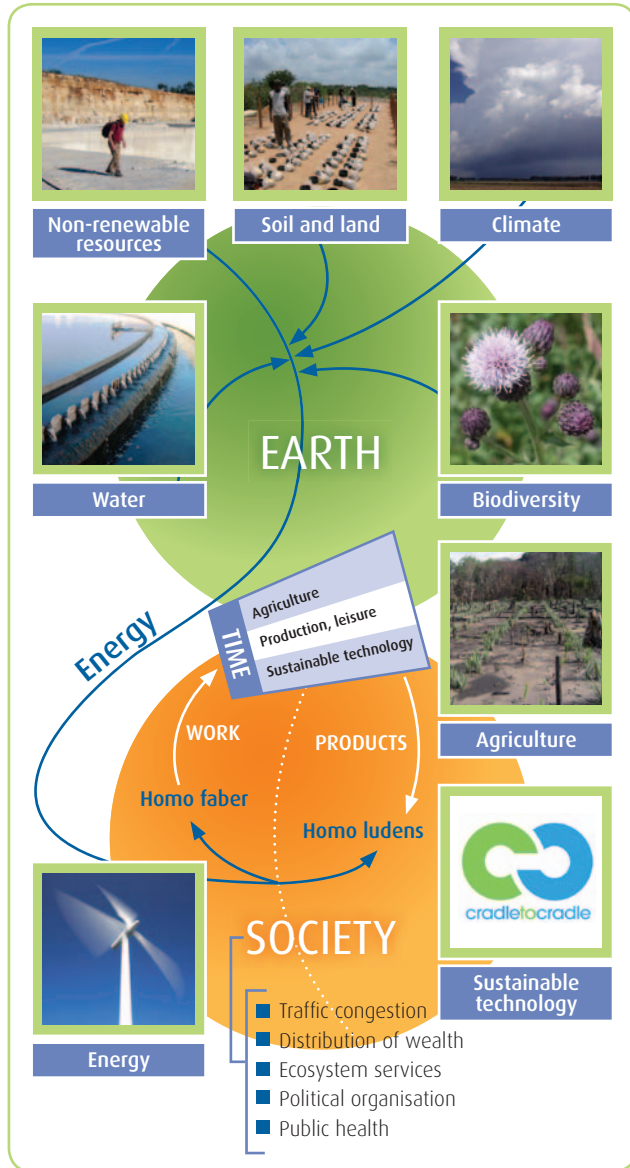


Themes



Scientific methods for sustainable Earth studies

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Leuven
Sustainable
Earth RESEARCH CENTRE



Research for
a sustainable
future



Sustainable development is the ultimate challenge for the first half of the twenty-first century. To provide an acceptable life standard to a population of 9 billion people in 2050 will only be possible if we succeed in combining technological development with sustainable management of renewable as well as non-renewable natural resources. A crucial factor in this is the societal context.

The Leuven Sustainable Earth Research Centre (LSUE) was launched to make a difference in this development. LSUE combines fundamental and applied scientific research in a multitude of disciplines with sustainability as its central focus. Apart from achieving necessary critical mass under one virtual roof, LSUE also aims to enhance chances of cross-pollination, and to stimulate innovative, integrated research in cooperation with its Flemish, Belgian and International partners.



Research themes

Biodiversity

- Aquatic & terrestrial ecology
- Evolutionary biology and eco-evolutionary dynamics
- Paleo-ecology and systematics
- Nature & forest conservation and management
- Habitat fragmentation and global change biology

Climate

- Regional climate modelling
- Impact, mitigation and adaptation studies for terrestrial and aquatic ecosystems
- Paleo-climatology
- Ecosystem carbon sequestration
- Climate and development cooperation

Energy

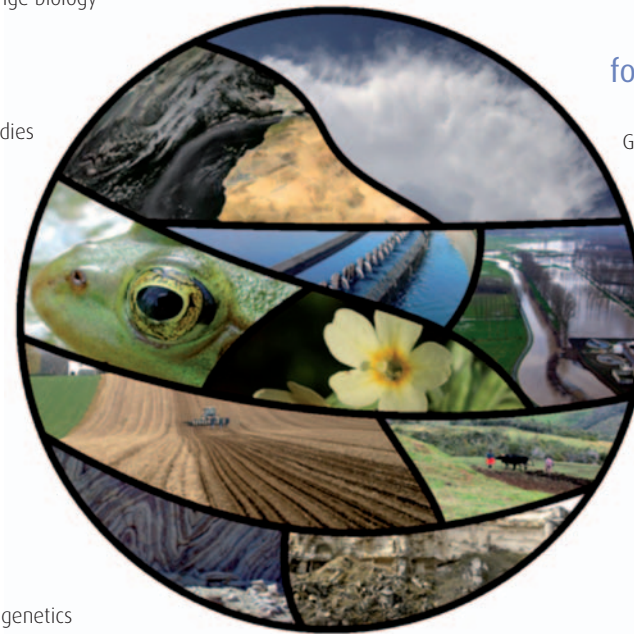
- Energy generation systems
- Energy use in transport
- Low energy housing options
- Quality and cost of energy supply
- Smart grids

Sustainable food and biomass production

- Animal & plant production systems & genetics
- Biofuels & green chemistry
- Food and biomass value chains
- Ethical aspects of food production

Society – environment dynamics

- Socio-economic driving forces of land use changes and impacts
- Interactions between tectonic, climatic and land use changes and societies
- Transition management & governance for sustainable development
- Community-based mitigation and adaptation to climate change
- Site-geoarcheology



Geosystems and natural resources

- Exploration and exploitation of natural resources
- Igneous petrology
- Geotechnical aspects of infrastructure and subsurface storage
- Heavy metal and metalloid pollution near mining sites

Scientific methods for sustainable Earth studies

- Geographic information systems
- Geospatial data research & technology
- Spatial data infrastructures
- Decision support for spatio-temporal land management

Soil and land

- Land evaluation
- Risk assessment of contaminants
- Soil chemistry & soil physics
- Carbon sequestration
- Soil fertility & soil conservation

Sustainable technologies

- Sustainable building & living
- Sustainable transport systems
- Sustainable production
- Ecodesign and life cycle engineering

Water

- River, urban, coastal and estuarine hydrology and hydraulics
- Hydrogeology and groundwater management
- Atmospheric processes
- Agricultural water management
- Aquatic ecology and ecohydrology
- Sediment transport and erosion
- Economic and sustainable management of water resources
- Water quality technology