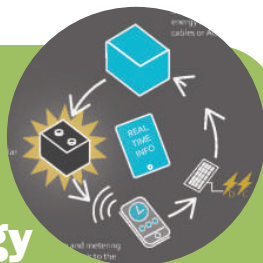


Smart power & Smart community energy



The project explores new approaches to maximising the on-site use of the high-density photovoltaic power generated in new housing developments. The project used the 393-home NW Bicester Eco-Town Exemplar as a case study.

Funder: Technology Strategy Board

Green Deal Pioneer Places



The project enables the establishment of a Green Deal network of local assessors and installers in Bicester. 100 homeowners and seven businesses received free Green Deal Energy Assessment Reports 14 homes and four businesses underwent Green Deal-type retrofits completely free.

*Funders: Department of Energy and Climate Change
& Cherwell District Council*

Rethinking the building process



The Bicester Eco-Town Process Improvement Toolkit (BEPIT) is a four year research project based at the Eco-Town Exemplar. The approach enables systemic process failures in technologically innovative build systems to be detected and resolved. Learning from each stage will be captured in a toolkit for wider dissemination across the wider building industry.

Funder: Technology Strategy Board

Partners

Oxford Institute for Sustainable Development (OISD) is a multi-disciplinary research institute comprising eight research groups, based within the Faculty of Technology, Design and Environment at Oxford Brookes University. Established in 2004, OISD is regarded as one of the largest academic research institutes in the UK dedicated to research on sustainable development in the built environment.

BioRegional

We work with partners to create better places for people to live, work and do business. Our ambition is simple. We want our practical projects to inspire people to live happy, healthy lives within the natural limits of the planet, leaving space for wildlife and wilderness.

Key stakeholders

Cherwell District Council and A2Dominion

Other stakeholders

Bicester Town Council, Oxfordshire County Council, Bicester Vision, OCVC, Bicester schools, Good Homes Alliance (GHA), Green Building Council, Technology Strategy Board, Bicester Vision, Bicester Chamber of Commerce

Contact us

Prof. Rajat Gupta

Co-director of Living Lab

Director of OISD
Oxford Brookes University
rgupta@brookes.ac.uk

Nicole Lazarus

Co-director of Living Lab

Senior Programme Manager
BioRegional
nicolel@bioregional.com

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**Eco-Bicester
LIVING**



A collaborative initiative by
Oxford Institute for Sustainable Development
and BioRegional



- Promote Bicester as a centre for excellence in research and innovation.
- Develop a test-bed of innovative solutions in sustainability at all scales.
- Provide rigorous academic evaluation of sustainability initiatives in Bicester.
- Capture learning for continuous feedback and improvement.
- Enable knowledge sharing with industry, policy-making and voluntary sectors.

www.bicesterlivinglab.org

About Eco-Bicester Living Lab

Towns and cities are complex social, economic and physical systems. For this reason they are the logical centre for sustainable action and change. The Eco-Bicester programme in Bicester provides a test-bed for a range of sustainability measures. With a 20 year program of construction, retrofit and resident engagement, there is a tremendous opportunity to learn about what works, trial different solutions, learn interactively, capture the learning and then tell the story.

The Eco-Bicester Living lab (EBLL) captures the learning and innovation that is happening in Bicester through knowledge-sharing that integrates users as co-creators. Further innovation and R&D projects will be developed and evaluated at different scales, focussing on sustainability in all its dimensions, including cultural and socio-economic issues, in order to transition to a sustainable society. Lessons learned are fed back locally to benefit Bicester and also shared with the wider communities. The EBLL initiative will not only provide Bicester with evidence-based learning and innovation, but also contribute to transforming Bicester into a sustainable and exceptional place to live and work.

About Eco-Bicester

Eco-Bicester programme led by Cherwell District Council covers the creation of a 6,000 home extension and a range of social, economic and environmental projects within the existing town so that it benefits from the major expansion and becomes a better, more sustainable place to live, work and do business.

About NW Bicester

North West Bicester (NW Bicester) is a ground breaking project led by developer A2Dominion to create the first eco-town in the UK. Once complete it will provide up to 6,000 sustainable new homes in Bicester, Oxfordshire. The first phase of this pioneering development is known as the Exemplar and currently the construction of 393 highly energy efficient homes is under way, creating the UK's first true zero carbon community. The scheme will be a net provider of energy; creating more energy than it uses.

Projects to date

Design for Future Climate

This project has developed robustly-tested, technically-feasible and practical climate change adaptation strategies for the first Phase of NW Bicester Eco-town development comprising of 393 homes. Using dynamic thermal simulation, future weather data and workshops with design team and clients, the extent of climate change risk (mainly overheating) was established and adaptation measures were deployed to future proof the development.

Funder: Technology Strategy Board



Invest in Innovative Refurbishment

Celebrated historic buildings like the Bicester Town Council building (also called Garth) usually come with high fuel bills and often low comfort levels for building users. The building has been upgraded with a continuous insulating layer inside the entire building along with secondary glazing. Automated vents, windows and roof-lights were installed to offset summer overheating issues in the building. The expected energy savings (50%), CO₂ reductions (30%) and environmental conditions of the building are being systematically monitored to evaluate the success of the innovative refurbishment measures.

Funder: Technology Strategy Board



Building Performance Evaluation of Bryan House

The Bryan House scheme (Code for Sustainable Homes Level 4) is an exemplar eco-development promoting the Eco-Bicester brand. The performance evaluation of two case study dwellings involved the review of systems and fabric performance, energy and environmental monitoring and occupant feedback. Findings reveal the effectiveness of the fabric first approach and the importance of undertaking continuous commissioning of systems and services.

Funder: Technology Strategy Board



Carbon mapping Highfield, Bicester

DECoRuM carbon mapping enabled a community group in Highfield to evaluate the potential for improving the energy efficiency of their housing stock, rapidly, and on a house-by-house level. Through a series of workshops carbon mapping was used to provide feedback through suggested measures and helped residents visualise the potential impact of energy use reduction on carbon emissions and fuel bills.

Funder: Department of Energy and Climate Change

