



CIBSE ASHRAE 40th Anniversary Seminar Introduction and Welcome

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BSEER



UCL Energy Institute | UCL Institute for Sustainable Resources |

UCL Institute for Sustainable Heritage | UCL Institute for Environmental Design and Engineering





2020 Vision

Building Performance – life cycle, whole building approach to design, operation and maintenance
Knowledge

1st
ranking UK
university

for **research** strength
(Research Excellence Framework, 2014)

UCL's Faculty of
Built Environment:
The Bartlett

most world leading
research in its field
in the UK
(Government REF 2014)

**UCL Energy
Institute**

7 years old
33 projects
50 staff
160 publications p.a.

7th

in the world's
top 10 universities
(QS World University Rankings, 2015)

**Institute for
Environmental
Design and
Engineering**

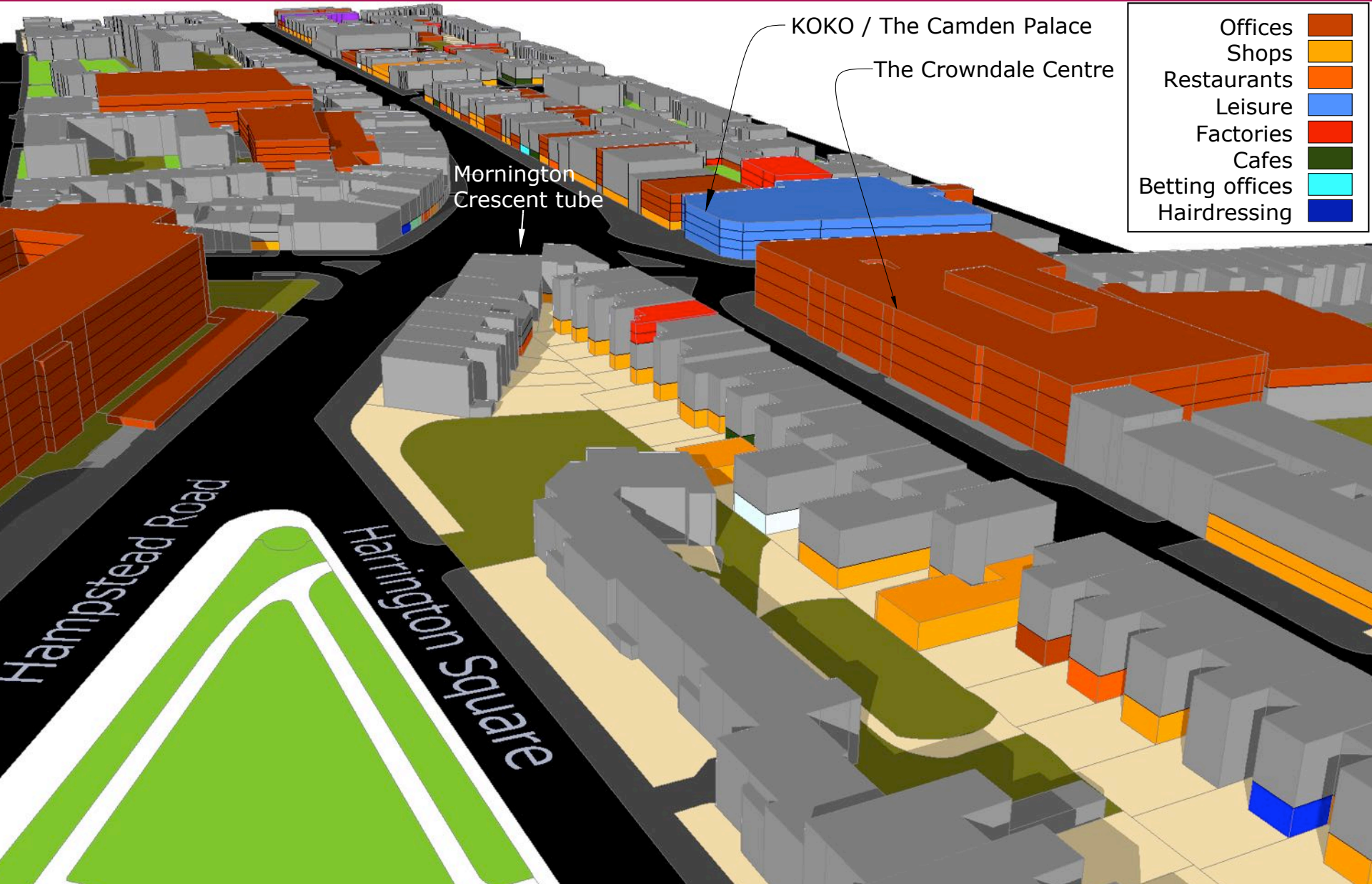
Celebrating 50 years
of UCL teaching EDE

Our Institutes are:

- multi -
disciplinary
- real not virtual
- research led
teaching

Pioneering Interdisciplinary Research Methods

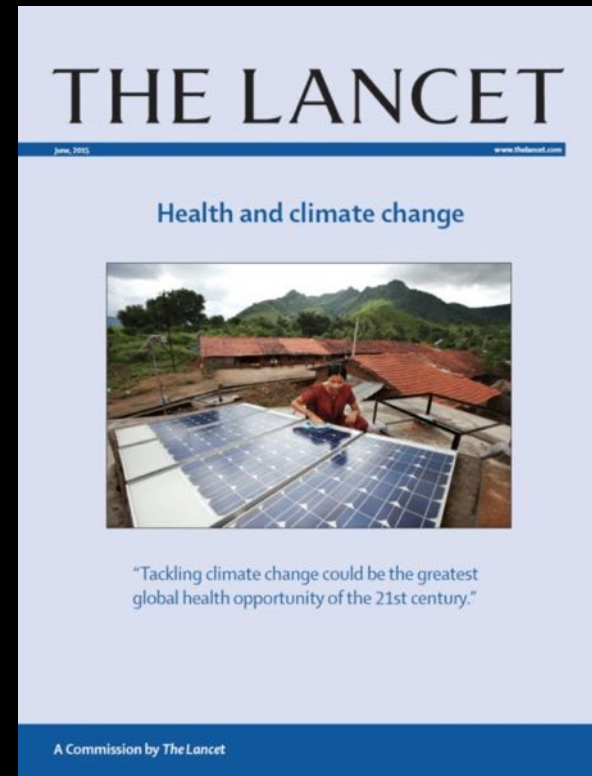
- **Total Building Performance** – linking: health, comfort, energy
- **Energy Epidemiology** – IEA Annex 70 – Big Data Analytics
- **Participative Systems Dynamics**
- **Innovative smart systems and artificial intelligence**



Impact Case Study: Performance

Impact Case Study: Healthy Buildings

- Energy Efficiency on Prescription
- Energy policy cost health benefits as part of policy evaluation



1.8 million downloads in the first 6 days! 983 unique media coverage BBC World, ABC, TIME, Financial Times and Wall Street Journal. 4th highest ever published by the Lancet. Briefings to the White House, UK Cabinet Office and DECC. Presentations on COP21 in Paris.

Masters in Engineering and Architectural Design

Graduates will have the knowledge, understanding and skills to be world leaders in designing and developing resilient buildings that deliver both excellence in use and low environmental impact.



Gennaro Senatore (EngD student) - scale prototype of adaptive structure in the form of a very slender space truss

“The geographical distribution of fossil fuels unused when limiting global warming to two degrees” C McGlade and P Ekins, Nature, 8 January 2015.

The Carbon Brief

Globally



52% of natural gas reserves

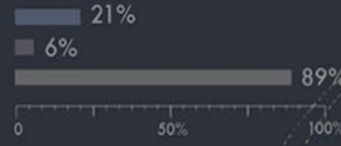


35% of oil reserves

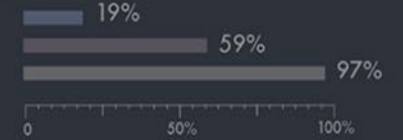


88% of coal reserves

Europe

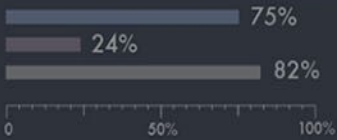


Former Soviet Union countries

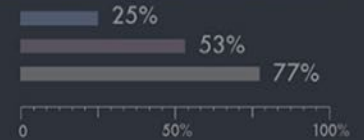


How much oil, gas and coal will we have to leave in the ground to stay under 2 degrees of warming?

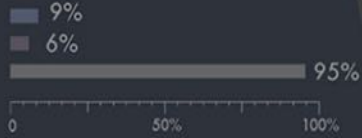
Canada



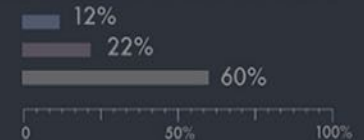
China and India



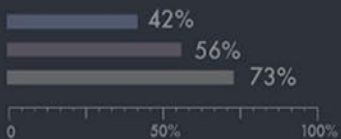
US



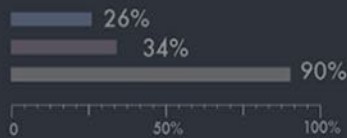
Other developing Asian countries



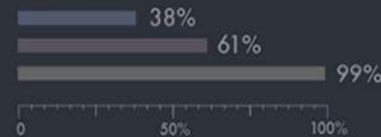
Central and South America



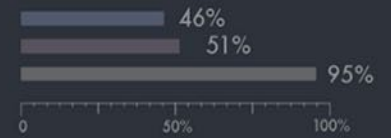
Africa



Middle East



OECD Pacific



Top climate paper in 2015 for news and social media: Nature’s fifth most cited article

Welcome from Jeremy Bentham



- Philosopher
- Education as the key to reform
- Utilitarianism, 'the greatest happiness of the greatest number'
- 'International'

