



INSTITUTE
OF BIOLOGY

A response from the Institute of Biology to the Environmental Audit Committee inquiry: “Greener towns for the future?”

25 April 2008

Summary

- We welcome this new inquiry as it gives the Government an opportunity to avoid making the same type of mistakes it has made with biofuels. Truly sustainable urban development is more than a collection of “zero-carbon” housing.
- We argue strongly that a policy that purports to be environmentally sustainable must:
 - be based on the best possible scientific evidence,
 - take that evidence from a broad base across all aspects of ecosystem function and the earth system as identified by the Millennium Ecosystem Assessment (MA¹) and recognised in Defra’s Ecosystem Approach² (i.e. don't just focus on CO₂ emissions when other factors are relevant and important too), and
 - be willing to change if new evidence shows that it is creating perverse incentives that are environmentally damaging, or is insufficient to achieve the stated aims.
- We believe that the planning regime is currently unfit for the purpose of taking full account of environmental impacts of house-building on our environmental assets. The Ecotown initiative, although a step in the right direction, falls well short of what could be achieved given a spatially explicit environmental asset inventory and model of ecosystem goods and services – i.e. maps of natural capital at a resolution sufficient for making decisions at scales starting with national planning all the way down to individual dwellings.
- **We recommend** that the Ecosystem Approach is adopted in assessing and reducing the environmental impacts of planning decisions.

¹ www.millenniumassessment.org/en/Index.aspx

² www.defra.gov.uk/wildlife-countryside/natres/eco-actionp.htm

Comments and recommendations

1. The following questions need to be asked regarding the intention to build new urban development, and the Ecotown aspirations:
 - How is the desire to achieve “One Planet Living” to be reconciled with the intention to build 3 million new homes by 2020 in a biophysically credible and robust manner?
 - On what biophysical basis are urban development plan decisions in general, and Ecotowns in particular, made?
 - Why is the entirety of environmental assets, on a spatially explicit (i.e. mapped) basis not taken into account in this process?
 - What is the degree of robustness of the demographic and economic models upon which the house building plans are made, in comparison to biophysical models which suggest that we have already exceeded their environmental limits?
2. The Ecotown initiative, as currently formulated, provides little in the way of improving ecosystem efficiency and reducing the ecological footprint in terms of the “One Planet Living” vision, outside of the very narrow focus on zero-carbon. **We recommend** that such plans be set in the context of all environmental assets, on a hydrological catchment basis. Also provision for urban food production needs to be more prominent in the decision making process.
3. Zero-carbon housing will make a contribution to reducing ecological footprints, provided that the role of micro-generation (including adopting “feed-in tariffs” as in Germany) and off-site pre-fabrication are properly addressed.
4. Truly sustainable urban development is more than a collection of “zero-carbon” housing.
5. Any gains in carbon-saving could be lost by non-sustainable transport links – public transport is key in delivering the Ecotown agenda, but The Department for Transport doesn’t seem to be engaged with it in a meaningful way.
6. More attention needs to be paid to “retrofitting” as this will still form the large majority of the housing stock by 2050 even if the Governments new house building targets are achieved.
7. **We recommend** true co-ordination between Government departments: principally an integrated approach between DCLG, Defra and DfT is essential, and there are opportunities for synergy with DIUS for a new research agenda, feeding into DBERR for commercial opportunities arising, and DoH and DCSF informing the sustainable development agenda. And that’s just nationally.
8. **We recommend** that a spatially explicit map of our environmental assets, ecosystem services and their interactions and valuation at sufficient resolution is developed as an essential step to allow truly sustainable urban development and redevelopment. Such data is currently patchy or too low a resolution for the individual dwelling scale, but could be produced to be used to assess development impacts at the hydrological catchment level.
9. **We recommend** that the planning regime adopts this approach and gives proper recognition to the fact that there are biophysical constraints and limits to development. Currently, the planning regime does not protect environmental assets, their interactions and off-site impacts adequately.

10. Green belt designations are a crude tool, and do not offer a full degree of protection from development. Having said this it is likely that intensively cropped Green Belt land provides fewer ecosystem services than properly developed sustainable urban development – but neither should be assessed in isolation. Green Belt development should be subject to the same rigorous biophysical test as suggested above for urban development. The urban/rural divide is invisible in terms of ecosystems and their functions and **we recommend** that Government recognises this in developing and implementing policy for land use in general.
11. Much could be achieved by adopting Defra’s Ecosystem Approach³ across Departments as a first pass at understanding and reducing environmental impacts of development proposals. **We recommend** that this approach is adopted.
12. If handled properly the UK stands to benefit as a world leader in research and application in integrated environmental and socio-economic based development decision making.

Institute of Biology

The Institute of Biology (IOB) is an independent and charitable body charged by Royal Charter to further the study and application of the UK’s biology and allied biosciences. We have 14,000 members and many specialist learned Affiliated Societies. We are a member of the Biosciences Federation, established in 2002 to represent the UK’s biological expertise.

Openness

The Institute of Biology is pleased for this response to be publicly available and will be placing a version on www.iob.org/policy once we have the committee's permission to do so. For any queries about this response, please contact Dr Barbara Knowles, Head of Science Policy, Institute of Biology, 9 Red Lion Court, London, EC4A 3EF, email: b.knowles@iob.org

³ www.defra.gov.uk/wildlife-countryside/natres/eco-actionp.htm

Annex

Societies Affiliated to the Institute of Biology

Anatomical Society of Great Britain & Ireland
Association for Radiation Research
Association for the Study of Animal Behaviour
Association of Applied Biologists
Association of Clinical Embryologists
Association of Clinical Microbiologists
Association of Veterinary Teaching and Research Work
British Association for Cancer Research
British Association for Lung Research
British Association for Tissue Banking
British Crop Production Council
British Ecological Society
British Inflammation Research Association
British Lichen Society
British Marine Life Study Society
British Microcirculation Society
British Mycological Society
British Society for Ecological Medicine
British Society for Cell Biology
British Society for Medical Mycology
British Society for Neuroendocrinology
British Society for Plant Pathology
British Society for Proteome Research
British Society for Research on Ageing
British Society of Soil Science
Fisheries Society of the British Isles
Freshwater Biological Association
Galton Institute
Institute of Horticulture
Institute of Trichologists
International Association for Plant Tissue Culture & Biotechnology
International Biodeterioration and Biodegradation Society
International Biometric Society
Laboratory Animal Science Association
Marine Biological Association of the UK
Nutrition Society
Primate Society of Great Britain
PSI - Statisticians in the Pharmaceutical Industry
Royal Entomological Society
Royal Zoological Society of Scotland
Scottish Association for Marine Science
Society for Anaerobic Microbiology
Society for Applied Microbiology
Society for General Microbiology
Society for Low Temperature Biology
Society for Reproduction and Fertility
Society for the Study of Human Biology
Society of Cosmetic Scientists
Society of Pharmaceutical Medicine
UK Environmental Mutagen Society
Universities Federation for Animal Welfare