussex 2025* – commits to reimagining the original "pioneering spirit" of Sussex, inviting us to embrace calculated risk-taking in our approaches, courage in our choices, and critical scepticism in our acceptance of received modes of discourse and conventional ways of thinking. The strategy also commits to placing collaboration "at the heart of all that we do" and striving to work across and between disciplinary boundaries (see REF5a). This ethos is echoed in our School Strategy, 'Innovation for Social and Economic Progress', which sets out our vision "to be a leading business school that collaborates across disciplines to shape global issues in business, management and society, making an impact on policy, practice and people".

Key to realising this vision is maintaining our position "as a leading UK business school known for its strength in the management of innovation at the interface of business and society with public policy". This is evidenced in our impact cases (see 1.4) and reflects our deeply-held conviction that the problems of business and management at the firm and sector levels often cannot be fully addressed without taking account of the broader socio-political, regulatory, technological, economic and environmental contexts (see the Camerani, Mazzucato, and Coulon impact cases). Increasingly, these contextual factors are so inextricably bound up with the problems facing modern businesses and governments, that understanding the deep and complex relations between them is fundamental to their solution. This is particularly true of the so-called research 'grand challenges' identified by, for example, the UK Industrial Strategy and UN Sustainable Development Goals (SDGs). These challenges are of global magnitude and reflect the highest priorities of, *inter alia*, the UK Government and European Commission (EC), evidenced for example in the Global Challenges Research Fund, Industrial Strategy Challenge Fund, and all pillars of Horizon 2020 and Horizon Europe.

1.2.3 Research Objectives

In line with the development of *Sussex 2025*, the School began reframing its own strategy in 2018, reaffirming our mission to "carry out high-quality research that addresses real-world issues, pressing global policy agendas and business practices". The past two years have seen the introduction and bedding-in of a raft of new measures designed to ensure our approach continues to yield high-quality, high-impact research – research of the utmost relevance in a rapidly changing world, that responds to the evolving needs of users and reflects the shifting priorities of stakeholders. In service to these overarching aims are the following high-level objectives, as set out in the Research Strategy:

1. To pursue rigorous, internationally-leading research, clearly emphasising quality over quantity and, where possible, with an interdisciplinary focus.
2. To create research with impact for the academy, policy, practice and people, addressing the grand issues of our time.
3. To attract external funding at exceptional levels.
4. To create a research environment that allows individuals and groups to excel in their research activities, whether in applied, mainstream topics or theoretical, highly specialised areas.

Underpinning our strategy is the foundational belief that none of the above is achievable in the absence of a supportive and nurturing research culture. Here at Sussex, our culture has come to be characterised by deep intellectual curiosity, a common desire to collaborate across boundaries (geographical and academic), and a strong drive for creative innovation in research. Sustaining such a culture across departments has been a central aim in recent years, with many of our strategic initiatives seeking not only to achieve one or more concrete objectives but to

consolidate a school-wide culture that prizes research excellence and facilitates, rewards and incentivises its pursuit.

These initiatives, along with our Research Impact, Communications & Engagement (RICE) Plan, ensure that research remains a core component of our identity and brand as a business school. Students and staff alike are expected to be active in our research community, attending events, engaging with visitors, and contributing to activities. This culture of school-wide inclusion and engagement facilitates the flow of knowledge and sharing of practice. This in turn informs pedagogy and scholarship, enabling genuinely research-led teaching and enriching the student experience. The result is a positive, exciting environment that enables a diverse community of scholars to collaborate in pursuit of emergent, curiosity-driven and applied, high-impact research.

1.2.4 Governance and Management

The School's research lead – and institutional lead for UoA17 – is the Associate Dean for Research (ADR) (currently Blome), who works closely with the departmental Directors of Research & Knowledge Exchange (DRKEs), Director of Doctoral Studies (DDS), and the School's Research Management Team. In addition, the ADR sits on the School Senior Management Team and University Research & Knowledge Exchange Committee, ensuring high-level representation of our research agenda, consistent flow of information, and maximal alignment of our Research Strategy with the School Strategy and *Sussex 2025*.

The ADR chairs the School's Research Committee, which has formal accountability for research activity and governance. It is also the principal means of collegiate decision-making on research-related matters, with representation from all departments and Professional Services (PS), plus the School's Director of Equalities, Diversity & Inclusion (EDI). In addition to termly Committee meetings, several working groups meet regularly to discuss operational matters, ensuring the needs of the research base are met and progress against research KPIs remains on track. PS staff also support the Open Research agenda, assisting researchers in ensuring all outputs are deposited within SRO (the University's open access repository) and liaising with the Library to bring all research-related materials (including data and methodologies) into the public domain. Open Research principles are further embedded within our open, inclusive research culture and realised via our RICE Plan (see below) which seeks to achieve maximal dissemination of our research for the greatest benefit of stakeholders and wider society.

REF management is the responsibility of the ADR, under delegation from the Dean and with close support from the Research Manager. This includes output selection, which is based on evaluations of quality from several sources: internal peer-review, independent expert analysis, the relevant DRKE and the ADR, who makes the final selection. Decisions encompass quantitative and qualitative feedback, plus author input where appropriate. Selection of impact cases follows a similar process, combining internal and external review with input from case study authors and DRKEs, plus relevant PS colleagues. While selection is ultimately determined by the quality of each case following a rigorous evaluation process, in accordance with our institutional Code of Practice, it also clearly illustrates our specific research strengths, reflecting the research strategy of the School and evidencing our achievements in the fields of energy, sustainability and innovation, in particular (see 1.4).

<u>1.3 Research Strategy</u>

1.3.1 Strategy Evolution Post-2014

Our environment covers all major aspects of research management, from postgraduate research (PGR) support, through project management and events, to engagement, communication and impact. Part of creating an open, inclusive and diverse research culture has involved providing structured opportunities for colleagues to reach out to one another and cross-fertilise research in a way that transcends disciplinary boundaries. This is particularly important given that much of

our research stands at the intersection of some of society's most urgent and intractable problems – problems that by nature necessitate multi- and inter-disciplinary solutions. Our collective expertise and intellectual heritage mean we are uniquely positioned to leverage talent and funding in pursuit of these solutions.

Building on our REF2014 submission, we continued to enhance our strengths in line with our Research and Impact strategies (see 1.4). Specifically, we focused on:

1) *Creating more opportunities for interdisciplinary research* – primarily through the creation of Research Mobilisation Groups (see 1.3.3).

2) *Nurturing our international research network* by:
   - Strongly supporting international conferences and increasing the scale and frequency of research events.
   - Attracting/retaining the editorship of leading journals.
   - Funding visits by eminent scholars – developing research partnerships, delivering lectures, and mentoring junior researchers.
   - Further enhancing our research seminar series, which between them now host around 130 guest speakers annually, as well as many of our own faculty and students.

3) *Driving our research funding activities through enhanced institutional support* – especially via significant financial investment (see Section 3), considerable match-funding for strategic projects, actively developing our research culture, and a more strategic approach to bidding.

4) *Significantly enhancing our research support and management function with a view to developing and sustaining a world-class research environment.*

A combination of external factors and institutional developments have necessitated a deviation from some of our original plans for achieving these aims. External factors include the establishment of UKRI and Research England, the EU Referendum result, the launch of GCRF and the UK Industrial Strategy, the global Coronavirus pandemic, and numerous changes to national HE and R&D policies. More locally, the University underwent a change of leadership in 2016 and launched a new Strategic Framework in 2018. The same year, the School of Business, Management & Economics (as we were previously known) restructured and rebranded as University of Sussex Business School, now comprising five departments instead of three. This saw the former department of Business & Management split into the departments of Accounting & Finance, Management, and Strategy & Marketing.

These factors impacted our plans in numerous ways and to varying degrees, but for the most part our priorities post-2014 remained substantially similar. The four points above came to be refined and reformulated in response to the shifting landscape, being eventually subsumed within the revised set of priorities detailed in the updated strategy of 2018. Steady progress had been made on various fronts between 2014 and 2018, with new developments being consolidated and accelerated under the new strategy, which both catalysed improvements already in the pipeline and introduced new ones. While the disaggregation of Business & Management enabled stronger research identities to develop within departments, the departmental DRKE roles enabled a coordinated, consistent approach to implementing the strategy. The ADR role introduced a new level of research leadership and oversight across the School; and the new Research Manager post served to complement the Associate Deanship on the Professional Services side, overseeing the operationalisation of the Strategy and the introduction of supporting policies and processes.

The process to revise the strategy was led by the ADR and structured around a school-level SWOT analysis, with input from faculty incorporated via a series of facilitated discussions. Following further discussion with DRKEs and the Dean, a draft Strategy was shared for

consultation before being published in October 2018 under the title 'Better Research for a Better World'. Seven strategic aims were identified, encompassing the four carried forward from the post-2014 strategy:

a) Strengthen and support our research activities.
b) Grow our external research funding.
c) Communicate, promote and celebrate research internally and externally.
d) Establish a highly attractive research environment.
e) Recruit and retain the best researchers at all career stages.
f) Create a flourishing doctoral student cohort and dynamic PhD programme.
g) Ensure transparent and reliable processes for the allocation of research resources following high standards of integrity.

Together, these underpin the high-level strategic objectives set out above (1.2.3) and are achieved via a number of ongoing initiatives, many of which are designed to fulfil multiple aims.

1.3.2 Funding our Ambitions

Securing high levels of research funding is strategically vital for several reasons. Grants benefit individual researchers, allowing the grant-holder to undertake their desired project without having to compromise on scale, quality or aspects of research design that would otherwise be untenable. They also provide invaluable leadership experience, including supervising teams, directing activities, managing budgets and reporting on outcomes. Grants are also the principal means of enabling collaboration around real-world research challenges. They provide new structures for involving non-academic stakeholders and gaining buy-in from potential end-users; for example, creating seats for industry experts on steering committees. They fund avenues for dissemination and community engagement (e.g. via public seminars, practitioner workshops, webinars and podcasts); and they fund the creation of carefully targeted pathways to impact.

Contribution income also plays a crucial role in sustaining the environment and building capacity, particularly in those areas of greatest strategic significance. Overheads are reinvested in research infrastructure (see Section 3), including physical spaces like computer labs and shared resources such as software. Grants also bring other benefits for the environment. Campus-based project events – such as guest lectures – benefit the community at large, facilitating knowledge sharing and networking. Many awards fund studentships, which serve to enrich the PGR community, provide training for students, and shore-up the talent pipeline in a particular area. Grants often also include training budgets for project-funded staff. In many cases research projects become the platforms from which junior researchers launch their careers, and in others they provide the vital step for early career researchers (ECRs) to make the leap to research independence, supplying the experience and networks they need to begin directing their own research. However, the greatest strategic benefit of high-value research awards lies in the unique opportunities they provide for pursuing precisely the kinds of inherently complex, globally pressing research challenges that lie at the heart of our mission and strategy. Research of this nature demands considerable financial investment – plus the organisational apparatus that comes only with an independent research centre, programme or consortium grant.

The School is currently ranked third in the UK for research income (CABS Research Income for Business & Management Report 2020). This has been achieved through active enhancement of our research culture and significant financial investment – including match-funding for strategic bids – but also by greatly bolstering our pre-award processes and practices. In 2017 we invested in an additional School-funded Research Development Officer (RDO) to supplement the single RDO provided by the University. This not only enabled us to increase our capacity for bidding, it also allowed us to bid smarter: targeting additional support at those calls that concern areas of strategic importance or afford other strategic opportunities. These posts play a central role in developing bids, nurturing collaborations and advising PIs on all aspects of grantsmanship. They handle all pre-award administration, freeing up PIs to focus exclusively on research design; and they provide an important quality control function, ensuring all bids are in scope, satisfy funder

requirements and meet an exceptional standard. This is part of a wider effort to provide better cradle-to-grave project support in-house, which includes funding a dedicated research Project Manager, establishing an internal peer-review college, and increasing grant-management capacity post-award to mirror investment on the pre-award side.

1.3.3 Centres, Programmes and Mobilisation Groups

UoA17 currently manages a wealth of large-scale research activity taking a variety of forms, including:

- The UK Centre for Research on Energy Demand Solutions (CREDs) – investigates the drivers and barriers to low energy innovations and the implications of these innovations for energy demand.
- The STEPS (Social, Technological and Environmental Pathways to Sustainability) Centre – an interdisciplinary global research and policy engagement centre uniting development studies with science and technology studies, bringing together research hubs and stakeholders from around the world.
- The Sussex Energy Group (SEG) – aims to understand and foster transitions towards sustainable, low-carbon energy systems with more than seventy researchers university-wide.
- The Sussex Sustainability Research Programme (SSRP) – a five-year, £3m strategic investment, the Programme is a cross-campus initiative managed by the School and designed to provide world-class science to advance the UN Sustainable Development Goals (SDGs).
- The ESRC Digital Futures at Work Research Centre ('Digit') – an £8m (100% FEC) centre co-led by University of Leeds, seeking to advance our understanding of the impact of digital technologies on work and employment.
- The Transformative Innovation Policy Consortium (TIPC) – pioneering a new model of co-designed and co-funded research, TIPC brings together international policy actors and government stakeholders to develop innovation policy research with direct real-world application.

These represent a diverse portfolio comprising a combination of research groups, centres, hubs, consortia, programmes and projects, varying in shape, size and structure according to their purpose, composition and origin. CREDS, STEPS and Digit, for example, are multi-million-pound, multi-partner centres undertaking research in line with UKRI strategic priorities. TIPC is unique in its design and approach, and is funded directly by its constituent national innovation agencies. SSRP is a flagship Sussex research programme, funded by the University and administered from the Business School. SEG began life as a multidisciplinary research cluster in SPRU and evolved to become one of the largest research groups in the country. In virtue of their longevity and size – and their track records as centres of research excellence – STEPS and SEG also enjoy recognition as formal research centres of the University (see REF5A). This status places them among Sussex's most strategically significant and widely promoted research units, and confers an additional layer of institutional support and accountability.

Major research activity across the UoA takes various forms and has evolved in a variety of ways in response to available opportunities and the external landscape. This is in part why we have such a rich, diverse portfolio (see Section 3). What remains consistent, however, is the research culture and environment within the School, which provides the conditions necessary for research to flourish. The current research strategy seeks to enhance these fertile conditions while introducing a greater degree of structure and support. As our portfolio has grown in size and complexity – expanding from 40 projects bringing £2.5m of research income in 2013-14 to 53 projects bringing £4.1m of research income in 2019-20 – and as the external environment has grown increasingly challenging, there has been greater need for strategic organisation and active management of our internal research ecosystem.

Beyond the level of individual scholarship, the most basic units of research organisation are disciplinary research groups, including, for example, the Business & Finance Group, the International Business & Development Group, the Quantitative International Finance Network, and the Marketing, Consumption & Innovation Group. These are department based and led by experienced academics who are well established in their fields. In addition to these disciplinary groupings, and in order to create a more dynamic and flexible structure for supporting interdisciplinary research, we recently established Research Mobilisation Groups (RMGs) – thematic groupings that respond to the need for careful organisation and marshalling of expertise in meeting strategic research ambitions and the needs of individuals to connect with colleagues from other disciplines around common interests.

Mobilisation groups provide a semi-structured environment designed to: foster collaboration across disciplines, spark interest, build momentum and critical mass, and generate activity around those themes that are of greatest interest to the research community and the School as a whole. RMGs typically enjoy the input of a diverse range of researchers across all career stages, including Master's and PhD level through to the professoriate. They are more fluid and responsive than the formal entities mentioned above, and allow researchers to address funding calls and engagement opportunities more swiftly and with greater agility. We currently have 21 full-fledged RMGs in the School. The most recent is Research Pedagogy, which links our research ambitions with those pertaining to education and scholarship, strengthening our practice of research-led teaching.

All RMGs are enabled by a Research Mobiliser: a dedicated group leader (of any career stage, including early career) with ring-fenced workload allocation (10% FTE), whose task it is to facilitate collaboration, catalyse discussion and establish optimum dynamics around a given research area in order to foster activities that ultimately result in high-quality outputs, knowledge exchange, grant funding and impact. Mobilisers network closely with each other, meeting regularly to discuss developments within groups and share news, insights and best practice. Networking occurs both formally via a termly Research Mobilisers' Forum, and organically, with several Mobilisers coming together to discuss progress and socialise practices between groups.

The School currently supports the following RMGs:

Accounting & Society	Innovation & Project Management
Artificial Intelligence (AI)	International Business & Development
Business Finance	International Trade & Foreign Direct Investment
Circular Economy	Labour Economics, Education & Health
Conflict, Migration & Development	Quantitative FinTech (QFIN)
Consumer Wellbeing	Research Pedagogy
Creative & Digital Economy	Responsible Business
Economic Theory & Behaviour of Agents	Science, Politics & Decision-Making
Economics of Innovation	Supply Chain 4.0 Hub
Energy	Sustainability
Future of Work Hub	

The medium-term aim is to develop at least five world-leading research centres from among the RMGs or departmental research groups, including at least three under UoA17. Ideally, emerging centres of excellence would attain University Research Centre status, enabling maximum exposure and support at the institutional level.

RMGs have proved highly instrumental in meeting our strategic research aims. For example, the Future of Work Hub led a successful application for an £8m ESRC Research Centre (of which

the School receives £3.4m) (see below re. Digit). Another example is the successful Catapult funding application led by the Supply Chain 4.0 Hub. The project grew out of mobilisation activities and uses satellite imagery in developing sustainable supply chain management. In 2020, the Circular Economy RMG submitted a multi-million-pound bid to the ESRC to lead a research centre on construction waste management for a more sustainable economy; and later in the year colleagues from the same group successfully applied for a £1.1m (80% FEC) share of a £7.5m BBSRC sustainable food systems bid led by University of Reading. Again, these came about as a direct result of mobilisation activities around a particular theme – one which purposefully plays to our sector-leading strengths in sustainability research, in line with our strategy.

1.4 Research with Impact

1.4.1 Approach and Case Studies

Each pathway to impact is unique to its particular research project or programme, in accordance with its specific aims, audiences and activities; yet there is a commonality of approach across the School. With research oriented towards grand challenges that often take the form of pressing global policy issues, our impact is most frequently focused on public policy across energy, sustainability and innovation (often interlinked) – be this at the local, regional, national, or international levels.

For example, research projects led by Camerani revealed that firms combining creative skills with technical expertise outperform their competitors in growth, sales and innovation. These findings underpinned the case for the Greater Brighton City Deal, which is delivering £170m in investment to support the City's businesses. Nationally, the research significantly influenced AHRC's research agenda and the government's policy to support creative industries. Stirling and Johnstone's work, which uncovered the role played by civilian nuclear power in subsidising military submarine capabilities, has led to public scrutiny of UK energy policy, enabling more robust discussion about the full cost implications of our national nuclear infrastructures. Internationally, a new policy approach developed by Byrne is helping to reframe global climate technology policy to serve low-income countries. This approach has been adopted as a funding mechanism by the UN's $10.3bn Green Climate Fund and is being implemented by 18 African countries. Research led by Mazzucato has impacted policy on multiple levels, influencing the UK Government's Industrial Strategy, as well as the Scottish Government's development of a National Investment Bank, and defining Horizon Europe – the EC's €100 billion research and innovation programme.

Our approach to impact is also founded on collaboration and engagement, and covers the entire research process from inception to completion. Our research often involves collaboration with stakeholders (or intermediaries) as project partners who not only have an interest in the research outcomes but are integral to their achievement. We work together with policy-makers, industry and grassroots organisations – according to project aims – in the design, delivery and dissemination of research, and in so doing are able to ensure projects are ideally structured to elicit positive outcomes for these stakeholders and the sectors they represent. By involving partners in framing the research question and setting the scope of enquiry, we ensure the whole team works in unison towards a common goal and the research is of optimum utility for its beneficiaries.

In line with our Research Strategy and RICE Plan – and as our impact cases illustrate – our most impactful research takes place where the concerns of industry, government and society overlap and interact: most notably in the spheres of innovation, energy and sustainability, where there are significant implications for public policy. For example, Ely worked in partnership with UNCTAD and, through a specially commissioned report presented to other UN bodies, introduced new concepts and recommendations into UNCTAD's agenda, which featured subsequently in the UN's recommendations to its 193 Member States. Ely also adapted his research to develop a new framework for UNCTAD's science, technology and innovation policy

reviews of developing countries. The new framework, which has so far been applied in Ethiopia and Zambia, is resulting in policy changes that will have significant long-term impacts on poverty alleviation, environmental sustainability and economic development. Among our other impact cases, Marshall's work on sustainable urban waste management in Delhi was a joint venture with an Indian NGO, and involved partnerships with diverse local stakeholders serving to promote dialogue around the topic. Coulon's work on energy risk modelling involved collaboration with energy industry actors in the US and Europe. The TIPC case demonstrates how working closely with governmental innovation agencies enabled the researchers to address policy shortcomings and create opportunities for deep transformative change in direct dialogue with policy actors. These cases illustrate how our collaborative, problem-focused approach enables us to co-design research in ways that include integral routes to impact for stakeholders and wider society.

1.4.2 Communications, Events and Engagement

In 2018 the RICE team produced a strategic plan in accordance with which they have significantly increased dissemination and engagement activities, both internally and externally.

The Plan ensures that all research-related communications, engagement and impact-generating opportunities are fully explored and exploited by:

- o Working with academics to develop and implement targeted strategies around specific projects or areas of research.
- o Identifying and developing research-related engagement opportunities and organising strategic events, such as public lectures and the hosting of major academic conferences.
- o Supporting a range of impact-related activities and managing preparation for the School's REF impact submission.

The promotion of research to wide and diverse non-academic audiences is an important component of external engagement, and a step on the pathway to impact. Through facilitating knowledge exchange, RICE activities empower our research to influence debates, policy and practice, as well as encourage collaborations and create new funding opportunities. By supporting these activities, the Team enables academics to engage with the right stakeholders at the right time, and to communicate research insights in the most appropriate language and format. As such, it represents an essential conduit through which we create the change we wish to see in the world. This in turn helps build the reputation of both Sussex and the School, which further supports our recruitment, funding and engagement objectives.

Internally, the team contributes to the development of our research culture, particularly around impact. For example, a bi-monthly 'Research Roundup' newsletter goes out to Business School academics and PGR students, summarising recent research news stories, successes, publications, grants, and events, as well as any pertinent information about the external environment. The team also produces an Annual Research Review – a glossy magazine-style summary of research news and successes over the past academic year which is shared with stakeholders – and also run workshops on impact, communications and policy engagement. These efforts enable us to clearly signal our core research strengths while reaffirming the fact that, for us, research is not just another activity to be fitted in alongside teaching, but is rather a central component of our mission. Our research informs scholarship and education, our approach to engagement, and the ways in which we educate and train future leaders; and the RICE team plays an essential role in shaping and disseminating this message.

1.5 Future Research Objectives

As the research strategy is periodically refreshed, the major strategic aims remain in tune with the UoA's research appetite and interests (as do the supporting policies, processes and practices). Future objectives will likely focus on:

- *Further promoting quality over quantity in research:* introducing a peer-review college for strategic bids and publications targeting top journals; increasing in-house training and resources for researchers, particularly ECRs, e.g. establishing work-in-progress workshops, and a suite of online tools and resources to aid grant-writing and publishing.
- *Extending our lead position in interdisciplinary research funding:* being even more targeted in identifying funding opportunities and potential collaborators; and increasing success rates in winning prestigious grants/fellowships and publishing in top venues by engaging experienced colleagues through our RMGs and mentor programme.
- *Introducing a new PGR structure to compete with the best international offerings:* continuing current work to develop combined MRes-PhD programmes which will dovetail with our new Research Methods Centre (see below) to provide students with world-class methodological training and the skills needed to undertake rigorous research in their PhDs and subsequent careers.
- *Ensuring all research-related practices and processes remain in line with institutional EDI policies and recognised standards of best practice:* ensuring these standards feature meaningfully in our work to update the Strategy (by April 2021); engaging the School's Director of EDI in the process.

Steps have already been taken toward achieving these broad objectives, which will be further refined and resourced in the coming months. One such initiative is the creation of an in-house research methods centre. Scheduled to launch early in 2021 under phase two of the Research Strategy, the Centre will develop novel investigative methodologies and pioneer state-of-the-art research design. This cross-school initiative is driven by colleagues from each of the five departments, who together comprise the Centre Management Group, and aims to:

- Inform research practice throughout the School, furnishing colleagues and students with cutting-edge research skills, tools and knowledge.
- Disseminate these across and beyond Sussex via high-quality outputs and regular events.
- Expand the School's networks and extend our influence in the field, further cementing our reputation for experimentation and innovation in research.
- Directly feed into our PhD Programmes.
- Further enrich the research environment of the School.
- Support staff development and provide interesting opportunities for our PGR students and ECRs.

We are also exploring ways in which the Centre might contribute formally to our taught programmes – particularly at PGT level – and feed into our nascent training and executive education offerings.

2. People

2.1 Recruitment Strategy

Our reputation for disruptive research has long helped attract and retain high-calibre academics from all over the world. Since McGuire's appointment as Head of School (subsequently Dean) in 2015, this reputation has expanded. For example, in 2014 Blome joined Sussex, and one of the most promising supply chain groups in the country. (The group has an outstanding publication record and grant portfolio, and will shortly host the international EUROMA (European Operations Management Association) conference (rescheduled for June 2021).) Similarly, O'Reilly joined in 2017, and after only two years collaborating with colleagues in the Future of Work Hub, became Co-PI on an £8m ESRC grant to establish Digit.

Success in attracting high-calibre faculty is reflected across the UoA, with all departments having made numerous appointments at all career stages since 2014. The UoA has grown from 44 academic FTE at the 2014 census date to 106 by 31 July 2020. A key element of our staffing strategy has been to provide all staff with outstanding research support, including a collegial,

highly research-focused environment. We have been careful in appointing only those candidates who evidence a clear focus on research excellence, ambitions to achieve real-world impact, and a propensity to engage others with their work. While the Research Management Team provides the conditions necessary for innovation and collaboration to flourish, our hiring practices ensure this culture is reinforced and perpetuated across the UoA.

Our unusual provenance and pioneering research have long attracted a wide variety of talent. Our researchers come from all walks of life and diverse intellectual backgrounds – including from industry, government, the third sector and think tanks. Our distinctive ethos, combined with our reputation for innovation and interdisciplinarity, mean that the School is home to teams of researchers that are unlikely to be found in more conventional institutions, bringing a unique combination of perspectives, skills and experiences to bear on a diverse range of research problems.

The expansion in staff numbers since 2014 has enabled us to achieve critical mass in all key research subjects – in both traditional subjects and emerging interdisciplinary areas. Consequently, we are now focussing on collaboration within our UoA and on enhancing existing capabilities. Several recent appointments have been in areas where researchers – especially ECRs – would benefit from additional peer support at a senior level. These include: Energy & Sustainability (e.g. Sovacool, Director of SEG), Strategy & Innovation (Manning), Marketing (Beverland, also Head of Department; C. Story; and Keeling, AD Engagement), Operations Management (Subramanian; and Blome, ADR), Finance (Jelic; Kaeck, Department DRKE; and Tunaru, Head of Department), OBHRM (O'Reilly, now Director of Digit), International Business (Bamiatzi), and Innovation Management (Hall, Director of SPRU; and Davies, RM Phillips Freeman Chair and Department DRKE). Such appointments ensure that important areas of research are led by high-calibre academics and strong leaders while consolidating existing expertise.

2.2 A Research Excellence Culture

Our strong research ethos is cultivated in part by the regular collaboration opportunities afforded by our strategic initiatives. RMGs provide a fertile environment for the cross-pollination of ideas and methods between disciplines, as well as providing a forum for discussing broad research challenges and mission-oriented funding opportunities. They also offer a collegial, supportive space within which researchers can discuss critically and learn from each other's works in progress, including working papers and funding applications. In addition to our RMGs (see Section 1) and weekly research seminars, we frequently run regular larger scale, often public-facing, research events. These include memorial lectures (such as the Marie Jahoda and Christopher Freeman lectures), our Annual Research Away Day, and research centre/programme events, such as the STEPS Annual Lecture, the Future of Work Hub Research Showcase, and numerous events hosted by SSRP. In 2019 and 2020, we also took part in a wide array of events as part of the ESRC Festival of Social Sciences.

Our research centres and RMGs function as catalysts for spurring interdisciplinary collaborations across the wider University. The Future of Work Hub and SEG, in particular, have long included members from across campus who regularly feature as co-investigators and co-authors. The same holds for our newer RMGs. For example, the Quantitative FinTech group includes colleagues from Engineering & Informatics and Mathematics; the AI group also includes engineers and informaticians, plus collaborators from Philosophy, the Sackler Centre for Consciousness Studies, and Law, Politics & Sociology. The latter school is also represented in the Circular Economy group; and the Conflict, Migration & Development group counts several academics from Global Studies among its number. The Consumer Behaviour RMG works closely with collaborators from Psychology, where the sharing of experimental techniques and methods has proved particularly fruitful. Some of these groups have also extended their membership beyond the University to include, for example, members of the Institute of Development Studies (IDS) and the local action group Circular Brighton & Hove. The latter recently featured in a major ESRC Centres bid which arose out of the Circular Economy RMG.

The £5.4m bid featured Circular Brighton & Hove and Brighton & Hove City Council as key partners and was led jointly by Blome and the Group's Mobiliser, A. Alexander.

The Mobiliser role provides a great opportunity for junior faculty to gain experience organising research activities and expanding their networks through the invitation of guest speakers and other mobilisation activities. The Mobiliser role can significantly raise an individual's profile and act as a steppingstone to establishing research independence. Many Mobilisers stand with Centre and Programme leads as thought leaders in their fields. For example, Sovacool is an international leader in energy research and serves as both Director of SEG and Mobiliser of the Energy RMG. He is, among other things:

- Lead Author of the IPCC's Sixth Assessment Report (AR6) (due for publication in 2022).
- Advisor on Energy to the European Commission's Directorate General for Research and Innovation.
- The recipient of the 2019 USERN Prize for his work on 'Social Justice in an Era of Climate Change and Energy Scarcity', and recipient of the Dedication to Justice Award of the American Bar Association.
- Advisor to Climate Assembly UK – the country's first citizens' assembly on climate change.

Having global experts working directly with students and colleagues to mobilise research is vital to our culture. It is important not just for producing world-class research but for setting a tone of excellence – establishing expectations for junior colleagues and providing exemplars to which students can aspire. Our research leaders exemplify the innovation and rigour we aim to propagate across the UoA and generate a wealth of research output of the highest quality, including publications in top-tier journals: e.g. *Econometrica*, *MIS Quarterly*, and *Nature*. Over the past five years, our research has featured in many journals appearing in the FT Top 50 list, including the *Academy of Management Review*, *Harvard Business Review*, *Human Resource Management*, *Journal of Consumer Research*, *Journal of International Business Studies*, *Journal of Operations Management*, *Management Science*, *Organization Studies*, *Review of Financial Studies*, and *Sloan Management Review*.

A supporting aim of our Strategy has been to embed a high-quality publishing culture within the School by attracting (and developing) top journals and encouraging faculty to take on editorial duties. For example, the top-ranked policy management journal, *Research Policy* (ABS 4*, FT50), was established by SPRU's founder, Christopher Freeman, and retains its editorial home in the School under the editorship of Martin, Nightingale and Savona. Blome is Co-Editor-in-Chief of the *International Journal of Operations & Production Management*, while the Director of SPRU, Hall, is Editor-in-Chief of the *Journal of Engineering & Technology Management*. C. Alexander serves as Co-Editor-in-Chief for the *Journal of Banking & Finance*; Sovacool is Editor-in-Chief of *Energy Research & Social Science*; and Tourish is Editor-in-Chief of *Leadership*. We also have a large number of Associate Editors on our faculty, including on the boards of high-ranking publications such as the *Journal of Operations Management* and *Research Policy*.

2.3 Professional Development

For us, the pursuit of research excellence is deeply entrenched in the core practices that underpin our research culture. This is evidenced in our application success rates, which are consistently around 33% across all funders. Key to achieving this success is our approach to developing our staff. The UoA supports development pathways at all career stages – pathways that are well-aligned with promotion committee expectations and shared with annual appraisers. Training for researchers, e.g. through writing workshops, helps foster excellence, while rigorous internal review processes contribute significantly to success rates and further ingrain principles of quality into our practices. We have a mentoring process whereby faculty are assigned a senior colleague who oversees progress and supports mentees in setting and pursuing personal research goals. Regular meetings establish agreed research targets across a range of outputs including publications, research income and PGR supervision.

This is reinforced at the School level through completion of annual Personal Research Plans (PRPs) in discussion with Directors of Research & Knowledge Exchange (DRKEs). PRPs are a key development tool, allowing researchers to plan activities in ways appropriate to their circumstances (including career stage and personal aims) and in alignment with institutional strategies. They also ensure that research aims are sufficiently ambitious, and they provide an opportunity to highlight any additional support needs the individual may have in order to pursue their research, e.g. specific training, access to data or software. Research-active staff who also teach are permitted to concentrate their teaching in one term to enable them to focus on research in the other two. During the PRP process, the Department DRKE will flag any suitable funding opportunities, suggest conferences to aim for, and ensure the individual is involved with the RMGs appropriate to their research interests. Once completed, PRP data are aggregated and analysed in order to inform decision-making around resource allocation and training for the coming year. In 2018-19, for example, the PRP process resulted in a workshop series designed to keep staff informed and engaged with REF processes; while in 2019-20 we were able to offer policy engagement workshops based on input derived from PRPs.

Professional development plays a major role in our research strategy. Specific focus is placed on ECRs, who receive further teaching buyouts if they are new to Sussex (10%) and new to academia (a further 10%) in addition to the existing 40% workload that is automatically allocated to research for those on teaching-and-research career tracks. Support is also available to all academics for attending leading conferences, at a minimum of £3k annually; and we encourage collaborations by offering seed-corn funding for new research projects. The fund, totalling £50k per year, is available to researchers at all career stages. Applications are subject to light-touch peer-review and approval to allow agile responses to collaboration or partnership-building opportunities. In addition, numerous pump-priming and impact funding opportunities are available at the University level, funded from central resources and an ESRC Impact Accelerator Account (IAA).

The School attracts a range of international visitors, particularly through our Visiting Leading Scholars Scheme. Launched in 2019, the Scheme hosts up to five renowned international scholars per year for visits lasting 2-8 weeks, and covers travel, accommodation and subsistence. In addition, we offer a sabbatical scheme under which one term of fully paid research leave is granted following a minimum of three years of service. Since REF 2014, 17 research sabbaticals have been granted, each on condition that the time be used to focus on producing a major contribution to research, with the expectation of concomitant outputs and impact. Each year we award up to five Research Excellence Awards for Emerging Scholars. These are selected by the ADR and DRKEs and provide recognition and reward for (and further incentivise) the achievement of research excellence or the generation of significant impact by ECRs. The awards include a £1k discretionary research fund that can be used to cover a range of research needs, including obtaining data, undertaking pump-priming activities and funding visits to prospective collaborators.

2.4 Promotion and Probation

Eight promotions to Professor were made within the UoA in the period, along with 76 non-professorial research related promotions. In addition, 26 new professorial appointments were made in the UoA, contributing to a significant increase in intellectual capital and research leadership.

New research staff are subject to an initial probation period (with the exception of professors) of three years, with progress reviews taking place annually in meetings which can include the researcher's mentor if desired. Emphasis is placed on evidencing research excellence over the period, reiterating the focus placed during the hiring process on the individual's potential to achieve world-class research. The baseline expectation of all research staff during probation is the production of two research outputs of international or world-leading quality.

All the university policies and procedures governing Equality, Diversity and Inclusion (EDI) matters are fully implemented in the School's recruitment practices – including recruitment to internal officerships, such as the position of Director of Doctoral Studies. Indeed, EDI policy and best practice inform all actions taken in respect of the training, development and promotion of researchers. The same is true for researchers' access to internal resources (including funding) and external networks and partnerships. To ensure that this remains the case at all times and across the institution, in 2019 the School appointed a senior member of the professoriate to serve as its first Director of EDI. It is mandatory for all staff to undertake EDI and Unconscious Bias training in addition to the standard training for those with responsibility for recruitment. Furthermore, the University is Athena Swan accredited (Bronze) and has a policy of being 'flexible by default', which commits the institution to providing, as standard, a high degree of flexibility around arrangements for maternity/paternity leave, and also in the case of compassionate leave.

2.5 Research Students

Doctoral students are part of the research lifeblood of the School: they play an integral role in defining and shaping our subject strengths and research culture, and they feature prominently across the full range of research activities in the School – whether as volunteer conference organisers, rapporteurs at seminars, peer mentors for fellow students, or active members of RMGs. A key strategic activity since 2014 has been continuing to grow and sustain a rich, vibrant doctoral research community. Achieving this entailed diversifying our sources of financial support for doctoral students, adopting a mixed model of School, departmental and external funding (including industrial sponsorship and grant-funded studentships). Approximately 40% of our PGR students are supported by scholarships at any one time. We provide match funding for studentships on grant applications (currently four PhD studentships) and attract scholarships from external stakeholders and partner organisations (e.g. three from Roffey Park Institute and one from R.M. Philipps in 2019). In 2018 the School launched a new Postgraduate Research Scholarship scheme as the primary vehicle for funding outstanding PhD researchers, providing departments with the means of converting vacant academic posts into teaching-based studentships. So far, eight students have been awarded these scholarships, and it is anticipated that a further 8-12 will be awarded for the 2021-22 intakes.

Since the last REF we have been able to supervise a similar number of PhD students (154 in 2013-14 compared to 140 in 2019-20) despite having to radically change our approach to funding PhDs in response to a decline in the availability of University-funded studentships. At the same time, we have been able to increase completion rates in virtue of increasing our staff-student ratio in our PhD programmes: in 2013-14, 18 PhDs completed compared to 32 in 2017-18, 22 in 2018-19 and 24 in 2019-20). Overall, we have supervised 164 completed doctorates since 2014.

Our PhD students place well as academics but also, due in large part to our strong focus on sustainability, innovation and energy research, win high-level positions with NGOs, charities, think tanks, government departments/ministries, independent research institutes, and transnational organisations such as UNICEF, the World Bank and the UN. In recent years, students have secured postdoctoral and faculty positions with top universities and research institutes, including LSE, Imperial, King's, Manchester, Cambridge, and the Royal Society.

All PhD students follow a core programme structure, completing three mandatory modules in conjunction with subject-specific training at the department level. Students have at least two supervisors and a minimum of fortnightly one-to-one supervisions. They also receive comprehensive feedback in the form of termly written reports, have the opportunity to present their work at our annual doctoral conference, and attend an Annual Progression Review meeting to discuss their progress, future research plans and development needs. As well as being well-integrated into research groups and centres, PhD students receive mentoring from senior colleagues and have the opportunity to participate in conferences specifically targeting PhD

students (e.g. the Young Finance Scholars' conference hosted annually in the School, and the SPRU PhD Forum, organised each year by first-year doctoral students).

Each student's training needs are identified annually, through discussion with their supervisory team, and captured via a Training Needs Assessment (TNA). In a process that mirrors the handling of academic PRPs, TNAs are collated and assessed to help inform training plans and identify areas where special provision may be required. Non-standard training is available if considered necessary for the completion of a student's research, with expertise sought from outside the University if the need cannot be met internally. In addition, the Doctoral School's Researcher Development Programme is available to PGRs and ECRs to support their professional development. Those students who wish to gain teaching experience and/or supplement their income have the opportunity to work as Doctoral Tutors, leading PGT seminars and contributing to the delivery of UG teaching, including the provision of assessment and feedback. Many PhD students visit each year from a broad range of UK and overseas universities (17 PhD students visited from overseas in 2018-19). Such exchanges further enrich our research community and provide valuable links with international institutions, often serving as the basis for long-term collaborations and future exchanges.

2.6 EDI and Wellbeing

We take very seriously our commitments to equality, diversity and inclusion (EDI), and our responsibilities in maintaining high levels of staff and student wellbeing. Of all academic staff in the UoA, 38% are female. While this is above the sector average, it falls short of our mid-term target range of 40-50%. However, in addressing this the School is leading from the top: fifty percent of the senior leadership team is female, and of the four AD positions three are held by women, and women occupy many of the most senior positions within Professional Services, including those of Head of Professional Services and School Administrator, the two most senior non-research PS posts in the School. On the research side, except for the School Research Manager and Project Manager, all other management-level posts – eight in total – are held by women. In addition, 31% of our Category A staff identify as BAME, and a significant number of staff belong to the LGBTQ+ community.

The School recognises the great importance of embedding EDI principles into all research activities and practices. We ensure the internal allocation of resources across the community is fair and equitable, and devoid of opportunities for fostering conscious or unconscious bias. The Director of EDI, who heads the School's EDI Working Group, sits on the Research Committee and is involved in deciding how resources are deployed across the research base. This includes the allocation of seed-corn and impact funding, and the Research Excellence Awards – advising on the assessment process and scrutinising the decisions of the selecting panel. The Director also provides advice and oversight on a range of issues, from researcher recruitment to the composition of speaker panels at events. The School recently reaffirmed its commitments under the Concordat to Support the Career Development of Researchers, announcing additional measures in support of ECRs and in particular researchers with protected characteristics. These include a commitment to provide additional mentoring by role models from similar backgrounds both from within the school and externally, and will complement other initiatives under the School's EDI agenda, including our BAME Ambassador Programme.

In addition to EDI matters, the School takes very seriously its obligations to help secure the general health and wellbeing of its research staff and students, and has implemented a number of initiatives in support of this. For example, all staff and PGR students are encouraged to attend coffee mornings and take regular, meaningful breaks from work in order to socialise and check in with each other in a relaxing environment. The School also provides regular wellness activities for staff, such as weekly facilitated mindfulness sessions, while the School's Running & Rambling club encourages staff and students to break from work to enjoy physical exercise on the South Downs. The School also has a Wellbeing Officer and Green Impact Team, who run events for staff and share information on wellness and sustainability, often organising campus-based events and promoting local community initiatives.

3. Income, infrastructure and facilities

3.1 Research Income

In the current period, UoA17 generated research income of £23.6m, of which 62% came from BIS/BEIS via UKRI and the British Academy and 19% came from the European Commission (EC). In 2019-20 we received record awards in excess of £7.5m; and overall our income is increasingly diversified from year to year, with more coming from non-UKRI bodies, including UK charities and UK government, as well as from international governments (e.g. Colombia, South Africa, Sweden, Finland, Brazil, Norway) and corporations (e.g. GSK, Southern Water, Baillie Gifford), plus philanthropic sources (e.g. RM Phillips).

The UoA has undertaken 62 externally funded research projects since REF 2014, with the following receiving the highest funding:

- Arora raised **£375k** for the project 'Towards a rational approach of agency for building pathways out of poverty' from ESRC.
- Byrne was granted **£276k** by the British Council to study 'Transformative innovation and the 4th industrial revolution for sustainable development', and **£499k** by DFID for studying modern energy cooking services.
- Chari won **£262k** from ESRC to investigate Privatisation and Productivity Growth.
- Chataway raised **£597k** from EPSRC to research the next generation of low-cost energy.
- Ely raised **£364k** from UNESCO for work on constructing pathways to sustainability, and **£227k** from EPSRC to study low-carbon innovation in China. Ely also secured **£680k** for a project on Constructing Pathways to Sustainability.
- Foxon won **£2.7m** from EPSRC for the Centre on Innovation & Energy Demand (CIED, and subsequently **£1.2m** for the UK CREDS (see above).
- Hielscher raised **£303k** from the EC for Social Innovation in Energy Transitions.
- Hopkins secured **£258k** from the EC for a project exploring diagnostic innovation in cancer screening.
- Keeling was awarded **£991k** to extend the University's ESRC Impact Accelerator Account (IAA).
- Kivimaa raised **£400k** from the Academy of Finland for work on Smart Energy Transition.
- Mackerron raised **£355k** from EPSRC for a Centre for Energy Systems Integration; plus **£891k** for TRANSrisk: 'Transitions Pathways and Risk Analysis for Climate Change Mitigation and Adaptation Strategies' from the EC. He also won **£302k** from the EC to study sustainability transitions.
- Marshall won **£245k** from the British Academy to explore Inclusive Green Infrastructure for Urban Well-Being.
- Martiskainen was granted **£221k** by the EC for researching solar-biomass reversible energy systems; and **£600k** from CREDS to investigate fuel and transport poverty.
- Mazzucato raised **£413k** from the EC for 'ISIGrowth: Innovation-fuelled, sustainable, inclusive growth'.
- McGuire was granted **£398k** for the project 'RESPECT: Realizing Europe's soft power in external cooperation and trade'.
- Nightingale raised **£1.17m** from ESRC to establish the IAA, and **£278k** for 'Project X: Improving project delivery'. Also, with colleagues, he won **£300k** to examine Capability Building for Infrastructure Delivery.
- O'Reilly secured **£3.4m** from ESRC for Digit (see above), plus **£327k** from the EC to develop new tools to foster social resilience in Europe.
- Ramirez raised **£1.5m** from Baillie Gifford for work on Deep Transitions, plus **£2.5m** for TIPC (see above).
- Rogge was awarded a **£1.2m** ERC grant to investigate governance of sustainable energy-mobility transitions.

- Siepel was granted **£551k** by AHRC to establish the Creative Industries Policy & Evidence Centre with NESTA.
- Smith won **£294k** for the TRANSIT project (Transforming Social Innovation Theory).
- Sovacool raised **£507k** from NERC for investigating framing and effective participation of "fracking"; as well as **£310k** from the EC for 'Innopaths: Managing technology transitions'.
- Stirling raised **£352k** and **£565k** respectively for two ESRC projects: 'Governance of Sociotechnical Transformations' and 'Planetary Connections'. He also won funding from UKRI for a project mapping development pathways between science, research, innovation and SDGs (**£506k**).
- Watson, who was awarded **£235k** from EPSRC to research Multi-scale Infrastructure Analytics.
- Yaqub won **£1.25m** from the EC for his ERC Starting Grant on Serendipity in Research and Innovation.

Faculty are strongly encouraged to seek research income, not only as a way of realising their research ambitions, but as an important means of progressing their careers, in line with promotion criteria. Income generation is also encouraged through Research Incentive accounts. Ten percent of grant contribution income is charged to the investigators' discretionary accounts, to cover personal research expenses. Investigators have the facility to use this income to replace teaching and administrative duties, essentially buying out their time to focus on research. In addition, researchers receive dedicated support from the RICE team and University Press Office. This includes: designing and implementing targeted comms and impact strategies around specific research activities; drafting news stories, policy briefs and press releases; disseminating research news/outcomes via School social media accounts and web pages; inputting into research proposals; supporting interaction with policy-makers and other stakeholders; delivering training for impact and policy engagement; and assisting with event organisation and administration.

Our public engagement via direct media has increased rapidly over recent years, and continues to do so. For 2018-19, School faculty contributed to 394 items of UK media coverage, reaching a total estimated audience of 83 million; while for 2019-20 these figures increased to 979 discrete items of UK media coverage reaching approximately 1.5 billion people. Our contributions to research on the nature and impact of Covid-19 are particularly well-recognised by the global press; as are our contributions on Brexit and international trade (see UoA16), with these topics receiving the most media attention over the past year. Along with mass media coverage, we have also greatly increased the variety and number of public communications around research. An indication of our comms and engagement activities is provided by our large research centres and programmes, which together produced the following during 2019-20: 26 policy briefs, 144 blogs, 22 podcasts and 28 responses to consultations/calls for evidence.

3.2 Infrastructure and Facilities

The University's investment in the School in the form of new faculty has been complemented by a proportional investment in infrastructure and facilities. The recently renamed and restructured University of Sussex Business School occupies modern offices and research and teaching space, and provides staff and students with a light and spacious work environment. Both faculty and students are largely co-located in the building, facilitating interaction and fostering a shared sense of community; and both are provided with high-quality facilities: excellent computer and printing facilities (free for PGR students and staff) plus the requisite software, a dedicated research seminar room, two large social spaces exclusively for staff and PGR use, and electronic subscription to all mainstream business and management journals. There is also a café, plus well-appointed kitchen facilities for staff and PhD students on every floor. During term time, social coffee mornings are held twice a week for all staff and PhD students, providing free hot drinks, pastries and fruit.

The School also houses a number of specialist resources, including the Keith Pavitt library – an extensive collection of works in science and technology policy and innovation management – and the Sussex-Harvard Information Bank: the world's largest open-source archive of material on chemical and biological weapons. The Bloomberg Financial Markets Lab provides 22 high-specification computer terminals and round-the-clock trading information, enabling Finance students to monitor real-time trading data and undertake financial market analytics. The School's Consumer Behaviour Lab provides 24 computer workstations in highly controlled laboratory conditions, enabling researchers to undertake a range of experiments.

4. Collaboration and contribution to the research base, economy and society

4.1 Research Base

4.1.1 Collaboration and Engagement

Part of our core mission is to produce research of great value to society as a whole, as well as serving the needs of businesses, policy-makers and others. To do this most effectively, we increasingly seek to involve these stakeholders in co-designing the research we undertake, and to develop partnerships that enable us to pursue avenues of research that would otherwise be closed to us.

Through strategic recruitment and active networking, we have succeeded in building links with numerous UK and international institutions, as well as extending our influence out into the wider economy and society. This is evidenced, for example, through co-authorship of outputs and collaboration on projects. In the current period, 60% of the UoA's published outputs (totalling 1,117) were internationally co-authored while 17% were co-authored with other UK researchers. Specific financial support schemes are in place with Renmin University, China and University of Bocconi, Italy. In both cases, faculty can apply jointly with researchers from the partner institution for collaborative research projects with the aim of combining complementary research strengths and consolidating existing institutional links. Similarly, Roffey Park Institute is a practitioner partner in much of our research into work and employment. This partnership was cemented in 2018 when the two institutions established three co-funded and jointly supervised PhD studentships and began co-applying for research grants.

Researchers in the UoA greatly contribute to international academic conferences, and recently the School has significantly increased its capacity to host such events. Along with our Visiting Leading Scholars Scheme, this is a crucial part of our strategy to enrich the research environment by enticing colleagues from across the world to come and share their insights and research contributions. Increased capacity in the RICE Team provides the organisational and administrative capacity to run leading international conferences and events. For example, in 2019 alone the School hosted the following, some of which attracted over 200 participants:

- Academy of International Business UK & Ireland Chapter Conference (AIB-UKI) Conference
- European Meeting on Applied Evolutionary Economics (EMAEE19) Conference
- 6th Young Finance Scholars (YFS) Conference
- SPRU Science, Technology & Innovation Policy for Turbulent Times
- International Association for Relationship Research (IARR) Conference
- Production and Operations Management Society (POMS) Conference
- Post-Automation Symposium

Alongside events, the UoA has sought new modes of engagement and knowledge transfer. For example, from 2018 onwards SPRU has provided training on innovation policy for a range of government actors and mid-level policy-makers. This week-long residential course aims to furnish delegates with cutting-edge knowledge, engaging them with contemporary debates in industrial policy, transformative innovation, emerging technologies and global challenges.

Our major centres and projects also regularly host events, and have engagement at their core. All involve a theory of change that is heavily policy-focused, and include collaborations that enhance the breadth and depth of research expertise, creating new synergies and increasing the 'value added' per project in terms of output, engagement and impact. For example, Digit includes business and policy communities as knowledge exchange partners involved in the design, implementation and dissemination of its research. Project X is a unique collaboration between a consortium of universities, industry, the project delivery professions and the Infrastructure & Projects Authority (IPA) that aims to understand how to improve major project performance. The close partnership with the IPA enables direct and seamless translation of research into official government-mandated guidance, while ongoing dialogue with project delivery professionals will help close the gap between research and practice. The same is also true for smaller projects: A. Alexander is working with an NGO responsible for managing a large protected area of the Amazon rainforest, along with local communities and government, to gather evidence and inform regional and national policy in Peru in support of the nation's vision for sustainable development. This is how we work: regardless of the scale or scope of the project, the RICE Team provides the tools and expertise to support researchers in engaging stakeholders throughout the project lifecycle, while our ethos and environment generate the appetite and ambition to deliver research with real impact.

4.1.2 Reach and Influence

In order to better gauge the impact our research is having within society and the academy, we rely increasingly on alternative metrics to provide more nuanced indicators of the propagation and utilisation of our research. These include independent research rankings and citation data, which reflect the extent to which our research is drawn on and referenced in the work of others. For example, in the Times Higher Education Rankings 2019, the School places 9th in the UK for research overall and 15th in the world for number of citations. In the US News and World Report 2020 we placed 14th in the UK for overall research and 24th in the world for citations. While in the NTU Rankings 2020, we placed 13th in the world for overall research, 19th for H-Index, and 19th for citation count. In 2020, Sussex placed 1st in the world for Development Studies for the fourth consecutive year (QS Rankings), reflecting the School's substantial contribution to the subject.

According to the Clarivate 2020 ranking, Sovacool belongs to the top 0.01% most cited scholars in the field of energy research, with Sorrell falling into the top 0.07%. The UoA also had a number of faculty falling within the top 1% of the most cited researchers in their fields according to the 2019 data. These included Smith (0.15%), Stirling (0.2%), Martin (0.23%) and Foxon (0.23%); plus Bailey (0.32%), Kivimaa (0.36%), Schot (0.48%), Beverland (0.51%), and van der Heijden (0.73%). Storey, Davies, Humphrey, Subramanian, and Rogge, meanwhile placed in the top 1-2% in their fields, while their colleagues Blome, Tourish, and Hopper were within the top 2-3%.

Our research standing is also reflected in other rankings. SPRU has been consistently ranked 1st in the UK by the Global Go To Think Tank Index Report in its list of top science and technology thinktanks, and has appeared in the global top ten since 2013. In 2018 SPRU increased its overall position from 7th to 3rd in the world, where it has remained for the last two years; while the School as a whole was recently ranked 1st in the UK for Energy Economics and 2nd for Innovation in the most recent Research Papers in Economics (RePEc) rankings. Furthermore, our staff have received international recognition for their research through numerous prizes including, among many others (since 2015): Temple/AIB Best Paper Award (Academy of International Business); IM Division Douglas Nigh Award (Academy of Management); several Literati Awards; Best Paper Award at the European International Business Academy Conference; Best Paper at the AIB Annual Conference; Emerald Citation of Excellence Award; New Statesman/SPERI Prize in Political Economy; Leonardo da Vinci Medal (SHOT); and Best Paper Award at the International Conference on Sustainability Transitions.

4.2 Economy and Society

4.2.1 Partnerships and Networks

The School's Corporate Connections strategy aims to realise strong partnerships with external stakeholders, centred around three key areas where corporate connections add value for our staff and students: Teaching & Learning; Research & Knowledge Exchange; and Employability. The School is already well linked in to nearby businesses through local networking groups and business hubs, including Brighton & Sussex Chambers of Commerce, Gatwick Diamond for Business, MD Hub, the Sussex Innovation Centre, Basepoint centres, Barclays Eagle Labs, Nat West Entrepreneurial Spark, Wired Sussex, Platform 9 and the Scale-Up Institute. The School also sponsors the local Creative Industries and New Business awards. We are active members of the University's Creative, Digital & IT (CDIT) Steering Group, set up to engage local digital businesses through events and exhibitions, collaborative activity, and working with partners such as Wired Sussex and the Digital Catapult to support this important local sector. We also work closely with our Local Enterprise Partnerships (the Coast-to-Capital and South East LEPs) and Local Authorities.

Our impact cases demonstrate some of the national and international benefits of our research, but such benefits are felt much closer to home too. For example, the Community Water Partnership brought together Southern Water, Brighton and Hove City Council (responsible for 11,000 social housing properties), the Consumer Council for Water, and the University, including the Business School. As a result of the Partnership's research, the Water Executive Summary Report was published in 2019 and a DIY Manual for saving water was produced with and for local people, directly benefiting the community.

The School has identified a number of key corporate stakeholders with whom we seek to deepen our existing relationships, including Alpiq, American Express, Barclays, EDF Energy, EY, GSK, IBM, KPMG, Microsoft, PwC, Prysmian Group, Southern Water, Technopolis, Unilever and Walmart. Our connections with these and other partners take a variety of forms, including work placements, mentorships, provision of consultancy services, graduate recruitment, product testing, invited talks, and long-term research collaborations. We also work closely with many non-corporate stakeholders. Of our top ten collaborators – measured by number of discrete engagements – only four are corporations (PwC, EY, Technopolis and Alpiq). The rest are government departments and independent research institutes: the African Centre for Technology Studies, the Foreign, Commonwealth & Development Office (UK), the International Development Research Centre, IDS, and NESTA. The nature of our engagements varies between partnerships, but the majority centre on areas of core research strength, including energy, sustainable development, and innovation for societal benefit.

In addition to undertaking contract research via collaborative projects and government tenders, our academics provide expert advice and consultancy to a wide range of non-corporate stakeholders. Sovacool alone has acted as consultant/advisor to – amongst others – the World Bank, US Agency for International Development, US Department of Energy, Global Environment Facility, International Development Association, International Energy Agency, and the Asian Development Bank, and has held multiple roles with various UN agencies. Many others across the UoA have undertaken similar engagements over the period, advising high-level intergovernmental agencies and national governments, as well as numerous think tanks, NGOs and non-profits. Our staff also regularly provide expert evidence to Parliamentary select committees and respond to government consultations, for example via the Cabinet Office or POST (Parliamentary Office for Science & Technology). We also enjoy close links with research funders, including our principal Research Council, ESRC, through our research centres and projects (including STEPS, Digit and Project X) and the IAA. Having served as Director of the IAA until 2019, Nightingale now balances his research commitments here in the School with his role as ESRC's Director of Special Projects (80% FTE).

The University works with over 600 collaborators from across the public, private and third sectors. A third of these partners are based abroad and a quarter are based locally within the

Greater Brighton region. Of all the sectors in which the University engages, the great majority overlap with key areas of engagement for the Business School, which forms one of the main interfaces between the University and the outside world. For example, 38% of the University's engagements fall within the Health and Pharma sectors, 16% within International Development, 16% in Technology, and 9% in the Finance sector – all areas of research strength and collaboration for the School. We coordinate and collaborate on events held within the community to engage stakeholders with issues emerging from our research in accessible ways. Knowledge Exchange Networks provide transparent channels for debate and discussion between academic and non-academic stakeholders. For example:

- Policy@Sussex (P@S) was originally an ESRC IAA-funded initiative to develop more effective ways to engage policymakers and to package research in a manner appropriate to policy processes. P@S was created in the School and now spans four schools of study. Our Research Communications Manager has led the project from its second year and is able, through its activities, to help manage the School's relationships with policymakers and government actors, ensuring effective communication and engagement, and linking our highly policy-relevant research with potential users in Westminster and elsewhere.
- The Brighton and Sussex Universities Food Network (BSUFN) is a multi-disciplinary network, established in 2012 to bridge the gap between researchers and practitioners working in local community food initiatives.
- The international NEXUS network fostered innovative thinking about the interdependencies, tensions and trade-offs between food, water and energy security, in the broader context of environmental change and the challenges posed by the SDGs.
- The Responsible Research in Business & Management (RRBM) network promotes the wide-spread use of research in business and other organisational practices for the benefit of society. The School has been a member institution since 2020 and is due to be awarded 'Pioneering' status in early 2021.
- The STEPS Summer School: Open to doctoral and post-doctoral researchers from all over the world, this residential has run annually since 2012. The two-week immersive course focuses on theories and practical approaches to sustainability, through creative, interactive and participatory learning.

As a signatory of the United Nations Compact for the Principles of Responsible Management Education (PRME), the School contributes to numerous external networks focused on PRME issues, such as corporate social responsibility, sustainability and the environment, and inclusion and social justice. We enjoy membership of the PRME UK and Ireland South East Chapter, the Global Responsible Leadership Initiative (GRLI), and the Ellen MacArthur Foundation Network. We are also a World Benchmarking Alliance Ally, and undertake a range of activities to promote engagement and knowledge exchange in these areas, including workshops and public events. PRME-related issues feature heavily in our research. Our latest Report (published February 2020) identifies over 140 publications and 36 research grants covering PRME-related topics in the two-year reporting period alone. In addition, over half our RMGs work on core PRME themes (see 1.3.3).

4.2.2 Contributions to the Sector

In addition to EQUIS and AMBA membership, the School is a highly active member of the Chartered Association of Business Schools (CABS). Our contribution to and participation in CABS takes various forms. The Dean is a member of the CABS Executive Board, while the ADR and Head of Professional Services sit on the Research Committee and Management Committee, respectively. As well as having a large number of staff – both PS and academic – involved in numerous CABS networks, members of the School are regularly invited to contribute to CABS professional development events. For example, Tourish presented at the CABS Annual Research Conference in 2019 and 2020, while our Research Manager presented at the Professional Managers' Annual Conferences in 2018 and 2020. By having such a close association with the sector's leading professional body, we are able both to assert influence and

to bring back up-to-date knowledge and best practice to be shared across the School. Similar benefits flow from the involvement of Research Management Team members in relevant trade bodies, including the Association of University Administrators (AUA), the Association of Research Managers & Administrators (ARMA), and the Universities Policy Engagement Network (UPEN). Staff are actively engaged in these professional organisations and the communities of practice they provide, thus ensuring a continually well-informed faculty and Professional Services team, and a consistently cutting-edge research environment.

We are currently working towards the final of the 'gold standard' institutional accreditations – AACSB – which we hope to secure within the next 2-3 years. As a result of this, and our memberships of EQUIS, AMBA and PRME, we find ourselves in a state of continuous, expertly guided and rigorously monitored professional improvement. These accreditations and affiliations not only testify to our current state of excellence with regards research (and other measures), but also mean we are constantly held to account by these international professional bodies, ensuring we continue to maintain world-class standards of research, improve our environment, and exemplify best practice in our approaches to research.