

<p>Institution: University of Dundee</p>
<p>Unit of Assessment: 16 Architecture, Built Environment and Planning</p>
<p>a. Context</p> <p>Practice-based and policy-based research lies at the heart of the impact strategy of the Architecture + Planning Unit [hereafter AP]. This research benefits local, national, and EU government policy makers and planners with interests in governance, homelessness, poverty, and socially sustainable planning and resource management; practitioners in the architecture and planning professions and their professional bodies who benefit by increased competitiveness and best practice examples; and the building industries looking for innovative solutions to problems of housing. Our impact strategy [cf. b. below] is divided into 4 categories: 1. Direct partnering with non-academic stakeholders; 2. Outreach activities; 3. University support; and 4. Other.</p> <p>Impact types</p> <p>The principal 'spheres' of impact and the beneficiaries thereof include:</p> <ul style="list-style-type: none"> • Improvements to the natural and built environment. This impact type involves staff in design practices and staff who work on evaluation and governance in the environment. Examples include Onyango's work on strategic environmental assessment; Alwaer's SuBETool master-planning protocol and Burford's macromicro unit on zero carbon housing, leading to improved management of natural resources and environmental risk and changes in architectural design standards and practice. These projects typically have secondary economic and commercial impacts leading to improved professional practices. [examples, cf. section b] • Enhancements to creativity, culture and society. This impact type also includes buildings. Hutton's buildings have enhanced cultural understanding and informed public attitudes about buildings in the landscape and urban-scape, due to the publicity they have attracted. • Improvements to public policy and services, where beneficiaries are European, Scottish, and local governments, public sector organisations, and groups of individuals. This impact type involves most planning staff, including Illsley's work for the European commission [MPHASIS], Peel's research on governance, policy, and planning practice.
<p>b. Approach to impact</p> <p>1.0 Approaches to Impact: Direct Partnering</p> <p>AP encourages practice-led research collaborations, which facilitate knowledge transfer to non-academic users. This avenue to impact depends upon individual staff contacts, but the unit promotes these contacts by making practice and consultancy time available for staff and by fostering public engagement and other contacts with government, industry, and the professions. cf. Geddes Institute below. Direct partnering is categorised as follows:</p> <p>1.1 Research commissioned by public authorities or research directly with public authorities and public interest groups. Illsley's MPHASIS Project [Mutual Project on Homelessness through Advancing and Strengthening Information Systems] for the EU informed the Peer Review in Social Protection and Social Inclusion, 2010, and the European Consensus Conference on Homelessness, 2010. In answer to a written question in the European Parliament in 2012, the European Commission representative stated that MPHASIS had 'promoted the development of national information systems on homelessness and proposed improvement of the capacity for monitoring homelessness and housing exclusion'. Beneficiaries include national and regional governments and homelessness service providers. Other examples of this impact type include: Illsley's study for TAYplan Strategic Development Plan Authority, which involved knowledge transfer to local authorities, key agencies, and indirectly, to local communities; Gopinath and Hutton's research for the Scottish Government on Design Coding for the town of Tornagrain, involving knowledge transfer to local authorities; and Gopinath's action research in the slums of Kerala, in which he worked directly with local communities.</p> <p>1.2 Research commissioned by private clients. Hutton's design research consultancy with architectural practice LJRH Chartered Architects has been cited as an 'inspirational design' exemplar by RIAS, Scottish Government, local planning authorities, and the popular press. Beneficiaries include LJRH, the architectural profession internationally which has been informed by</p>

his work, and the general public for whom this work has raised the debate about appropriate architectural responses in natural environments. [cf. **Constructed Landform Case Study**]

1.3 Research directly with building industries and suppliers to develop innovative design solutions to existing and future problems. Burford has developed this approach, first with the Light Weight Structures Unit during RAE 2008 [prototyping tensile fabric technologies for the MOD], and currently with the **macromicro** unit [prototyping low energy sustainable housing]. This unit has developed an innovative student-staff-industry design-build team involving 8 [collaborating](#) institutions and 28 in-kind construction materials [contributors](#), which has built a zero energy live-work unit. Beneficiaries include the building materials and green technology industries that have donated materials, equipment, and technology, in exchange for testing and marketing; the world at large will benefit by a less carbon intensive world.

1.4 Research directly with design professionals who have benefited by increasing their competitive power, both nationally and internationally. Alwaer's research with the Hilson-Moran Partnership, an Architecture and Engineering consultancy with offices in the UK, Dubai, and Doha, developed the [SuBETool](#), a new sustainability assessment method. Beneficiaries include Hilson Moran, who use it in their international planning practice, and local communities which benefit by being provided with better planned neighbourhoods. [cf. **SuBETool Case Study**]

2.0 Approaches to Impact: Outreach & the Geddes Institute for Urban Research

The Geddes Institute is the primary AP outreach vehicle, with its programme of symposia and exhibitions for showcasing research in planning, design, and theory, and for bringing the public and non-academic practitioners in contact with each other and with our research. The Geddes programme includes support for publicity, and post-event [Reports](#). Examples include:

- the [Landworkers exhibition and symposium](#) co-sponsored by the RIAS and the DCA (Dundee Contemporary Arts, Dundee's premier exhibition venue) in 2009, on landscape art and architecture, which generated public debate about land-based culture and identity [**Spens**];
- the Geddes Institute [Task Force on Cities & their Regions](#) (2009) which brought local and Scottish government planners and architects together to set out planning priorities for the sustainable development of Scotland's 6 cities [**Holm**];
- the [Geddes/A+DS symposia](#) (2010, on-going) on community-led master-planning with participation by Scottish Government and local authority planners, planning policy experts, and other planning industry stakeholders [**Alwaer**];
- **symposia convened to build interdisciplinary grant application teams** that include local authorities and other non-academic users, e.g., AHRC Beyond Text proposal '[RE:Mixing the city](#)', shortlisted 2009, £500K [**Holm**]; Leverhulme Programme bid, 'Untying the knots of environmental desire', submitted 2013, £1.3m [**Holm**].

3.0 Approaches to Impact: Direct University Support

There are two primary avenues of University support: outreach and investment.

3.1 University outreach Staff impact is supported by the provision of University-wide vehicles, facilities, resources, and expertise. Staff contribute to the University's programme of public lectures to non-specialist and non-academic audiences (Dundee Science Festival, Science Café, Culture Day) which raise public awareness of research. University External Relations and CASS communications staff [the CASS newsletter *Insight*] have publicised Geddes Institute and other research events that bring our work to the broader public. Staff participate in research forums run by the Centre for Environmental Change and Human Resilience, a joint initiative between the University and the James Hutton Institute. CECHR supplements the outreach activities of the Geddes Institute. Staff participate in issue-specific vehicles like *5 Million Questions*, a public forum to debate Scottish independence, and *Pollinate*, a forum convened to respond to funding calls.

3.2 University investment The University supports projects by taking a direct role in their financial and legal frameworks. The University has invested in the **macromicro** live-work unit [cf. 1.3] by donating a site and by providing indemnity insurance and start-up funding against future income as projected in its business plan. The University has invested in the SuBETool [cf. 1.4] by providing legal support in areas of intellectual property and professional indemnity insurance, for what is, in effect, a business partnership with Hilson-Moran.

3.3 University 'environment' Impact is supported at University, College, and School levels, by a dedicated Research & Innovation Services [RIS] team; a public University repository [PURE];

Research Committee feedback on papers, book proposals, grant applications and mentoring.

4.0 Approaches to Impact: Other

4.1 Staff participate in government and industry sponsored competitions and exhibitions, as a venue for showcasing research and engaging the building industries. Examples include **Thurrott's** houses designed to Passivhaus standards built for the Highland Housing Expo [2010].

4.2 We have developed our 5th year MArch and the taught post grad MSc courses to support staff research as impact avenues. **Burford's macromicro** studio is the test bed for design solutions and the forum about which manufacturers, practitioners, and academic researchers convene to review results [2011, ongoing]. **Hutton's** MArch studio is working on design solutions for the Dundee waterfront, for the Dundee Council Director of Development [2012, ongoing]. **Alwaer's** Geddes/A+DS symposium programme [cf. section b 2.0 above] was built in response to the pedagogic needs of his taught MSc in Advanced Sustainability.

c. Strategy and plans

We aim to make real changes to the environment and to the ways we think about the environment.

1. We are continuing to develop the Geddes Institute as our principle impact vehicle: from a proven networking platform with a policy/planning agenda; to a centre of excellence for environmental research that has the capacity to draw together in a single synoptic view, the expertise and actors for direct partnering projects involving humanities, design and development of the built environment [**Holm, Hutton, Illsley**]. We are internationalising the Geddes Institute with contacts in Europe and the Middle East [**Alwaer**]. The Geddes symposium and exhibition programme, is expanding into humanities and design research [cf. section b 2.0]. The Institute is promoting an annual public exhibition of research in partnership with the Dundee Guildry [beginning 2013], whose aim is to raise the level of public knowledge and debate about the built environment, which was one of Patrick Geddes' dreams.

2. Staff are expected to seek RCUK funding for their research, which carries a commitment to ensuring impact for awards. We recently submitted grant applications with non-academic partners for research in areas of low energy housing, sustainable master-planning, and health care environments. Research in intellectual culture, by history/theory staff, whose innovative work is highly esteemed in the discipline, but whose impact has been difficult to quantify, has been built into two Leverhulme Programme applications with outward facing agendas. This represents a change in how we build impact into projects, because currently, most research is funded internally or by industry in-kind contribution, A variation on this approach was **Illsley's** MPHASIS project [cf. section 1.1] which included a provision for evaluating the impact of previous research.

3. With a rising trajectory of direct partnering projects, University direct investment [cf. b 3.2 above] will become an increasingly important form of support for impact. We are expanding University involvement into other forms of direct partnering. In the case of design consultancy [cf. b 1.2 above], we are exploring ways to quantify consultancy as an 'in-kind contribution' to research income so that it is on an equal financial footing with other forms of funded research.

d. Relationship to case studies

Both impact case studies, **Constructed Landform** and **SuBETool**, explore the impact potential of practice-led research. The impact involved knowledge transfer to architecture and engineering consultancies, and also benefitted client/user groups and the public whose environments have been enhanced. For each Case, impact was supported differently. For **Constructed Landform**, where the work issued from **Hutton's** design research consultancy, the University recognised the work as research and released staff time. For the **SuBETool**, where **Alwaer** consulted with Hilson Moran, the University provided legal support and the Geddes Institute provided the forums in the planning community for critique and evaluation of the new methods - hosting Hilson Moran staff in Dundee and sending **Alwaer** to London. The Case Studies taught us that there is scope for addition legal and business support by the University [cf. section c.3]. These Cases were chosen because they represent the spectrum of impacts in the Unit, across design and planning. We expect that direct partnering projects under the Geddes banner will consolidate these research and impact strands in the future. As noted, these Cases represent only part of the AP strategy for impact, for they were achieved with little direct public funding, although the public has been one of their beneficiaries. We also aim to augment these impacts through grant funded research.