

WELSH HARP ECOPARK FEASIBILITY STUDY

EXECUTIVE SUMMARY

The Welsh Harp is a large area (170 hectares) of open land, centred on the Brent Reservoir and completely enclosed by dense urban development. It is remarkably diverse, containing parkland, playing fields and other sports facilities, allotments, woods, wetlands, and open water. It has special qualities both for nature and for people, offering a rich collection of habitats for wildlife, and a distinctive atmosphere of semi-wilderness within a very urban hinterland. It is one of London's under-rated treasures.

Splendid as it is, the Welsh Harp has even greater potential. This has been recognised by the Welsh Harp Environmental Education Centre Action Group ("The Committee"), a group representing a wide range of local interests, in a document envisioning a range of positive sustainable developments that would

- Conserve the rich wildlife and enhance the biodiversity of the Welsh Harp
- Create access, educate and interpret the wildlife and the natural environment
- Address the challenges of sustainability for the multicultural and ethnically diverse population of London
- Become a European Centre of Excellence for the study of best practice in sustainability

These developments would also address the cycle of decline and under-investment that in recent years has seen increasing problems of vandalism, arson, fly-tipping and occupation by travellers and vehicles, culminating in the burning down of part of the Welsh Harp Environmental Education Centre (WHEEC). The facilities offered by WHEEC are highly regarded, and the prospect of creating a permanent modern replacement has been a catalyst for the committee's larger vision embracing the whole Welsh Harp.

The Committee encapsulated its proposals in the term 'Ecopark'. This is open to a wide range of interpretations, and a principal function of the present report is to explore a number of possibilities for wider discussion, with some costed recommendations.

The Committee appointed the Centre for Alternative Technology (CAT) to examine the feasibility of the Ecopark Vision. A final report was submitted in March 2005.

Methodology

The consultants repeatedly visited the site, examined background documents and interviewed a wide range of stakeholders. They then submitted a series of draft reports for comment and feedback that were taken into account in subsequent drafts. The report is therefore a collaborative document taking into account the broad balance of stakeholder opinion.

Should the project proceed to a more concrete stage, participation by local groups in more detailed conception and design would be essential. Collaboration with local schools and colleges would be particularly significant.

Major constraints and balances

At the heart of any development proposal for the Welsh Harp is a potential contradiction: that the greatly increased number of visitors arising from improved access and attractiveness will destroy the very qualities that attract visitors in the first place. Or, alternatively, that developments will simply convert a subtle and distinctive landscape into a standardised theme park. The report examines this tension in some detail. It concludes that

- There are unavoidable limits to road access that will restrict the number of visitors at any given time
- The Welsh Harp as a whole has the capacity to absorb without damage a much larger number of visitors than presently use it
- Impact on the most ecologically sensitive areas (mostly around the reservoir on the eastern side) can be minimised by concentrating activities in other parts of the site (largely on the western side)

- Carefully controlled access to habitat areas can improve observation and interpretation without undue disturbance of wildlife
- Income streams and increased staffing associated with the Ecopark development can be used to protect and extend habitat diversity.

Themes

Apart from the conservation value of the Welsh Harp, the committee aims to address wider issues of national and global sustainability, in line with the commitments of the responsible local authorities and the GLA. The report notes that biodiversity and climate change are the two most pressing challenges for global sustainability in the coming decades since they entail irreversible and possibly catastrophic changes. Climate Change itself will profoundly affect biodiversity. At the heart of the climate change problem is *energy* use, and the most recalcitrant and fastest-growing energy sector is *transport*. The report therefore recommends three major themes:

- Biodiversity
- Energy
- Transport

Nodes

It is proposed to create two principal 'nodes' or 'foci' of development, each at a point with practical road access. The reasons for two separate foci are these:

- The pressure on restricted road access to the Welsh Harp is diffused
- The character of the two sites can be sharply contrasted to cater for the needs and preferences of different clientele groups
- The contrast, and the journey, between the two sites can make for a more interesting visitor experience

One node, the *Nature Space*, would concentrate on natural history, biodiversity and associated topics such as water and waste. The other node, the *Energy Zone*, would focus on energy, hydrogen technologies, enterprise, recreation and the arts; the links between them, and the methods used to overcome access limitations, will illuminate the theme of transport.

Proposed locations

In accordance with the principle of keeping major developments away from the ecologically-sensitive parts of the site, it is proposed to locate the Nature Space in the site of the present WHEEC, and the Energy Zone in the area presently occupied by the Woodfield Nursery and other small businesses.

The Nature Space: Siting this node on the WHEEC site fulfils one of the desiderata most widely-agreed by local stakeholders: the continuation and improvement of the existing environmental education facilities. The report contains plans for replacement of the present buildings with larger, up-to-date permanent structures, and a separate building providing for overnight stays, aimed principally at local schoolchildren. Further possibilities (perhaps for later phases of development) include facilities for users of the adjacent allotments, and a residence for a tutor-warden.

The WHEEC site has its own ecological importance as a locally-unusual tract of secondary woodland, and this would be conserved, with new buildings restricted to the present area of buildings, roads and foundations.

The style and character of this development would be understated, naturalistic, and conducive to the pursuit of 'classical' environmental education. Although it would be open to drop-in day visitors, its principal purpose would be to serve the needs of local education at all levels, and provide a base for conservation activities (including research) for the entire Welsh Harp site.

The Energy Zone: The privately-owned area around the Woodfield Nursery is intensively used and has no special ecological significance. This applies to most of the land adjacent to that area, which consists of mown grass, un-mown grassland, and under-used allotments. A site in this general area has road access via Cool Oak Lane.

The Energy Zone would consist of a complex of diverse, iconic buildings and structures. They would be designed with both functionality and sculptural salience in mind. They would include:

- The H2 Centre, conceived in the form of a hydrogen molecule with two linked spheres, and containing visitor facilities such as reception, toilets, restaurant, sales point, theatre, demonstration spaces, exhibitions, as well as offices, meeting rooms. It would demonstrate energy efficiency and renewable energy technologies, with special attention to the emerging hydrogen technologies.
- An aeolian mobile sculpture park, consisting of functional wind machines of various sizes and types, selected and grouped for aesthetic effect
- The Enterprise Village, featuring environment- and sustainability-related businesses, including perhaps some of the businesses already operating on the site. Some of these would include retail outlets for visitors
- An innovative play-park featuring environmental themes
- A power centre incorporating biofuel-powered CHP/district heating for the whole complex, with a solar/Aeolian roof
- A filling station for various low-carbon fuels

Educational Resources and facilities

The Ecopark as a whole can be seen as an educational resource for the whole community, providing information, creating new experiences and raising awareness of sustainability issues.

The Nature Space will address environmental education in a more formal sense, with special provision for schools and colleges. The core of the Nature Space will be the Environment Centre, replacing the existing WHEEC. With much better facilities including a laboratory and covered activity area, this will greatly extend the scope of programmes available.

The Environment Centre will also be able to offer resources for life-long learning, and meeting-facilities for local organisations.

In response to a local need expressed by several educational consultees, the report proposes the construction of an 'Eco-Bothy' within the Nature Space, to cater for supervised overnight stays by local children.

Buildings

Naturally every opportunity would be taken to demonstrate principles and practice of sustainable building. The wide variety of functions alone will allow exploration of most leading-edge technologies, including integrated photovoltaics and solar thermal systems, passive ventilation and cooling systems, super-insulation and zero-energy design, advanced glazing, passive-solar heating and sun-spaces, self-fuelling pellet stoves, use of low-energy materials such as earth, straw, wood and clay, living roofs, rainwater collection, grey-water reuse, water-conserving designs, waterless toilets and urinals, in-vessel composting systems, and so on.

The Renewable Railway

An advantage of two separate nodes is the opportunity presented for an innovative public transport link. The 'Renewable Railway' is envisaged as an ultra-light-railway system conspicuously running on hydrogen and/or other sustainable energy sources. 'Ultralight' rail is relatively cheap to install but is usually impractical in urban situations owing to the legal, planning and other constraints of negotiating rights of way. These constraints are far less in an open situation. The Renewable Railway will contribute to the overall Ecopark project by

- Linking the two principal nodes

- providing a further incentive to visit
- demonstrating the principle of ultra-light rail
- demonstrating the use of alternative energy sources in transport
- easing some of the access problems to parts of the site
- providing an income stream.

Initially, it is envisaged that the railway would run the short distance between the two main nodes, but there is no reason in principle why it should not run from one end of the Welsh Harp to the other, reaching even the Neasden Recreation ground via a route across the Reservoir dam.

Access and transport to the site

A comprehensive analysis of the local transport facilities and potentialities is included in the report. It is found that access is more of a limitation to greater visitor numbers than the physical or biological capacity of the site. Although currently there are reportedly 200,000 visits per year, these are mostly repeated short visits on foot by local residents. Various scenarios of non-local visitor-numbers and transport modes are explored in the report, to evaluate their impact on local traffic and car-parking.

In order to avoid undue strain on surrounding neighbourhoods, and the development of large new car-parks, the report proposes a number of measures to increase the proportion of visitors arriving by 'green modes', many of them successfully pioneered by other visitor attractions. These measures are themselves part of the Transport theme and contribute to the long process of public education regarding sustainable transport choices.

Getting 50% of visitors to the site by green modes is judged realistic while the Ecopark is in its early stages of development, with up to 30,000 visitors, and challenging but achievable as the number of visitors rises to 100,000 per year. But there are some major difficulties associated with growing the attraction to the point where it has 150,000 visitors annually while maintaining this high level of public transport use.

Generally, in any scenario, the total numbers of visitor vehicles using the surrounding roads will only be a small proportion of those presently using them, and the number of extra visitors on the site will be less than habitual local users. Problems would only arise at special peak times, but analysis shows that even these would be unlikely to cause serious problems.

On account of its superior public transport links, it is recommended that the Birchen Grove entrance be the principal 'Gateway', with an internal transport system to convey visitors to other parts of the site.

Other routes around the Welsh Harp

New pathways will promote health and fitness through walking, jogging and cycling. It is proposed that the existing network of pedestrian pathways around the site be extended, especially to provide circular walks around both arms of the Reservoir. In ecologically sensitive sections paths would take the form of walkways with railings.

It is also proposed that new routes be established for cycling, both for simple transit across the site and for recreational cycling. Cycle-hire facilities are also envisaged.

One major proposed development is to establish a pedestrian, cycling (or even light rail) route across the top of the dam. The dam is the responsibility of British Waterways and is currently closed to public access. There appears to be no reason in principle why a new route could not be opened along it. This would link the 'isolated' Neasden Recreation Ground to the rest of the Welsh Harp and provide a new access point, further sharing the car park load. It would also allow a circular walking route around the southern arm of the reservoir.

The Reservoir

The Reservoir is the centrepiece of the Welsh Harp and the main locus of its wildlife interest. It is currently managed according to a Management Plan drawn up by an intersectoral management committee, meeting quarterly. This arrangement seems to be working well, and the report finds no reason to make any substantive changes. The work of the Welsh Harp

Conservation Group has been particularly effective and should be supported in any major development plan.

The recent closure of the Youth Sailing Base at Cool Oak Bridge has reduced the sailing use of the northern arm to negligible levels. It is recommended that sailing be entirely discontinued here, leaving the relatively small northern arm entirely to habitat and wildlife functions.

A potential problem for the reservoir in the medium-to-long term is the maintenance of reasonable water depth for sailing. This suggests either a massive one-off dredging operation, or a continuous process. Either would be expensive and disruptive for wildlife, and it is recommended that steps be taken to reduce the amount of silt entering the reservoir from the feed streams.

Energy Systems

The energy systems recommended seek to balance maximum efficiency of energy use with maximum supply from low-carbon sources.

Sources of renewable energy suggested include hydropower (from the dam), wind-power, photovoltaic electricity, solar water- and space-heating, and both solid and liquid biofuels.

Energy carriers and management systems include hydrogen, fuel cells, combined-heat-and-power, district heating and heat-storage accumulators.

Hydrogen is given a high profile, in view of its potential as a storage medium and carrier for renewable energy, particularly in the transport sector. Numerous uses of hydrogen will be demonstrated, and a certain amount will be generated within the site.

It is proposed that, adjacent to the car park at the Energy Zone, an 'alternative' filling station be established, selling a range of biofuels that can be used directly in existing diesel-powered cars; LPG; and in the future, rechargeable battery packs and hydrogen. For thousands of would-be-green drivers this could become an important resource.

Organisational Structure

The report notes an ongoing debate over the best structure for managing the proposed Ecopark development. An attractive idea is the establishment of an independent trust that would cut through many of the difficulties caused by the multiple ownerships and jurisdictions pertaining to the site. This idea is, however, strongly opposed by the local authorities involved, who would prefer the site and its facilities to remain in the public domain. The report surveys other comparable ventures and finds that success and failure appear to attend both arrangements in equal measure. On balance, it is felt that the project has more chance of getting to the construction phase if it is driven by an independent body, albeit one that draws on the strengths of different social and economic sectors, with strong local authority and GLA involvement.

The Arts

There is limitless scope for the arts. In particular there is recommendation of artistic ventures that reflect the sustainable themes of the project and exploit the resources of the site: the scale, the pathways, the buildings, the energy structures. In particular, it is proposed that all structures in the Energy Zone be designed from a sculptural point of view.

The performing arts also have, of course, a role to play.

Finances of the Project

The capital cost of the total proposed scheme is estimated at about £16 million. Most of this is required for the Energy Zone. Suggestions are made for phasing.

Running costs vary according to visitor numbers. It is important to note that the facilities are open to all, with no entrance charges. Three scenarios are explored, none of which are expected to fully cover their costs from internally-generated revenue. At 30,000 visitors a year, the loss is estimated at £600,000 on a turnover of about a million pounds; at 100,000 visitors, the loss is less at around £200,000, while at 150,000 the loss is about £130,000 on a turnover of approximately £2.5 million. On the assumptions made, extra funds would be

needed to cover the shortfall, and in view of the wider importance of the project, might well be available from a variety of sources.

Comparisons with similar projects.

Comparable Ecopark projects are reviewed, including successes and failures. Regrettably there appear to be no standard formulae that guarantee success, although several failures have followed from over-reliance on gate fees and over-optimistic estimates of visitor numbers. The Welsh Harp appears to have excellent raw material for a successful outcome, but requires a gifted team to get its Ecopark built, and possibly a different team to run it successfully. If plans for the Welsh Harp Ecopark proceed further, the report recommends careful study of related projects

Conclusions

In the 19th century the Old Welsh Harp pleasure gardens could attract thousands of visitors on a sunny weekend—mostly, it should be noted, travelling by public transport via the dedicated Welsh Harp railway station. The Ecopark conception harks back to this tradition, while creating visions of an attractive and sustainable future. With so many varied qualities, the New Welsh Harp has the potential to revive its former glories and inspire new generations of Londoners.