Section A: Official Development Assistance (ODA) and GCRF strategy

The strategy

1. Summarise the key aspects of your three year **strategy for development related and GCRF research activity**, including:

a. Your institution's strategy and priority objectives for all development related research activity funded through all sources for three years from 2018-19.

b. A summary of the key aspects of your three year strategic plan for QR GCRF, in light of the criteria and objectives for the GCRF outlined in the guidance.

c. How activity funded through QR GCRF fits into your broader strategy and priorities for all development related research activity.

d. How activity funded through QR GCRF relates to the UK strategy for the GCRF.[1]

e. How your development-related and GCRF strategies relate to your wider institutional strategy for using QR.

f. Likely key barriers and enablers to implementing your strategy.

g. The key activities by which you will realise your objectives, such as capacity and capability building; mono-disciplinary, interdisciplinary and collaborative research; generating impact from research; meeting the full economic cost of GCRF activity funded through other sources; rapid response to emergencies with an urgent research need; and pump priming.

h. The main developing countries, included in the Development Assistance Committee (DAC) list, which you intend to collaborate with.

a) Institutional Strategy and Priority Objectives for all Development Related Research Activity Funded through all Sources for Three years from 2018-19:

Introduction:

The University's research and third stream activity is currently growing at an unprecedented rate as reflected by increases in value for funding secured from: £287K in 2014-15 to £3.6m in 2015-16, £2.4m in 2015-16 and £4.2m in 2016-17; our annual REF returnable research outputs have also more than doubled since the 2014 REF exercise.

[1] UK Strategy for the Global Challenges Research Fund, http://www.rcuk.ac.uk/funding/gcrf/challenges/

These metrics together, reflect the journey that the University is currently embarked upon - with a commitment that research should underpin, and inform all we do. With the rapid expansion of our academic portfolio, we anticipate that our areas of active research will continue to expand into new fields during the next 3 years and beyond - and we are currently drafting a new five year strategic plan to reflect this period of growth and development for the University.

The University is well known for its mission for widening participation in higher education as well as playing a leading role in regional economic development within the West-Sussex coastal strip and surrounding regions. One of the underlying values and ethoses of the university is that our work should have real world positive impacts for the disadvantaged. We are now at a position where our expanding research portfolio can be aligned further and developed, so as to contribute to meeting a number of the UN's recognised 17 development goals. Some of our work already has demonstrable resonance with - and impact aligned to these goals, such as in the areas of quality education (goal 4) and gender equality (goal 5). It is in the areas of our future development for the University's academic portfolio, however, that we anticipate a rapid expansion of our research, with potential for transformative impact for Development Assistance Committee (DAC) list of countries.

As an institution, we are in the process of developing and launching a new Science, Engineering, Technology and Mathematics (STEM) portfolio which will act as a complete paradigm shift for the University, its work and identity. Our next development already in the planning, will include an academic portfolio of Health related provision and Law. The aligning research strategies for each of these areas will be of direct relevance to the Grand Challenges Research Fund.

Of particular relevance and timelines to the GCRF mission, the University of Chichester will from September 2018 be opening a new Engineering and Digital Technology Park – along with the ultimate launch of 33 new STEM degrees representing the largest single launch of STEM based programmes in the UK since the Robbins report that gave rise to the 1960s group of Universities. Central to the University mission and our current strategic plan 'twenty-twenty vision' is our third goal that 'all of our teachers should research and all of our researchers should teach'. In this context we are as part of the Technology Park development launching a Centre for Sustainability, which will act as a central hub for sustainability oriented research for the University.

Priority Objectives for GCRP Oriented Research for the University of Chichester:

With a number of research themes already oriented towards social policy and human impact – and our expansion into the areas of Health and Law – our priorities and objectives are:

i. To ensure all of our ongoing and future research work is considered in the context for impact and development in line with the mission and aims of the GCRF – so that new GCRP specifically oriented research may be developed, building on these strengths.

ii. To institutionally support with targeted resource: knowledge transfer and identified problem focussed research to maximise the impact of our research. We wish to use our intellectual endeavour to actively export and share globally with maximum effect take up areas of best practice, social policy, environmental - carbon saving, resource efficiency and waste management GCRS oriented research. By way of an example, we would wish to take areas of research with a potential for reducing carbon footprints to a new level of impact through the concept of 'carbon brain prints' where the impact in DAC listed countries may be multiplied many times over.

b. Summary of the Key Aspects of your Three Year Strategic Plan for QR GCRF, In Light of the Criteria and Objectives for the GCRF.

In line with our rapidly expanding research portfolio, we will specifically:

i. Examine all new research proposals and existing and on-going research projects in the context of where any of the work may be of direct relevance to the criteria and objectives for the GCRF – or further developed; these will be recorded so as to inform annual monitoring and reporting.

ii. Encourage all researchers when preparing research proposals to develop aspects that will be directly applicable to GCRF objectives that would be uniquely identifiable as such and would otherwise not form part of the programme. Reporting on aspects of the GCRF oriented components for proposals will be incorporated as part of the approval administrative process for the University.

iii. Establish an annual call for researchers within the University for pump-priming research studies to either initiate research in line and compliant with the GCRF – or directly and demonstrably apply existing research findings or outputs to new GCRF applications and impacts above and beyond the scope or remit of the existing research programme.

iv. Establish new areas of research and research programmes specifically oriented towards GCRF oriented goals. We will during the 2018-2021 timeframe orient our work towards the UN Sustainable Development Goals for: (3) Good Health and Well-being, (4) Good Education, (5) Gender Equality, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (10) Reduced Inequalities, (13) Climate Action, (17) Partnerships for the Goals.

c. How activity funded through QR GCRF fits into your broader strategy and priorities for all development related research activity

Much of the University's research activity and output is focussed towards areas of direct applicability towards enhancing the quality of human life, through, for example, social policy (Department of Childhood, Social Work and Social Care), education (pedagogic research, our Institute of Education and Multi-academy Schools Trust), economic development (Business School), energy security and de-carbonisation (Engineering and Digital Technology Park) and equality (women into engineering) and equality (our internal funding of researchers with refugee status).

The excitement and opportunity for the University of Chichester for this GCRF initiative, is now to use this funding for the further development of our existing research strengths (and that are core to our mission as an institution) - towards new areas that align directly with the UN sustainable goals identified above.

d. How Activity Funded through QR GCRF relates to the UK Strategy for the GCRF.

There is close alignment between much of the University's ongoing and developing research effort and the UK three identified areas and sub headings for supportive research for:

- Equitable Access to Sustainable Development,

- Sustainable Economies and Societies, and,

- Human Rights, Good Governance and Social Justice

We will use the GCRF funding to further develop our research for additional, separate and demonstrable outputs in line with these three targeted areas. Specifically under each of the three targeted areas highlighted by the UK government, we will develop new research in line with the UK's identified themes under each area:

In line with the priority for: **Equitable Access to Sustainable Development,** we will promote and support research in line with the three sub-headings for:

'*Sustainable Health and Well-Being'*, We will continue to support research in the areas of both social policy (Department of Childhood, Social Work and Social Care) – and Human Resilience in conjunction with the MOD and other emergency services – to help tailored strategies for responding to humanitarian crises'. Our new initiative towards health related work as a University, will in turn allow for new areas of research in line with UK priorities for overseas humanitarian development.

'*Inclusive and Equitable Quality Education*'; Areas for targeted research will be led by our Institute of Education – with a focus towards pedagogical research and up-skilling for the future economic development of developing economies with social justice as a key priority.

'*Affordable, Reliable, Sustainable Energy'*; The launch of the Engineering and Digital Technology Park in September of 2018 along with the embedded centre for sustainability will provide a spring-board for targeted research to tackle a number of grand challenge areas such as energy security and decabonisation of energy supply chains and usage. In conjunction with a number of both industrial and public sector collaborators, we will be pioneering a number of research areas with direct and targeted orientation towards overseas development and application including photovoltaic and other renewable energy sources with storage via hydrogen for use either for later re-generation of electricity, for transport purposes for use within fuel-cell electric vehicles, petroleum based fuels cannot be relied upon, as a combustible zero-carbon fuel - and in each instance the decarbonising of energy use.

In-line with the priority for: '**Sustainable Economies and Societies**' we will support new areas of research in line with the sub heading for: '*Sustainable livelihoods supported by strong foundations for inclusive economic growth and innovation*'. This work will be led by our business school who bring to this area expertise in the economic and social impact of social inclusion, government policy and industrial relations.

Finally in line with the priority for: **Human Rights, Good Governance and Social Justice** we will promote and support new areas of research in line with the two sub-headings for:

i. In the area of '*Understanding and responding effectively to forced displacement and multiple refugee crises';* we will continue to support the work of research academics with refugee status within the University whose work directly helps to respond to and address further crises.

ii. Under the sub heading of '*Reducing Poverty and Inequality, including Gender Inequalities*', we will support the pioneering work of the business school in areas of economic impact of social policies for application to DAC countries, while our initiative for recruiting women into STEM will act as a spring-board for research initiative with organisations such as the women's engineering society and the engineering council for overseas development research projects.

e. How the University's Development-related and GCRF Strategies Relate to the Institutional QR Strategy

Our institutional QR strategy is first and foremost focussed towards realising one of our strategic aims in that 'all of our teachers will research and all of our researchers will teach'. This underpins our commitment that all of our pedagogic development should be informed by and led by research, best practice and social engagement so that our work directly contributes to the enhancement of the quality of life in all of the areas we engage. This in turn directly reflects why we as an institution now wish to expand our academic portfolio, our areas of research and our approach to social engagement, so as to contribute to making the world a better place via every available approach open to us.

Our QR strategy operationally has been directed towards (i) building resource and (ii) enhancing and realising the full impact of our research; in line with these approaches our annual research outputs have more than doubled since the 2014 UK REF exercise, while our research and third stream income has increased by more than ten-fold in the last 30 months.

Our GCRF policy will now leverage this increased capacity for the initiation and fostering of new areas of research with impact specifically focussed towards the UK policies for overseas development, its goals and the 17 UN sustainability development goals.

f. Likely Key Barriers and Enablers to Implementing the University Strategy

The single greatest barrier to implementing the University Strategy will include breaking into new areas as our research portfolio expands at such an unprecedented rate of development. We will however address this via partnership with development organisations, key industrial collaborators and overseas Universities, international aid organisations and overseas partners from the Development Assistance Committee (DAC) list of developing countries.

Our key enablers will include: our policy (whenever possible) for the hiring of new academic staff with research track records and ambition that closely align with the University's core aims, mission and ethos – and our rapidly expanding research capacity across every part of the University - and the launch into new areas of research such as STEM, Health and Law.

g. The Key Activities by which the University will Realise its Objectives

We will realise our objectives via a number of synergistic approaches including:

Capacity Building: we will continue to increase our capacity via the ongoing and rapid growth in our research base and areas of academic endeavour (our research and third stream income have increased by more than ten-fold in the last 30 months, while our research outputs have more than doubled since the 2014 REF exercise).

Mono-Disciplinarily, Multi-Disciplinarily and Collaborative Research: The University has and continues to establish research centres for promoting areas of research excellence – while also fostering areas of collaborative research for the development of new areas of research and maximising impact (e.g. between engineering and human resilience). We continue to develop new areas of collaborative research with industrialists, other HEIs both in the UK and overseas and international partners (this is exemplified, for example, via the support of more than 40 companies in the establishment of our new Engineering and Digital Technology Park that opens in September 2018.

Full economic costing recovery for GCRF supported research will be achieved by support from partners who support both our mission and those of the GCRF aims. We work

extensively with a number of philanthropically oriented organisations such as the Livery companies of the City of London, industrial manufacturers and aid organisations with clearly defined charitable aims.

h. The main Developing Countries, included in the Development Assistance Committee (DAC) list, which the University of Chichester Intends to Collaborate

The University of Chichester will *in the first instance* work with researchers, HEIs and companies from each of the six countries below with which we have existing research links and / or partnerships:

- India
- Thailand
- Mexico
- Brazil
- China (peoples republic of), and,
- Iraq

We intend to expand our collaborations to include other DAC listed countries however, as our GCRF oriented work grows. (see section B).

2. Provide details of the main intended **outcomes and impacts** of your strategy.

We will ensure all of our GCRF research projects are focussed towards meeting clearly pre-defined goals with an emphasis towards maximising impact so as to realise the full potential of the work. All of the outcomes listed below will be specifically related to GCRF research and focussed towards DAC listed countries.

As our work within this GCRF initiative develops we will specially orient our intended outcomes to:

i. Developing research which will help aid workers develop strategies for human resilience for rapid response to natural disasters and humanitarian aid; the impact of this work could be realised in any one of the DAC listed countries.

ii. Develop in conjunction with industrial partners, technologies for the capture and storage of renewable energies via the use of energy storage through hydrogen electrolyser and fuel cell technologies - including the development of infrastructure, economic modelling and economic modelling software for smart and responsive usage of technology for energy security in remote off grid locations. The impact of this work could be realised in countries such as India, Thailand, Mexico and / or Brazil. The research will include studies to evaluate where and in which situations implementation will yield maximal impact.

iii. Develop tailored pedagogies for learning and teaching for developing countries using technology where appropriate, including technology for distance learning so as to help promote widening participation amongst the most disadvantaged communities – for the upskilling of populations and so reducing inequalities. This work offers potential benefit for reducing inequality and enhancing education within any of the six DAC countries we have highlighted for partnership development.

iv. To support academic research positions for UK based researchers with refugee status to access to the international research community. This work will produce research with outputs in any of the objectives i. to iv and / or alternative areas for benefit to any of the six DAC countries we have highlighted for partnership development.

v. To support economic business modelling based research to facilitate good governance and efficient use of resources for economic growth in DAC listed countries both by the three tiers of economic grouping but on a country by country basis. Outputs may include tools such as bespoke open access software and / or economic reports to support good governance.

vi. To develop social policy research with impact for influence in DAC countries to support i-v above.

Management of GCRF

3. How will your HEI **monitor** and **evaluate** its progress and compliance in ODA and GCRF activity, including assessing geographical distribution of activity, outputs, outcomes and economic and social impacts?

Please describe the policies, procedures and approach you have in place to measure progress, evaluate outcomes, identify lessons learned, and ensure ODA compliance

All research within the institution reports to and through the research and enterprise committee which in turn reports into to the academic board, which is the committee of highest authority within the University structure, being chaired by the Vice Chancellor. Areas pertaining to research requiring specific oversights such as research ethics, REF or post-graduate degree are administered through sub-committees of the research and enterprise committee. We will establish a standing item for the research and enterprise committee for GCRF research to administer and allocate GCRF funding. Funding will be allocated to research proposals in response to internal calls for funding to the research community of the University. Cross and multi-disciplinary research will be encouraged, as will collaboration with outside bodies and collaborative partnerships. The call for proposals will refer to the objectives as set out under question two and accompanying guidance issued with this GCRF initiative.

All researchers will be asked to submit quarterly reports with specific reference to the objectives for their approved proposals, the criteria and guidelines for the initiative and

impact under separate headings – along with reference to engagement with the DAC listed countries referred to in question two.

Projects will be assessed again progress against specific criteria within each research programme both in terms of timelines and pre-specified deliverables for stated objectives. Successes and barriers encountered will be shared with the research communities through both internally published research bulletins, the University seminar programme and annual research conference. The research office will ensure that research case studies are shared with the research community via the regular and periodic newsletter that is distributed to all academic staff. Quarterly GCRF reports will be compiled from the returns from individual GCRF research programmes and will be sent to the Vice Chancellor's Group management meetings. (A number of key metrics for areas such as research biddings and money secured are sent to the VCG in the form of a quarterly basis for regular and close oversight). Areas for reporting against and oversight, will include ODA compliance and which countries the research impact being / or will be felt, performance against KPIs and alignment with the University's GCRF strategy.

Section B: Use of QR GCRF 2018-19 allocation and future QR GCRF priorities

4. Please complete the table in Annex A2 detailing the expected spending and activities for QR GCRF in the academic year 2018-19. Note that the total QR GCRF spending must equal the indicative allocation (available in Annex C), and all activities must be ODA-compliant for strategies to be assessed as ODA-compliant overall.

5. Please add here any explanatory notes on how you have completed the table in Annex A2 that will help inform assessment of ODA compliance.

The areas of targeted research activity are listed in order of priority during the period 2018-2021 in line with questions 1 and 2.

6. How would your **priorities and activities** for 2018-19 QR GCRF change if the funding level differs from that outlined in indicative allocations? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

Our indicative allocation of £33,827 reflects our growing yet early stage GCRF oriented research – but also an area this aligns so closely with the University's core altruistically oriented values and our rapid development and venture into new areas such as STEM, Health and Law, each of which offers considerable promise for research with potential for ODA country benefit.

Should our allocation be increased, we will in the first instance prioritise in order:

i. Research in the area of hydrogen based energy storage applications for energy security for off-grid locations.

ii. Research for economic modelling, bespoke software development and economic impact reports for impacting upon and supporting good governance

iii. The development of remote learning educational pedagogies for developing countries across the DAC list of countries.

7. Based on indicative funding allocations, what are your **priorities** for QR GCRF activity in 2019-20? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

Based on the indicative allocation of £33,827 we will firstly use this money as a basis for leveraged and matched funding from external partners to maximise usage of this funding for maximal impact. We will use this allocation to build upon existing areas of research strength to forge new areas of solely GCRF focussed work towards:

i. Research in the area of hydrogen based energy storage applications for energy security for off-grid locations.

ii. Research for economic modelling, bespoke software development and economic impact reports for impacting upon and supporting good governance

iii. The development of remote learning educational pedagogies for developing countries across the ODA list of countries.

iv. Research for the development of human resilience oriented protocols for the armed forces, aid agencies and other humanitarian organisations responding to natural disasters and crises for situations when rapid response is required.

iv. Support of research positions in the UK for any of the areas i-iv for refugee status academics.

8. Based on indicative funding allocations, what are your **priorities** for QR GCRF activity in 2020-21? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

By 2020-2011 the University will be established in a number of new areas such as engineering, Digital Technology and Health – along with accompanying research infrastructure and capability.

Our priorities will therefore increasingly be prioritised towards developing areas of GCRF oriented work towards (i) the technological development of energy capture and storage solutions for remote and off-grid applications along with accompanying IT and software for smart usage of energy, (ii) Health related technologies for human resilience protocols for use by aid workers and (iii) cross-disciplinary research between health and engineering with a focus towards life-saving technologies to address areas such as water-borne disease and food preservation for remote applications where electrical power, sterilisation of surgical instruments and / or refrigeration cannot be relied upon.