We use cookies to ensure that we deliver the best user experience of our website. If you would like to, you can change your cookie settings at any time. Continue



# Energy and the Environment

Energy generation and demand has the potential to affect all parts of our environment, from ecology and hydrogeology to atmosphere and air pollution. These effects are felt differently in urban and natural environments, and we have a degree of control over how we design and adapt our cities to minimise negative impacts and to cope with our energy infrastructures.

Our Air Pollution Group in the School of Geography, Earth and Environmental Sciences, is carrying out extensive work looking at chemicals and particulates found in emissions from industrial processes and transport react in the atmosphere and the implications this can have on health and well-being.

We are also carrying out research in the areas of hydrogeology and biogeochemistry in relation to nuclear energy looking at the potential fate of radionuclides in ground water environments.

The way we design the urban environment, and the way emissions react within a city setting is another key strand of work. We also have projects within our School of Computer Science dedicated to analysis of energy use and heat loss from buildings.

Our environmental research complements our policy and technical expertise and allows us to make responsible energy choices, and to be aware of the implications of human activity.

**Wind energy structures and infrastucture**
Wind energy is the fastest growing sustainable power generation all over the world. The UK leads almost any issue of wind energy technology.

The research activity of the Chair of Sustainable Energy Systems, School of Civil Engineering contributes to these efforts by means of the research performed by its staff that is focused on the improvement of the wind energy structures and infrastructure design.

Specific topics of the research under performance are the use of high strength steel (HSS) for wind towers, innovative connections joining the tower parts, application of micropiles as foundation for new generation wind energy structures and Life Cycle Analyses of wind energy structures.

The research on wind energy structures is carried out by the group of Structural Engineering of the School of Civil Engineering coordinated by **Professor C Baniotopoulos (/staff/profiles/civil/baniotopoulos-charalampos.aspx)**

**Contact: Dr Dan van der Horst**

## Study with us

- The School of Geography, Earth and Environmental Sciences offers a range of geography degrees for undergraduates, please see the school pages for more details.
- A number of Masters degrees are available with direct links to some of these topics, including
  - **Applied Meteorology and Climatology MSc (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/gees/applied-met-climatology.aspx)**
  - **Air Pollution Management and Control MSc/Diploma (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/gees/air-pollution-mgt-ctrl.aspx)**
  - **Enterprise, Environment and Place MSc/Diploma (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/gees/enterprise-environment-place.aspx)**
  - **Hydrogeology MSc (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/gees/hydrogeology.aspx)**
  - **Public and Environmental Health Science MSc (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/gees/public-environ-health-science.aspx)**
  - **River Environmental Management MSc (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/gees/river-environ-mgt.aspx)**
  - **Science of Occupational Health, Safety and the Environment MSc/Diploma (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/gees/science-occupational-health-safety-environ.aspx)**
  - **Human and Environmental Health Impacts of Nanoscience and Nanotechnology MRes (http://www.birmingham.ac.uk/students/courses/postgraduate/combined/gees/human-environ-health-nanoscience-tech.aspx)**

Enquiries about doctoral research in the fields of **Geography and Environmental Sciences (http://www.birmingham.ac.uk/students/courses/postgraduate/research/gees/geog-environ-sciences.aspx)** or **Environmental Science and Risk Management (http://www.birmingham.ac.uk/students/courses/postgraduate/research/gees/environmental-sci-risk-mgt.aspx)** are always welcomed, please contact the relevant schools with any enquiries or use our **Find a PhD (http://www.birmingham.ac.uk/students/courses/postgraduate/findaphd.aspx)** service.

© University of Birmingham 2014