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| <p>Institution: University of Liverpool</p> |
| <p>Unit of Assessment: 17A Geography and Environmental Studies</p> |
| <p>a. Context</p> <p>World-class research in the Department of Geography and Planning (DGP) addresses issues of contemporary significance produced for and with a range of partners through its four research groups: <u>'Earth Surface Processes and Environmental Change'</u> (ESPEC); <u>'Modelling, Population and Geocomputation'</u> (MPaG); <u>'Power, Space and Cultural Change'</u> (PSCC); and <u>'Spatial Planning and Impact Assessment'</u> (SPIA). Our research findings influence policy and practice (including critiquing accepted paradigms) and inform the public understanding of key contemporary issues such as economic development, environmental management and assessment, health, energy and resource management, social contestation demography, and responses to climate and environmental change.</p> <p>We have key partners and beneficiaries of impact at a wide variety of levels from the nascent to the mature, including international agencies e.g. the European Union, the United Nations Environment Programme, the International Union for the Conservation of Nature (IUCN) and the World Health Organisation (WHO). We work closely with national organisations, such as Public Health England, English Heritage, Community Forest Partnerships, DEFRA and DCLG, the Health and Safety Executive, the National Police Improvement Agency (now Home Office), the Office for National Statistics, the Countryside Agency, English Nature/Natural England, the Environment Agency, and NHS trusts. Other more local partners include economic development companies, Chambers of Commerce, third sector organisations, and community groups. We have strong connections with utilities companies and other private sector organisations. We work closely with our partners to identify questions, methodologies and pathways to impact to maximise the wider benefit of our research.</p> |
| <p>b. Approach to impact</p> <p>Achieving impact is one of the five key ambitions of the University's strategic plan. The University's awards for impact recognised North's Low Carbon Liverpool case study for its civic benefit. The Department works with a wide range of partners to ensure maximum impact in addressing global challenges (e.g. Macdonald's contribution to the IPCC report on the importance of historical information in understanding extreme floods) and local concerns (e.g. Evans and Davies work with local communities on the impact of riots). Our approach to achieving impact is built on an understanding that this is more than the transfer of excellent research from academics to users. Rather, our approach assumes that impact can be co-produced (e.g. Fischer's EC ESPON 2009-11 EATIA project, where a territorial impact assessment framework was developed in collaboration with numerous European stakeholders). Our research is, therefore, developed through transmission of ideas about what issues need to be addressed, methodologies, and the early discussion of what research findings mean for both researchers and users. We support the generation of impact through research groups and a number of support mechanisms. The University's Research Support Office supports the development of 'Pathways to Impact', whilst our Business Gateway helps identify and strengthen research collaborations. We integrate impact into induction and training, including mentoring of early career staff. Staff time for impact-generating activities is also acknowledged within workload planning. We identify high quality pathways to impact in grant applications through internal review and recognise impact-generating activity through personal development planning and progression. We support the RCUK Concordat for Engaging the Public with Research. We secure impact through 'Pathways to Impact' for our research that range from the co-production of research with partners through to the involvement of beneficiaries in advisory groups, workshops to develop and disseminate findings, and practitioner and policy-maker focused outputs and dissemination methods. We work with a range of partners through Research Council funded research (£1,903,950) and RC KE and Follow-On funds (North and Potter, £256,746); research and consultancy with UK central government bodies, local authorities, health and hospital authorities and industry (£329,143); the European Union (£1,744,099) and other overseas partners (£92,006); and University of Liverpool Knowledge Exchange vouchers (£26,000). Of particular note is the Department's success in ESRC CASE studentship awards with Liverpool Vision and Unison (North), a youth-led community radio station (Evans), the Health and Safety Executive and Office for National Statistics (Singleton, Brunsdon), through three EPSRC studentships on coastal nuclear power (Plater, North, Kidd) and through the £2m Centre for Global Eco-Innovation with Lancaster University (Plater, North,</p> |

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Singleton, Brunsdon, Morrissey) that funds 50 PhD students working collaboratively with SMEs on issues around eco-innovation. We also secure sustained impact through continuous engagement with a range of partners, outreach activities, and national and international press, such as BBC Radio 4's *Today Programme*

Examples of research with a strong impact focus (not including those from REF3b) include:

ESPEC. Plater's research on adaptation and resilience of coastal nuclear power is influencing the long term planning of nuclear power stations for partners including EDF energy, the National Grid, the Nuclear Decommissioning Agency. In 2013 Plater was invited to join the Environment Agency's 'Cliff Erosion by Rising Seas' Advisory Board. **Bradshaw** has been working with partners in Scandinavia and the Iberian peninsula to develop better policy on issues around forest fire management. **Macdonald** and **Hooke** have been working with utilities companies, DEFRA and the Environment Agency to improve flood and drought risk management. **Kumar** has been central to the development of methodologies for valuing ecosystem services, and has been seconded to the United Nations Environmental Programme to progress this work.

MPaG. Morrissey has been developing a microsimulation model for co-morbidity with East Kent Hospital Trust that will help health service professionals plan and evaluate early intervention models. **Catney's** work with the Runnymede Trust and Joseph Rowntree Foundation strengthens understanding of changes in ethnic diversity and inequalities in England and Wales, to provide findings based on the 1991-2011 UK Censuses to inform policies for social inclusion. **Kulu** is working with non-academic partners from 15 European countries to understand the appropriateness of policies to support families given life courses in European countries. **Singleton** is working with Google to investigate how cloud-based computation can be used to estimate CO₂ emission rates and is engaged in a project on the impact of internet shopping on high street vitality. **PSCC. Evans'** work has influenced the training of teachers in an alternative model of health education. Work with third sector organisations contributes to public debate about contemporary issues. This includes work with activist groups: e.g. **Davies** (Tibetan activists), **North** (climate activism and the Transition Network) and **Evans** (activists and 'Health at Every Size' practitioners challenging dominant conceptions of obesity in order to develop more inclusive health policies). **SPIA. Fischer** has acted as a Professional Member of the NHS National Institute for Health and Clinical Excellence Public Health Programme Development Group for the NICE guidance on Spatial Planning. Since the early 1990s, **Kidd** supported the Mersey Basin Campaign with a participatory and consensus oriented estuary management plan approach. **Kidd** and **Jay** have been working with the European Union to inform policy on transnational marine planning. **Mell** has been working with partners including DEFRA, Natural England and local authorities to influence policy on green space and green infrastructure. **Fischer** and **Lord** are supporting local initiatives and businesses in the UK, the Netherlands, Belgium and Germany in developing better urban-rural linkages through the EC Interreg Pure Hubs initiative and **Sykes** has supported local campaigns against the demolition of traditional terraced housing areas.

c. Strategy and plans

DGP's Impact Strategy is to **maintain momentum** and develop world class research that has impact through the Department's four research groups by (a) **building on the impact** we have had to date, (b) **maturing relations** with existing partners, and (c) developing **new relationships**. Our **Impact Strategy** will catalyse and support this process by:

- Maintaining, maturing and developing our networks with potential clients and customers to demonstrate relevance and the co-production of knowledge.
- Identifying and supporting business opportunities for commercial sponsorship of collaboration about research/consultancy that contributes to research agendas.
- Encouraging research with partners through knowledge transfer partnerships, knowledge exchange vouchers and CASE studentships.
- Developing faster, more flexible and responsive ways of working with partners.
- Engaging with eminent practitioners, visiting professors and other key policy makers.

Specifically, we will:

- Develop an **Impact Strategy Group** including the School's Impact Champion (**Morse**) and representatives from the four research groups who will become responsible for setting the DGP agenda for impact, promoting good practice, and embedding impact generating activities and practices into more general research group strategies. In particular this group will support colleagues to develop robust pathways to impact statements, maximise impact from their

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projects, and maintain a database of research impacts.

- Hold **Impact and Engagement Away Days** twice yearly to build capacity in the understanding of and ability of staff to engage in co-production as well as training and mentoring. We will involve partners in this.
- **Recognise and reward impact** in workload models and progression.

Within our strategic approach, we will continue to use **funding mechanisms** that emphasise partnership working and the realisation of impact through Knowledge Transfer Partnerships and Knowledge Exchange Opportunities, CASE studentships, and KE vouchers; alongside impact related activities linked to non-KE grants. Impact generating research is planned in the following areas that will form the basis of our impact case studies in future REF submissions:

(1) Using research findings to **inform policy and best practice**: e.g. **Plater's** research is informing policy on adaptation and resilience of coastal nuclear power. **Hooke** is developing practical guidelines for a spatial strategy for soil erosion control using vegetation and on a new Environment Agency and Defra funded five-year programme 'Working with Natural Processes to Manage Flood and Coastal Erosion Risk'. **Morse** will continue his long-standing work on climate driven disease vectors and disease incidence to inform health policy for Public Health England. **Lloyd** will contribute to the 'Beyond 2011' Office for National Statistics consultation on the future of the Census in England and Wales to explain the importance of the production of small area data for evidence based policy making. **Fischer** is working with the Institute of Environmental Management and Assessment (IEMA) on the 'EIA Quality Mark' voluntary Certification Scheme for the Environmental Management industry in the UK. **Potter** is working for the Welsh Government, Defra and the Royal Town Planning Institute to develop models for natural approaches to flood risk management and address the conflicts of floodplain development. **Kidd** is leading the development of the Department's expertise in the emerging sub-discipline of maritime planning.

(2) Contributing to issues of **public debate**: e.g. **Catney** will develop findings from the census to inform policy in response to public concerns about the impact of migration to social inclusion. **Sturzaker** is working with community groups, parish councils, local authorities, DCLG and Friends of the Earth on neighbourhood planning. **Riley** is working with partners from four European countries to develop better policy on farmers' conservation activities. **Burrell** is working with museums to document how migrants remember their homeland and their experiences of migration.

(3) Work with **business and SMEs**, for example **Chiverell's** work with the aggregates industry to develop planning policy, **Potter's** work with SMEs on flood management, and **Plater** and **North's** work with SMEs to develop new low carbon products and services and to reduce their emissions.

(4) Work with **NGOs, community** and **social movements** to **challenge existing conceptions** of how things should be, including work by **Morrissey** and **North** with social enterprises developing policies around gendered poverty and low carbon livelihoods respectively. **Evans** will continue to work with activists to develop alternative models that create safe spaces for fat people, and which centre social justice in policy and 'scientific' approaches to fatness.

(5) **Media work**. We will continue to disseminate our research and contribute to public debate in the print and broadcast media, through blogs, Twitter and other social media, and through the production of outputs in video and radio formats: for example **Evans'** work with local radio station KCC Live and **Heath's** work with Sefton Council on coastal management.

(6) **Providing evidence** to scrutiny committees, policy round tables, working groups and other forums that involve researchers, policy makers and decision takers at International/European, national and local levels on issues of current debate and to influence policy making processes at an early stage.

d. Relationship to case studies

We have selected four case studies that illustrate the range of world-class research that has impact undertaken by the unit from the local to the global, across human and physical geography and environmental studies, and at different levels of maturity from recent impact to that going back to 1992. Our case studies are (1) Modelling climate change-driven malaria transmission vectors; (2) Developing the low carbon economy on Merseyside; (3) Supporting extraction of aggregates and planning decisions through modelling Quaternary geology; and (4) Refining Strategic Environmental Assessment methodologies to take full account of local specificities.