

<b>Institution: Robert Gordon University</b>
<b>Unit of Assessment: 16: Architecture, Built Environment and Planning</b>
<b>a. Context</b>

Research activity undertaken within the unit, whatever the form of the research output (for example papers, books, designs), is typically engaged with real life problems and issues facing society and individuals. Such problems and issues have helped to shape the work of the group and have meant that the research findings and research outputs have in some cases had a significant and demonstrable positive impact. In particular, our work has:

- Helped to shape **external debate** (CARE North, Energetica, North Sea Commission and Interreg, AE Foundation). Energetica (a public private partnership) involved two large industry-focussed interdisciplinary conferences, aimed at informing and shaping the development of policy (e.g. carbon capture and storage).
- Significantly improved **policy** and **practice** with regards to sustainable housing design. This led to changes in architectural practice (Deveci – Scottish Enterprise, Scottish Government), including the use of research outputs as exemplars within government policy and guidance.
- Supported **shifts** in public and industrial **awareness** of environmental issues (CARE North, Build with CARE, eHarbours, CIC Start)

Staff within the unit are engaged widely with external debate, and are often involved in the capacity of external experts and advisers to both the public and private sectors. Therefore, the submitted unit has placed itself in a position where it is able to lead and influence cultural debate, and where a natural extension of the research activity is to help for and find a place within environmental policy, architectural design and improved undertaking of professional practice and practitioner debate.

Specific initiatives undertaken by the group have included:

- Working with municipal authorities from across Europe to improve **awareness** of research findings and encourage **dissemination** within the public sector (through North Sea Region Interreg projects including CARE North, North Sea SEP, Build with CARE, eHarbours). Our work undertaken as part of Build with CARE included the compilation of a comparative baseline study (2009) concerning municipal approaches to sustainable construction across the North Sea Region, which informed subsequent debate within the group.
- The organisation and running of high-level external events. This has included Energetica and Energetica 2, designed to support Local Authorities and Scottish Enterprise, with aspirations to embed **sustainable design principles** in **practice**. A further key example was the organisation of a conference associated with Build with CARE (Aberdeen City/Interreg), including the engagement of external industry partners (2010).
- Engagement with wider practitioner groups at national and international levels to stimulate professional **debate** (World Energy Cities Partnership, AE Foundation),
- Engagement with public, professional and educational groups to encourage **widespread engagement** with the **debate** concerning educational quality and its relationship to society and the environment (Lima-Peru and Valparaiso, Chile *McClean*, Venice Biennale: build our nation *Bassanese*). Notably, McClean's Chilean keynote led to an invited week-long pedagogic workshop, undertaken in July 2013.

A key aim which drives this activity is to engage with and inform the development of policy, practice and design quality. Within this context, the work of the unit is clearly in line with the wider strategic aims of Robert Gordon University itself. In particular, the group remains committed to undertaking

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research which can be readily translated outside of academia into a form which has a positive impact. We have a long track record of working with external partners who are in a position to positively influence the region and the regional community (for example, Aberdeen City Council, Aberdeenshire Council, Scottish Enterprise and Scottish Government). At a European level, we have been fully engaged with research and development activity extending back to framework 4, and including notable work funded by the ERDF and Interreg (e.g. Scottish Traditional Skills, Custodian, Greenspace, CARE North, CARE North+ and eHarbours).

### **b. Approach to impact**

Impact from research undertaken within the unit has been achieved through efforts at both the personal and unit wide levels. Our approach is founded on a desire to stimulate informed debate, so as to positively influence policy, practice and wide awareness of key issues.

Staff within the unit are encouraged and supported to engage fully with external debate, and this often results in staff securing positions within prominent and important external forums. For example, staff have been active within the World Energy Cities Academic Partnership (working with Aberdeen City Council, and partners including University of Stavanger), the European Construction Technology Platform (working as a representative of the RICS), the European Commission (*Deveci*) and through the provision of evidence and support to high-level committees within Scottish government (*Gray*). Taking this approach has enabled our research expertise to inform decision and policy-making, and has facilitated the attainment of impact becoming a key part of the research process.

It is notable that these activities extend across all research themes within the submission. Work within the visualisation theme has often been undertaken in close collaboration with local authorities, and early work of the group was sponsored by Scottish Enterprise. Likewise, practice based research undertaken within the sustainable housing group has, almost by definition, been undertaken in collaboration with private clients and social landlords, whose interest in procuring the design work has often stemmed from a direct interest in its research objectives. Work undertaken within Projects, Processes, Performance (PPP) has similarly aimed to accord with the needs of non-academic partners, including the National Health Service (Department of Health Research Unit). These themes also engaged well with national and regional initiatives, including CIC Start (a partnership across Scotland, engaging with private SMEs) and Energetica (public-private initiative concerning sustainable regional development). Finally, our research group dealing with theory and pedagogy has been extremely active within both educational and professional forums, in Scotland (AE Foundation) and internationally (RIBA, Peru).

The university has encouraged staff to engage in such activity, and our research institutes (which are multidisciplinary and virtual) have facilitated this by supporting both travel and time allowances. Where possible, staff are encouraged to develop and publicise this activity through published research outputs and through other innovative dissemination channels (as evidenced through outputs including those from *Bassanese* and *Moore*).

### **c. Strategy and plans**

The thematic groups included in the submission will together pursue a series of strategic strands of activity in the coming years. The applied nature of our work means that we are naturally in contact with partners from outside academia, but we seek to extend our positive influence through engagement with and instigation of debate, where possible ensuring that this leads to improved practice, or a deeper understanding of complex issues for all parties.

Current research activity includes work funded by the European Commission (FP7 'Concept'), Interreg North Sea Region (CARE North+) and the Technology Strategy Board (KTPs). All of these activities and initiatives include collaboration with either private sector partners or public sector authorities, and the associated methodologies and dissemination plans include a requirement to work with those partners to improve working practice, have a positive impact on

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products and processes and, where appropriate, to improve environmental quality. Specific **goals** within this work include the dissemination and debate of research findings with representatives from the European Commission (CARE North+), and the widespread dissemination of KTP findings to partners in industry. The intention is to ensure that this debate will lead to wide adoption of demonstrated best practice within industry, and become enshrined in policy (at national levels through strategic partnership, and internationally through deep engagement with the North Sea Region and the EU).

Plans for future research activity include a strategy to extend our involvement within EC research activity, including Horizon 2020 (ICT, Inclusive Societies, Transport and Smart Cities). Almost by definition, this will include a requirement for the involvement of SMEs from across Europe, the challenge which we are well prepared by virtue of our track record. The unit has a clearly defined business interaction strategy, which aims to match the academic research based skills and expertise of staff with genuine and current industry need. This is facilitated through a series of focussed activities (including workshops and business breakfasts), and has to date resulted in the establishment of a series of consultancy activities (energy monitoring), a KTP (established 2013) and a directed postgraduate training programme aimed at the energy sector.

**d. Relationship to case studies**

We present two case studies within the submission, each of which exemplify the real and tangible ways in which our research impacts on society and the environment outside of academia. The first case study, dealing with the design of sustainable housing through practice-based research, demonstrates the important relationships between a robust research methodology and the extent to which research outcomes might be recognised and embraced by decision and policy makers. The second case study, dealing with visualisation and design evaluation, describes an area of research which has benefited greatly through the long-term engagement with, and involvement of, external partners including local authorities and national government, and which through both debate and high level publication has managed to greatly influence policy and public awareness.

The case studies describe work which has engaged directly with external partners in both the public (Local Authority and National Government) and private (house building, private education provider) sectors. Within each case study, there is a clear relationship between the thematic context of the work, the academic research, and the impact. The research findings have been able to reach a significant range of beneficiaries due to the applied nature of the research questions, methods and collaborative approach taken by the group. The significance of the research was assured through the matching of external relevance to research capability at the research design/proposal stage.

In each case study, we have demonstrated how there has been a very clear recognition by the research team of the importance of working with partners from outside of academia. From a perhaps slightly different perspective, we have also been able to observe how working with partners from outside of academia can often lead to serendipitous impact which could not have been foreseen, specifically, that the research planning stage. Examples of this include the developing national awareness of practice-based research within our submission, which stems not from one project, but from a growing body of work. Likewise, our long-term involvement with local and national partners within the public sector has ultimately led to our participation in the development of local sustainable transport plans, although the long-term relationship emanated from a range of high-quality research projects representing urban design, public participation and of course transport itself.

Recognition of this has been important to the group as a whole, as it encourages staff involved in the research activity to consider the long-term potential impact of the research on society, in addition to the shorter term and perhaps more controllable academic impact. The case studies have in turn helped to inform our approach to research impact as an ongoing activity, as they demonstrate a path to the formulation of beneficial links between academia and wider society.