Global Challenges Research Fund (GCRF) Event
Supporting research growth and showcasing University's projects

Sustainable Cities and Communities

Dr Katharine Willis, Associate Professor, Art, Design and Architecture, Plymouth University
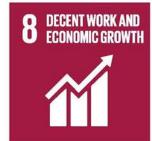
SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS

Sustainable Cities and Communities

SDG11 Targets – by 2030

- Adequate housing
- Sustainable transport
- Sustainable urbanization through participatory planning
- Protect and safeguard heritage
- Economic impact of disasters
- Environmental impact of cities (air quality and waste)
- Access to green and public spaces
- Links between urban, peri-urban and rural areas
- Risk management
- Sustainable and resilient buildings

Sustainable Cities and Communities

"Sometimes the media gives us the impression that we (cities) are terminal patients.

And the people, they don't understand that they could change this situation for the better if they could act locally in a city.

Cities are not problems. They are solutions."

Jaime Lerner
Urban Planner and former mayor, Curitiba, Brazil

Sustainable Cities and Communities

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Energy

- Urban transformation in South Africa (ESRC/Newton) CoI (PU) Stephen Essex
- eViz - Energy Visualisation for Carbon Reduction (EPSRC) PI Sabine Pahl, CoI Pieter de Wilde
- EnergAware (EU) PI Alba Fuertes

Transport

- South West Smart Applications Ltd (SWRDA) Lead- Andrew Seedhouse/Jon Shaw

Green Space

- Stepping Stones to Nature (PCC/multiple funders) PI Janet Richardson
- Tagscape/Rate My View (AONB) PI John Martin

Urbanisation/Smart cities

- Smart Urbanism Network (ESRC) CoI (PU) Alex Aurigi
- Whose Right to the Smart City (AHRC) PI Katharine Willis
- Digital Neighbourhoods (EU/Industry sponsorship) PI Katharine Willis
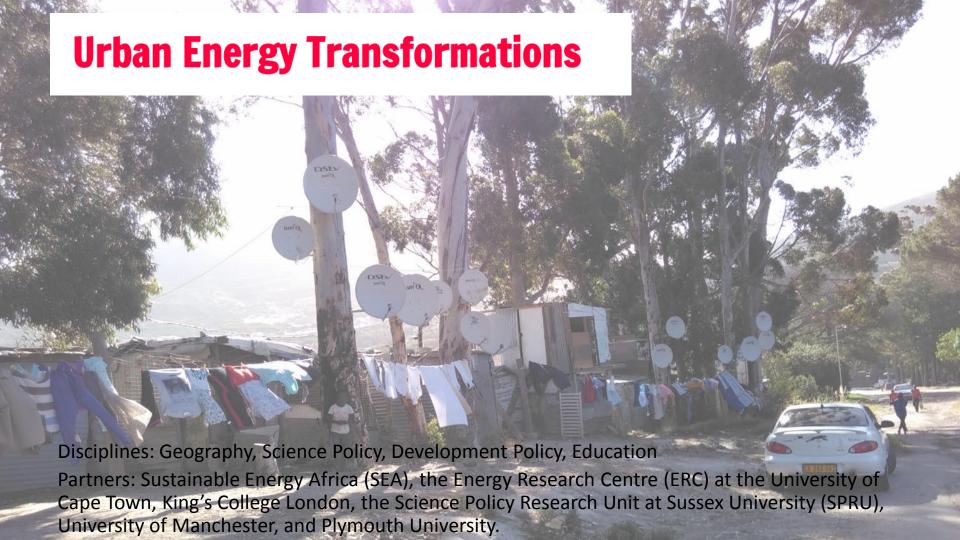
Digital innovation

- Qualia

Sustainable Cities and Communities

Case study of three PU projects:

Urban Energy Transformation

EnergAware

Whose Smart City?

ODA countries; India, Brazil, South Africa

Urban Energy Transformations

Disciplines: Geography, Science Policy, Development Policy, Education

Partners: Sustainable Energy Africa (SEA), the Energy Research Centre (ERC) at the University of Cape Town, King's College London, the Science Policy Research Unit at Sussex University (SPRU), University of Manchester, and Plymouth University.

EnergAware

Disciplines: Architectural Engineering, Computing, Game Development, Construction, Energy

Partners: Universitat Politecnica de Catalunya, ISEP - Engineering School of the Polytechnic Institute of Porto, Fremen Corp, Devon and Cornwall Housing, EDF Energy, Advantic System

Whose Right to the Smart city?

Disciplines: architecture, urban planning, urban studies and ubiquitous computing
Partners: Plymouth University (UK), University College London (UK), Universidade Federale de Minas Gerais (Brazil) and Civic Action Group(India).

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Sustainable Cities and Communities

Our strengths:

Knowledge transfer and interdisciplinary working
Building partnerships with multiple stakeholders
Working with deprived communities

Our Expertise:

- Building energy performance and resilience
- Benefits of access to green space
- Urban energy provision
- Digital inclusion
- Smart cities
- Creative digital applications for communities