

7. A Connected Smart Community

Technology is recognised as an important part of making Didcot a better and more sustainable place to live. The project team has worked with industry professionals to explore how technology should be incorporated throughout the masterplanning process. Chapter 7 sets out the work that has taken place so far.

7. A connected smart community

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7.1 Technology



7.1.1 Technology

The application of technology in the Didcot Garden Town

Didcot Garden Town will deliver technology-enabled projects that are financially viable and sustainable. Technology will contribute to Didcot's future growth, while making it a better place for residents to live and businesses to thrive. Being viable, the projects will not require access to open-ended public sector funding.

The technology projects will be managed using proven financial and operating models. Pilot schemes can be used to introduce new and experimental projects. Once user demand has been established, there will be the potential to scale up operations to a point where they can generate income through value added services. Essential services could then also be delivered at significantly lower cost than through existing models.

The Opportunity

Many of the smart city principles are being embodied in the UK Government's garden town initiatives. However, the following important considerations remain unaddressed in these approaches;

- It is not always clear how the benefits of technologies proven 'fit for purpose' in demonstrators can be scaled and commercialised into everyday life
- Many of the benefits from applied technology have not been realised because projects have been planning and/ or policy led. This poses a challenge since, by definition and consequence, technology implementation becomes an afterthought having to flex around fixed points of reference which are

unmodifiable at late stages

- Achieving the benefits from the application of new technology is often costly or difficult, as it often involves retrofitting new technologies to existing processes and structures
- Since technologies can have high up front costs, it is often difficult to convince development partners to invest in new technology

These issues can be addressed if industry and the public-sector work together to realise greater benefits from new technology, by considering how new technology can be integrated into all proposed projects within the garden town.

The Didcot Garden Town approach

South Oxfordshire and Vale of White Horse District Councils have decided to make the most of this opportunity by adopting a new way of working with some of the world's leading technology innovators. This involves working with technology providers to help them deploy new technology into an existing local market, on a commercial basis.

In the earliest stages of master planning, the councils have engaged technology providers to identify services and solutions that are viable, sustainable, deployable town-wide. There was a particular focus on energy, mobility, environmental sustainability, smart build and big data.

The aim is to deliver garden town benefits to community, visitors and organisations that are scalable, future-proofed and designed into projects at the start - not as an afterthought. This approach of involvement from the start has generated enthusiasm

from private companies to participate, since the established model of asking commercial organisations to contribute free of charge to demonstrator projects is producing 'engagement fatigue'. This is partly as with demonstrator projects there is no clear route to market and the timescale for creating a financial return is unclear.

To aid the delivery of new technology and increase its contribution to the garden town, a strategic partnership is being formed with Robert Bosch Holdings UK Ltd (Commonly known as Bosch) & Siemens plc. This strategic partnership has been formed because both companies:

- a. possess expertise that encompasses different aspects of the range of applied technologies relevant to a garden town project
- b. were quick to recognise the new approach being adopted by South Oxfordshire and Vale of White Horse District Councils and realise the opportunity this created for playing an active role in future development of Didcot Garden Town
- c. recognise that working with the district councils to deploy new technologies in Didcot Garden Town is essential if they are to be successfully delivered in such a way that they can also be introduced elsewhere in the UK and internationally, as the marketplace establishes itself.
- d. have voiced their intent to do more in Oxfordshire and regard their presence and engagement in the garden town

project, as an opportunity to deliver real benefits for Didcot residents

Whilst these companies are distinct entities operating separately to each other in the marketplace, there are leadership, management and organisational synergies and compatibilities. The compatibilities, in support of delivering a garden town project, encourage them to collaborate

“More and more people are moving to cities for work, adventure and a better quality of life. To accommodate these growing urban populations, the need for more efficient infrastructures has never been greater. We need to develop smart and resilient cities for the future, ensuring its people are at the heart of city development. These connected cities are interactive communities where everyday life is easy and efficient and people are in tune with each other and their city.

Bosch is proud to join forces with South Oxfordshire and Vale of White Horse District Councils, helping them to make Didcot Garden Town a vibrant and sustainable place for people to live. To become a leading example of a connected city of the future, with enhanced convenience, security and energy efficiency through intelligently connected solutions. A smart city that not only improves quality of life, but also the economic efficiency of cities themselves.”

**Steffen Hoffmann, President,
Robert Bosch UK**

strategically with public sector partners.

The partnership with Bosch & Siemens is not exclusive. Didcot Garden Town is seeking and considering how best to agree strategic partnerships with other technology innovators in the public, private and academic sectors

Acknowledging the science pedigree of Oxfordshire with its world ranking universities and research institutions, it is not surprising that Science Vale has a wealth of spin-outs, start-ups, & small and medium sized enterprises (SMEs) that are intent on commercialising ‘first to market’ discoveries in a range of relevant technologies to a garden town project.

Given the critical contribution that SMEs make to the UK, regional & local economies, Didcot Garden Town will actively seek to encourage these innovative SMEs to play a key part in the development of supply chains for the technology-enabled projects which will benefit the garden town.

Didcot is situated in the crucible of the UK’s ‘Big Science’ capability with the world renowned centres of research excellence at Harwell Campus, Culham Science Centre and Milton Park. The UK Space Gateway at Harwell hosts a formidable cluster of space enterprise as well as the European Space Agency and the Satellite Applications Catapult. The vibrancy of this cluster is creating a magnitude of ‘downstream’ satellite applications with relevance and benefit to a connected and smart garden town. A formal letter has been received by the Didcot Garden Town team from the European Space Agency confirming that the cluster offers access to this expertise and capability. Culham is likewise an important global centre

of excellence for the development of fusion technology and Milton Park is home to a major cluster of globally significant biotechnology companies.

None of the planned strategic partnerships implicitly or explicitly confer any contractual promise of supply chain relationships. They are being entered into with a clear understanding that any future public body sourcing opportunities which may arise will be subject to transparent and fully accessible procurement policies, rules, evaluation and decision making procedures.

Care has been taken from the earliest engagements with industry to ensure provision frameworks will bring forward compatible ‘open solutions’ proposals, that will avoid Didcot becoming locked in to proprietary technology products.

Activities completed to date

Two extensive workshops have been held with public, private and academic technology experts and practitioners to establish an open solutions based understanding of the: near-term (2016-2026), mid-term (2016-2031) and long-term (2026-2031) products and solutions which can deliver benefits and outcomes to Didcot through programs of sustainable commercialisation over these time-frames.

These products and solutions include:

- E-bikes
- Public WiFi
- 5th generation mobile networks
- Driverless vehicles
- Mobility as a Solution (MaaS)
- Connected ticketing services
- Dynamic mobility model
- Intelligent traffic infrastructure
- Intelligent parking management

- Environmental sensors
- Smart home technology
- Energy networks
- District heating

Current activities underway

The garden town team is working with industry to identify exemplar programs where the vision, scale of enterprise, and delivery of outcomes and benefits from technology implementation is similar to the aims and ambitions of Didcot Garden Town.

This process has identified two examples, one on the west coast of the USA and the other in Southern Germany.

The US example is a new town currently under construction on a brown field site. At its completion, this new town will house approximately 60,000 residents. This example offers valuable learning points for Didcot from the perspective of new residential growth within brown & green field developments, on a similar scale to that proposed under the garden town vision.

The second exemplar is an established historic town of 100,000 inhabitants in Southern Germany. Here the City Mayor and municipal authority are working with government, businesses, academia and its citizens to evolve itself as a smart town based on a sustainable city development concept. While doing so they aim to not lose the essence of its past or compromise the elements of the town which its citizens value. Underpinning this project is a strategy based on a benchmark study with 35 living labs around the world, where projects are tested in real world environments.

Next steps

In the next stage the delivery team shall focus on the work that connects the vision for the application of the technology to the products and solutions which can deliver benefits and outcomes to Didcot.

This work requires the development of supporting strategies. For example, in the first work phase of the garden town project, Mobility as a Service (MaaS) has been identified as a near-term solution. Its implementation requires a mass transit solutions strategy for Didcot Garden Town and its area of geographic influence to be written and agreed with relevant partners including Oxfordshire County Council's transport team.

Similarly connected ticketing is a near-term product. Its benefits can be fully realised by delivering it as part of an integrated transport strategy for Didcot Garden Town which will be developed and agreed with relevant stakeholders.

Since the exemplar projects mentioned are at a more advanced stage to the Didcot Garden Town, it is a sensible idea to use these experiences to inform the Didcot Garden Town team on the development of the supporting

strategies plus the key required outcomes from the next phase of work such as:

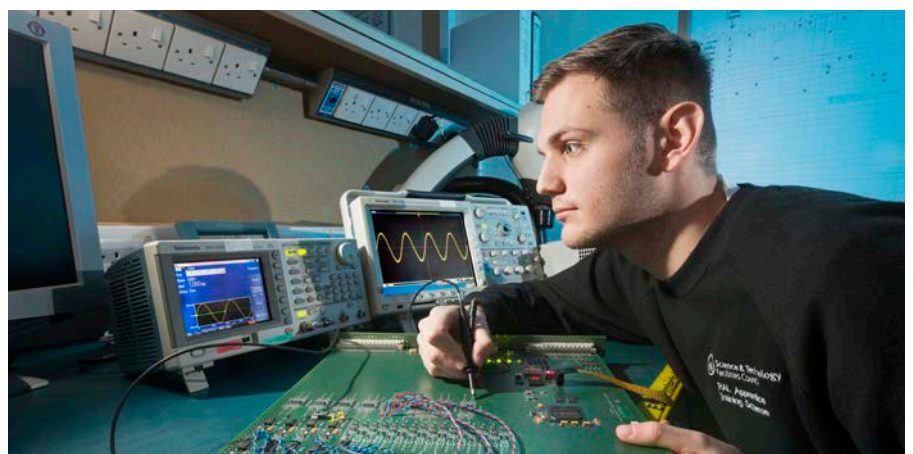
1. Program management frameworks that tie the vision to the separate technology projects
2. The overarching digital platform strategy

Industry partners working with the identified exemplar projects are offering to facilitate introductions for the Didcot Garden Town team. It is anticipated that meetings will be set up in the near future to progress these networks, relationships and actions.

At the same time the garden town team will seek external specialists in these areas to advise and contribute expertise in the next phase of the project

“Siemens endorses the Didcot Garden Town project which embraces innovative super-green technology/ Siemens is keen to work with Didcot Garden Town to develop sustainable transport systems, renewable energy networks and new housing models”

Professor Paul Beasley, Head of R&D UK, Siemens plc



Apprentice Max Williams © Stephen Kill

7.1.2 Smart town case studies

Ludwigsburg living lab

Ludwigsburg is a German town of 100,000 residents near Stuttgart with an innovative strategy to transform the quality of life through technology. Since 2004, the municipal administration, town council and the citizens of Ludwigsburg have developed a series of masterplans to address future challenges such as congestion and air quality. The town council is now creating a living lab within Ludwigsburg with an ambitious range of projects. A recently formed team of industry project managers and

technical specialists is initiating pilot projects which will be evaluated by academic researchers as they extend over time across the town - starting for example with installing parking sensors for on-street parking.

Ludwigsburg's masterplan identifies many of the same principles as Didcot Garden Town including making the town an attractive place to live with better green infrastructure, improving the diversity of cultural life, encouraging a more vibrant town centre, enabling the local economy and supporting local businesses. Ludwigsburg's masterplan

also focuses on mobility, transport and energy. Social themes of health, education, social and care for the elderly are also themes shared by both Ludwigsburg and Didcot residents.

There are striking similarities between Ludwigsburg and Didcot's aspirations to transform their environment through science and technology and the two towns could potentially become partners, sharing knowledge and learning, as living labs become real life.



Ludwigsburg Palace ©Simon Sees

San Francisco shipyard residential development

This 800 acre brown field site is equidistant between downtown San Francisco and San Francisco International Airport and in the catchment area for Silicon Valley company workers. With plans for 12,000 new technologically advanced smart homes, the development is dedicated to creating a vibrant new community with spaces that enhance wellness and celebrate nature alongside digital apps to connect and assist new residents.

Approximately half of The San Francisco shipyard is reserved for open space, including parks, marshes, grasslands, and beaches - these native spaces provide a welcome respite from the bustling environment of the city beyond. The development will offer residents a wide array of thoughtfully designed and sustainably landscaped pocket parks, as well as outdoor fitness equipment, bike racks, dedicated parking, transportation shuttles, acres of parks and trails, and a diverse array of public artworks.

The San Francisco shipyard regeneration project is similar in scale and aspiration to Didcot Garden Town with its mix of new houses and green infrastructure - the proximity to world leading centres of scientific innovation and technological excellence is a key differentiator for both. The way technology has been incorporated into the design of the houses and the development of the new community makes San Francisco shipyard a valuable case study for Didcot Garden Town.



Oxford smart city

The Smart Oxford initiative is overseen by the Oxford Strategic Partnership, a set of collaborating organisations from across the public sector (Oxford City and Oxfordshire County Councils, NHS and Police), academia (University of Oxford and Oxford Brookes University), business (e.g. Unipart) and voluntary and community organisations (e.g. Oxfordshire Community and Voluntary Action) and is focused on the city of Oxford but includes projects across Science Vale.

The vision of Smart Oxford is of a city where innovative ideas, active citizens, and aligned stakeholders come together to co-create a better Oxford. Oxfordshire has challenging environmental, transportation, social and housing problems, but also the capacity and capability to develop, test and deploy the technologies that can help address them.

The aim of Smart Oxford city is to build a stronger, safer, economically and environmentally sustainable city, to help its people to identify and be part of city solutions, to provide a

testbed for world class researchers and innovators, to generate growth and jobs, to advance economic & social prosperity, and to help improve the quality, effectiveness and efficiency of city services.

Didcot Garden Town is already engaging with Smart Oxford city on potential projects related to mobility, energy and adult and social care and will also be able to benefit from the extension of successful projects initiated elsewhere in the county.



Oxford Network © Nominet



Oxford Network © Nominet



Oxford station bicycle park © Bill Imlah

Trent Basin Nottingham

Trent Basin is brownfield regeneration development by Blueprint (a joint venture between Aviva Investors' Igloo Regeneration Fund and Nottingham City Council) creating a new waterside neighbourhood of low energy contemporary homes and apartments which offers residents an innovative way of generating and supplying heat and electricity to homes.

The proposal is to generate, store and distribute energy at a neighbourhood level. Homeowners at Trent Basin will

be invited to participate in the project and by doing so achieve savings of up to 30 per cent in energy costs. The Project is being supported by £10m of investment, primarily from Innovate UK and is backed by a consortium of leaders in this field including Blueprint, Nottingham and Loughborough Universities, Siemens, AT Kearney, SmartKlub and others.

The benefits of community energy are lower costs and more efficient use of distributed renewables to reduce the overall carbon emissions from the energy system. Technologies to be

employed include photovoltaic panels and communal battery stores and ground source heat pumps.

Didcot Garden Town heatmapping and energy masterplanning project will study the Trent Basin case study and determine whether the benefits of this technology is applicable to Didcot.



Trent Basin apartments © Blueprint Trent Basin



Trent Basin houses © Blueprint Trent Basin

7.2 Sustainability projects

7.2.1 Sustainable fuels for fleet vehicles

One of the aspirations of the masterplan for Didcot Garden Town is to provide projects which are sustainable. With this in mind a number of projects are being considered to support the infrastructure of the garden town as it grows and develops.

With a growing town there will be a need to increase the infrastructure support which includes the council services and vehicle movements that are required to provide those services. This would be expected to also increase fuel consumption and pollution. It is recommended that the council introduce sustainable fuels for fleet vehicles with following benefits:

- Alternative fuels generally have lower vehicle emissions that contribute to smog, air pollution and global warming
- Most alternative fuels do not come from finite fossil-fuel resources and are sustainable
- Alternative fuels can help nations become more energy independent

Cumbria County Council –
'Power to the People' (Cumbria UK)

An initiative was introduced by Cumbria County Council, to provide initially 15 electric cars and a countywide electric vehicle infrastructure. With support from the Energy Saving Trust, the council introduced electric vehicles to its car pool, which provided the catalyst for the installation of 36 charging stations across the county. As well as serving the council's fleet the charging points provide power for residents, businesses and visitors at a competitive rate. The results of this project were to reduce the pool car fleet emission by 24 tonnes and to reduce the price per mile by up to 60 per cent. By also providing a comprehensive low-price electric vehicle charging infrastructure across the county it also has a ripple

effect on individuals, businesses and organisations which can all consider the potential of electric vehicles.

Fleet of Biomethane Buses in Reading (Reading, UK)

Reading Borough Council's local transportation plan includes the goal of addressing air quality issues. Reading Transport Ltd. were awarded the tender for a ten bus service contract, with a minimum requirement to meet the Euro IV emission standard. The fleet makes use of alternative fuelled vehicles using new compressed natural gas (CNG) powered buses.

CNG is typically produced from fossil-fuel sources, but in this case it is bought as a biogas and is a renewable

fuel source produced by the farming industry. The buses use mains gas which is then dried and compressed at the bus depot. The bus company buys the equivalent of the gas it has used from a certified bio gas supplier who feeds 'their' gas back into the mains.

A major advantage of using CNG over the Euro V diesel buses was the reduction of harmful tailpipe emissions including particulates, which are negligible for CNG. Estimates from Reading Transport are that nitrogen oxides emissions of their fleet of biomethane buses are 30 per cent - 50 per cent lower than comparable Euro V diesel buses.

As well as low emissions the buses are smoother and quieter than conventional diesel engine buses.



New lease of life for Holyhead Rd © Bromford

7.2.2 Innovative Technology and Small Scale Installations for Renewable Energy

In Didcot Garden Town, there are opportunities to introduce small scale installations for renewable energy, either through installations on existing buildings or within new developments. In order to make the use of sustainable energy more widespread, engagement of communities will be required, including households and businesses.

Wadebridge Renewable Energy Network – WREN (Cornwall, UK)

Key to achieving the low-carbon vision is to teach communities how to generate their own energy and use it more efficiently, demonstrating the tangible financial, environmental and social benefits involved in moving to a low-carbon economy. WREN was founded as an Industrial and Provident Society for Community Benefit in April 2011, with the goal of persuading the community to install renewable energy and energy efficiency technology. Local economic and employment benefits have proved to be a strong argument in favour of sustainable energy, with rapid take-up over the past two years in Wadebridge, summarising:

- 10 per cent of the local population are WREN members
- Over 340 kilowatt peak solar photovoltaic (PV) and 500 kilowatt (kW) renewable heat installed as a direct result of WREN’s work
- Over 5 megawatt peak of solar PV and over 500 kW biomass installations influenced by WREN
- Total installed PV is supplying over 10 per cent of Wadebridge’s electricity demand

- WREN’s direct work resulted in over 480 tonnes/ year CO2 savings, with a further 3,300 tonnes/ year through work they have influenced
- Over £300,000 a year being earned or saved through installations instigated by WREN
- Significant level of engagement of all sectors of the community, convinced by the economic and employment benefits of renewable energy

Princess Alexandra Hospital - Harlow, Solar Panels (Harlow, UK)

The roof of the Princess Alexandra Hospital in Harlow, Essex now has what is believed to be the largest array

of solar panels currently in the NHS. The savings achieved by the solar panels and new efficient boilers equate to a reduction of 8,000 m³ of gas and 16 tonnes CO₂ per year.

The solar panels heat up the sites water prior to it reaching the boilers, therefore, the boilers have to do significantly less work. This has resulted in a 50 per cent reduction in the number of times the boilers have to fire up to heat the water to the safety levels for the control of Legionella, hygiene, ‘safe’ hot, cold and drinking water systems. At optimum operation levels, 40-50 per cent of the buildings



Wrights hydrogen fuel cell bus, First. London © Sludge G

7.2.3 Rainwater and greywater harvesting to be installed in new homes

New technologies like rainwater harvesting and greywater recycling enable us to reduce the water consumption by using resources that are mostly available to all of us – coming from the roof or draining from our showers, baths and hand wash basins. It is more problematic to introduce these systems as retrofit projects, but it is recommended that they could be introduced at the new developments within Didcot Garden Town.

Social housing scheme, Cheltenham (Gloucestershire, UK)

The inclusion of the rainwater harvesting enabled the client to achieve Level 4 of the Code for Sustainable Homes.

The system is designed around a single 18,000-litre tank supplying all 13 properties on the site. The harvested water is pumped to a small individual

header tank in each dwelling. The header tanks are designed to always take water from the rainwater store as long as it is available, but will then automatically revert to running from mains water if needed. The central controls for the system are securely housed within an external, insulated and lockable enclosure and run from the landlords' power supply.

This provides an ideal solution for such a situation, as each property has its own independent back-up from the mains water supply, the header tanks require no power and the controls are tamper-proof and are only accessed by the landlord or the maintenance contractor.

10 East Road, Shoreditch (London, UK)

Use of greywater recycling system for 10 East Road, a ten storey building containing 42,000 square feet of high

quality office space.

The greywater system will supply all toilets and urinals with water captured from hand basins and showers. Supply and demand will be approximately in balance, saving 50 per cent of the water usage in the building. Valuable BREEAM (world leading sustainability assessment method) points were achieved for the planning process and the end users will make substantial savings on running costs.

The filter will process 1,000 litres per hour and will be supplied from a 2,000 litre pre-tank. Processed water, sterilised by a chlorine dosing system, will be stored in a 2,000 litre post-treatment tank. Water will be sterilised again by an ultra-violet unit as it is drawn off for use.



7.2.4 Water saving devices

It is strongly recommended that water saving devices should be installed as standard in all new build properties and also be retrofitted in existing properties within Didcot. This would have a double benefit of reducing the water consumption, but also reducing the foul water discharge. This would alleviate concerns around both the water supply and sewage water treatment capacity within the region.

Park Plaza Westminster Bridge
London (London, UK)

Park Plaza Hotel, Westminster Bridge London, has trialled water efficient technologies and new management practices. A free water efficiency advisory visit, through the Rippleffect initiative, demonstrated that the hotel's focus on water efficiency was achieving impressive results.

The hotel's estimated water savings were 85,000m³ which was saving

the hotel £112,500 per year. Its water consumption of 79 m³ per bed-space per year compared very favourably with a typical benchmark of 125 m³.

Amongst the hotel's key actions to save water were:

- Installation of water efficient shower-heads (1,200 low-flow shower-heads fitted, using 7.5 litres per minute and saving 7 litres per minute)
- Installation of a food waste digester (Food waste digester eliminated need for the hotel's seven macerators, which ran for over 12 hours per day, each using 15 litres of water per minute)
- Water re-use (harvesting of water from laundry and swimming pool to use for flushing of staff toilets)



Tintinhull garden - hose pipe © Elliott Brown

7.2.5 SuDS schemes

Drainage systems can contribute to sustainable development and improve the places and spaces where we live, work and play by balancing the different opportunities and challenges that influence urban design and the development of communities.

SuDS mimic nature and typically manage rainfall close to where it falls. SuDS can be designed to transport surface water, slow runoff down before it enters watercourses, they provide areas to store water in natural contours and can be used to allow water to soak into the ground or evaporated from

surface water and lost or transpired from vegetation. SuDS schemes should be implemented at all new developments in line with the local plan.

Revenswood, Ipswich (Suffolk, UK)

The developers of this housing scheme designed the site so that all surface water run-off is drained through a combination of soakaways and infiltration basins. Using SuDS, there is no discharge from the site up to the 1 in 100 year storm - the equivalent of

6600m³ storage.

Over its lifetime, the scheme has the potential to save £600,000 in construction compared to a traditional piped drainage system. Individual homeowners are also eligible for refunds of their sewerage charge.

Houses and driveways are connected to individual soakaways and roads are drained by a piped system that discharges to infiltration basins running along the main boulevards.



Infiltration basin at Ravenswood

1. Grassed base of infiltration basin
2. Vegetated bank, opportunities for play whilst feature is dry
3. Native vegetation and naturalistic aesthetic creates exciting and dynamic landscape feature
4. Natural surveillance of amenity space as opposed to fencing off the facility

Sidwell Friends Middle School (Washington DC, USA)

The masterplan and site design at Sidwell Friends School includes a central courtyard with a constructed wetland designed to utilise storm and wastewater for both ecological and educational purposes.

The plan integrated water management solutions into the landscape, inextricably linking the building to its site. The wetland becomes a ‘working landscape’, using biological processes to clean water while providing students with a vivid example of how such systems work in nature.



Sidwell Friends Middle School © Andropogon Associates 2011

1. Surface water run-off passes through a series of terraced rain gardens;
2. Access and seating provided within the SuDS feature;
3. A variety of vegetation types are planted within the terraced areas;
4. Clean, treated water flows to a pond at the end of the system.

Sharrow School, Sheffield (South Yorkshire, UK)

Sheffield’s newest Local Nature Reserve is the first in the country to be located on top of a building, designated due to its ecological importance and value to the local community.

The 2000 square metre roof was designed to represent the variety of habitats found in Sheffield – Peak District limestone grassland, wildflower meadows, urban brownfield and a wetland area with a small pond. Bird tables and insect feeders attract wildlife and a weather station and webcam have been installed to provide research opportunities.

The substrate consists of over 200 tonnes of crushed brick, organic greenwaste and limestone. Some areas were planted, while other areas were left to see what grew naturally.

Green roofs are a useful technique for providing above ground attenuation in the flood plain.



Green Roof at Sharrow School

1. Access to the roof provided by designated and protected walkway
2. A range of habitats have been created by varying the type and depth of substrate across the roof
3. Habitats created include limestone grassland, urban brownfield and a small wetland area
4. Anchorage points at edge to allow safe maintenance

7.2.6 Resource recovery hub with reuse shop

It is recognised that there is a need within Oxfordshire to provide a new Household Waste Recycling Centre (HWRC) and this is an opportunity to provide an enhanced service by creating a resource recovery hub which would include the HWRC together with a reuse shop and community initiatives including 'fix-it' cafés.

Household waste recycling centre and reuse shop, Leeds

Leeds City Council area has nine HWRCs including the East Leeds HWRC at Seacroft, which was identified as a redevelopment priority. The redeveloped site included a reuse shop which was opened along with the site in August 2011.

The reuse shop was only offered to the third sector, allowing for a wider range of social benefits. After bidding the winner was Revive Leeds and although

the contract was for a lease, in reality it was a partnership approach. The overall aim was to cover the costs of the centre so that no costs were incurred by the council. The shop needs to earn around £2,000 per week to break even, with the aim to achieve around £3,000. It has two full time and two part time staff, with volunteers and young people completing community payback to help unload, sort and move items. A lease requirement was to hold a meet and greet service to intercept users before getting to the disposal area.

The shop is diverting around five tonnes of waste from landfill per month, including 316 items of furniture in November 2011 alone. Around 300-500 bric-a-brac items are sold each week, although the council is awaiting decisions on agreed weights. 80 per cent of electrical items donated are working and saleable according to PAT testing staff.

Colchester repair café

A pioneering repair service was launched at Colchester library for people to take broken items, including anything from bikes to furniture or electronics to clothes, to be mended free of charge. Residents can bring along broken (but repairable) household items to Colchester's repair café and make the most of the space, tools and skills from volunteers to repair them for reuse.

The café aims to reduce waste and extend the life of household items and other products, breaking the cycle of 'use, bin and replace' whilst providing a local social hub for free exchange of skills and know-how.



Colchester repair cafe at Colchester library © Christopher Blomeley, Wivenhoe repair reuse recycle CIC



