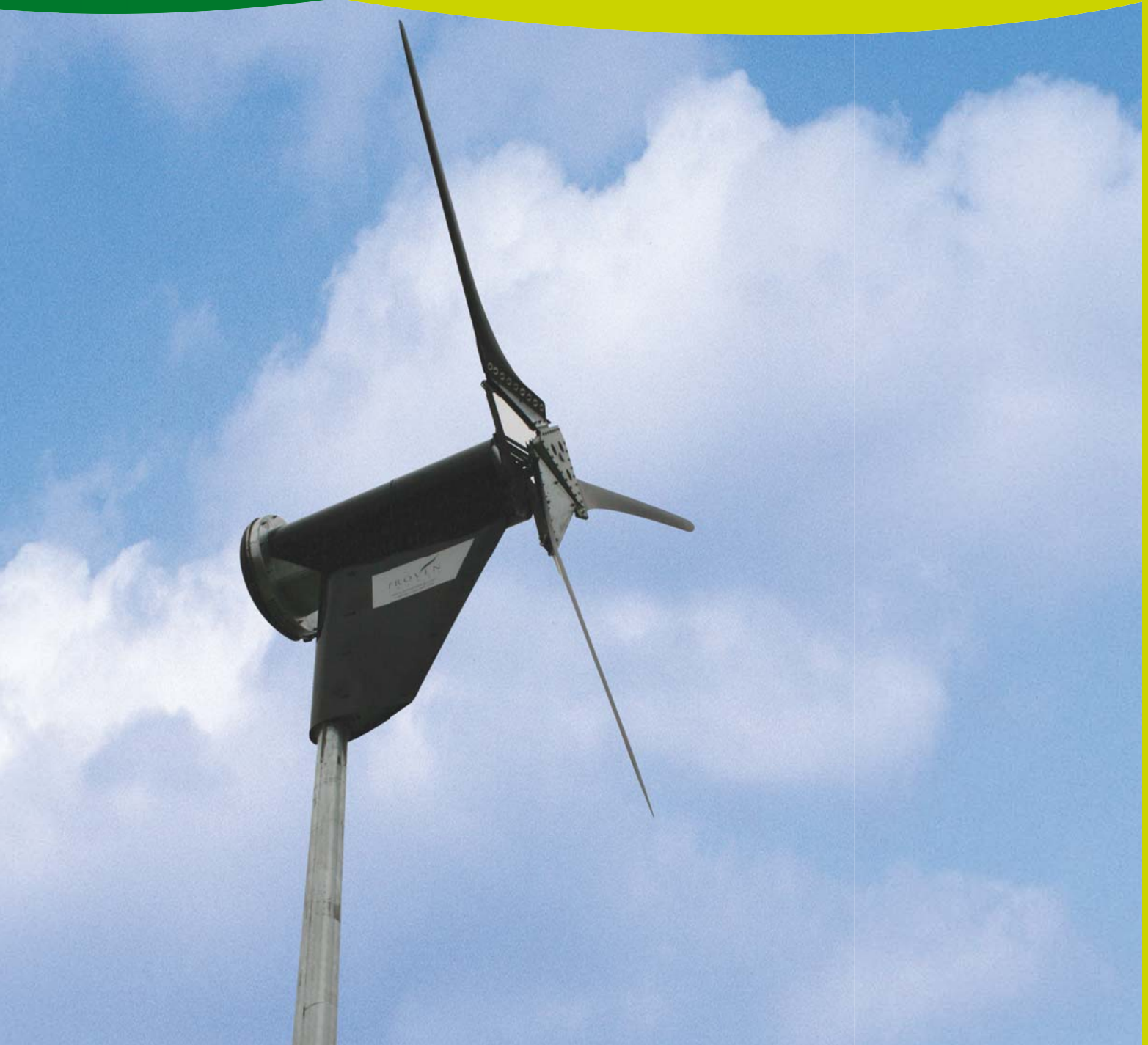


**Local Implementation Plan
Annual Progress Report 2009/10 to 2011/12**
Chapter 12.0 - Environment and Climate Change



12.0 ENVIRONMENT AND CLIMATE CHANGE

- 12.1 Islington Council is committed to making Islington ‘a greener, cleaner, safer borough’. This means looking closely at all activities in the borough and finding more sustainable and more efficient ways of carrying them out. The schemes proposed in this Environment and Climate Change section of the LIP APR bid will help the borough to develop new approaches to managing the public realm that will not only make Islington greener, but can also be adopted by other London boroughs and local authorities. The proposals range from public highway improvements to vehicle and fuelling innovation, and will provide benefits to each of the key environmental areas: air quality, noise, biodiversity, energy, waste and climate change, in line with the Mayor of London’s strategy documents.

Programme Summary 2009/10 - 2011/12

PROPOSAL	2009/10 £000s	2010/11 £000s	2011/12 £000s	Total £000s
Electric vehicle charging points – Extension to businesses and licensed traders	40	20	20	80
Sustainable Streetbook – Roll-out of new techniques and materials	80	40	40	160
Positive Noise – wind-generated urban soundscape public artworks	20	0	0	20
Greening the Grey	50	50	30	130
Eco-Log ongoing emission monitoring and driver training system	30	0	0	30
Portable integrated hydrogen fuel cell power generator – education	5	0	0	5
Flood prevention and water conservation at fleet and highways depots	30	30	0	60
Greening the Fleet – Hydrogen car pilot	70	0	0	70
Greening the Fleet – Electric vehicle and hybrid retrofit programme	30	0	0	30
Creating a ‘Wildlife Transport Network’	30	20	10	60
Total	385	160	100	645

Electric vehicle charging points – extension to businesses and licensed traders

- 12.2 Islington Council established two of the first on-street electric vehicle charging points in the UK in 2007/08, and further charging points are currently being rolled out during 2008/09. Permit and enforcement arrangements are running smoothly, and a high-profile information board has been installed at each location based on Islington’s innovative car club information board, which was short-listed for a London Transport Award for Public Sector Innovation.
- 12.3 It is anticipated that by the end of 2008/09, even considering the current planned expansion of the network, demand for charging points will outstrip the supply. The

council is therefore seeking an ongoing source of funding for the roll-out of charging points borough-wide, including seeking S.106 funding and charging for business use.



Left, Islington's 'Modec' electric-powered lorry and 'Smart EV' electric vehicle at the Highbury Crescent charging point, with information board. Right, a resident charging up.

- 12.4 For 2009/10, the council seeks funding to pilot the provision of electric vehicle charging points for local businesses. The scheme will be offered only to those businesses who are willing to pay for a new business electric vehicle charging permit, and who have demonstrated a strong commitment to carbon emission reduction by joining the Islington Climate Change Partnership or implementing a successful travel plan.
- 12.5 The proposed electric vehicle charging points for businesses will be available to residents that hold an electric vehicle charging permit. However, businesses will not be able to use existing residential permit points to ensure that residents still have sufficient access to charging points. It is hoped that a successful pilot will lead to a scheme that could be rolled out further through revenue gained from the cost of the business charging point permits.
- 12.6 The bid also incorporates funding to pilot the provision of charging points for licensed traders such as ice cream vans who currently have to run their engines continuously throughout the day, as well as canal boat owners whose generators can cause noise and pollution for other local residents. Once again, self-funding solutions will be sought so that this element of the scheme can be rolled out borough-wide.

Sustainable Streetbook – Roll-out of new techniques and materials

- 12.7 In 2007/08, TfL Environment and Climate Change funding was allocated for Islington Council to review its 'Streetbook' streetscape manual to identify opportunities to improve the environmental performance of scheme design and construction. During 2008/09, further funding has allowed the council to trial some of the most promising new materials and techniques. The council will pursue initiatives such as:

- Benches, cycle stands and bollards made from recycled materials
- organic-based natural agricultural materials for highway surfacing such as 'Vegecol'
- in-situ recycling systems such as 'Rhinopatch' to re-use existing materials
- recycled signage
- cold-laid surfacing techniques, reducing the energy required in resurfacing

12.8 Building on the review of the council's Streetbook undertaken in 2007/08 and the piloting and monitoring of various materials being carried out during 2008/09, funding is sought to continue to pilot new materials and techniques and to develop a 'Sustainable Streetbook' incorporating the lessons learned so far. The revised Streetbook will continue to be used by the borough's designers and engineers and any consultants or contractors employed by the borough, and will also be a useful resource for other boroughs looking to reduce the environmental impacts of their public realm and streetscape improvements.

Positive Noise – Wind-generated urban soundscape public artworks

12.9 There is a growing interest in the use of pleasant and enjoyable soundscapes to improve the quality of public spaces and to encourage improved urban biodiversity. As part of this bid, Islington Council seeks funding to work with leading artists and streetscape designers to develop two renewable energy-powered urban soundscapes within the borough using public art and innovative street furniture. Two very different soundscapes would be developed as set out below.

12.10 The first proposed soundscape will be a sonic sculpture celebrating the joys of cycling. The preferred location for this sonic sculpture is Finsbury Square, where an internationally-known musician was killed while cycling in 2002. The 'wind-powered' sculpture will be designed to generate a subtle sound inspired by the musician's own music, drawing the attention of passers-by to a positive cycling-themed sculpture with a plaque in memory of the musician.

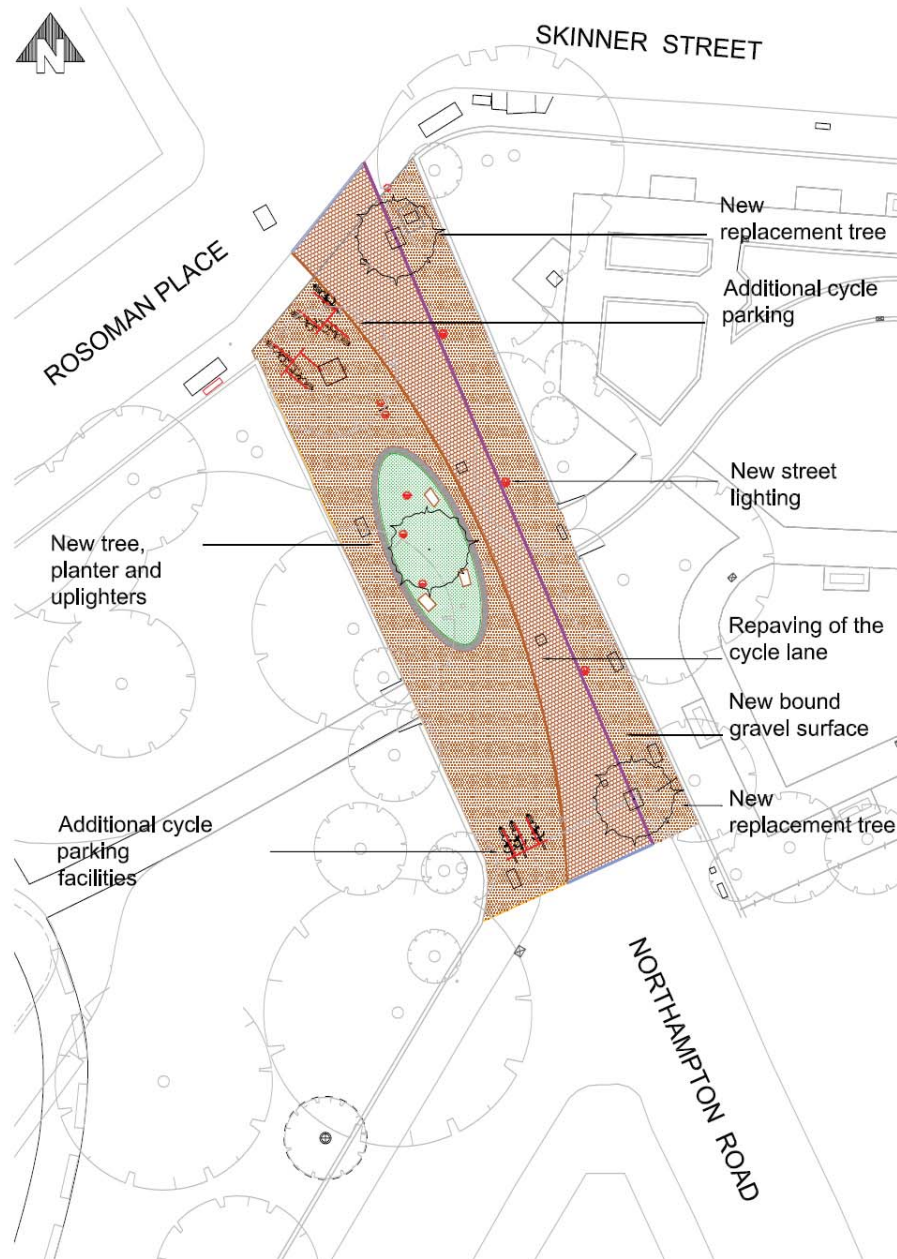
12.11 The second proposed soundscape will focus more on encouraging greater biodiversity in Islington. Specially-designed street furniture and original public art will be used to create a soundscape that is inviting to endangered local species within Islington's dense urban streetscape. A location will be sought where the transport environment currently acts as a barrier to an otherwise continuous wildlife corridor. Artists will work with members of the local community and friends of nearby green spaces to gain support and to ensure that the scheme provides benefits to humans as well as wildlife.

Greening the Grey

12.12 Islington Council has developed a strong Greening the Grey programme over the past few years, identifying suitable sites to make use of greener, more permeable alternatives to concrete slabs. TfL, council and regeneration funding has helped us deliver several pilot schemes including major conversions of streetscape to greenspace, the introduction of grass verges and the establishment of green walls and green roofs. In addition, a borough-wide Greening the Grey strategy has been adopted to help realise further opportunities to introduce small green spaces within the public realm as an integral part of other council schemes and activities.

12.13 In 2007/08, funding was secured to replace redundant pavement space in Skinner

Street, near Spa Fields, with a planted area. This scheme was designed in 2007/08 and will be delivered during 2008/09 through match-funding from the EC1 New Deal for Communities.



The designs for an attractive new greenspace on the public highway at Skinner Street, EC1

- 12.14 In 2008/09, funding has been secured to introduce a greenspace at the junction of Elmore Street, Cleveland Road and Almorah Road in Canonbury, where a large section of pavement is unnecessary in terms of accessibility, but a significant 'greening the grey' scheme can be implemented. The council is also working with Sustrans on a unique 'DIY Streets' pilot scheme to involve local residents in the reshaping of their

street, including removing areas of paving along stretches of Monsell Road and replacing them with grass verges.

- 12.15 This bid covers funding for the delivery of another exciting greening the grey area scheme during 2009/10 and 2010/11 on a 600 m² paved area at Bunning Way and Frederica Street west of Caledonian Road. New energy-efficient LED lighting will be introduced following its successful introduction in a range of locations throughout the borough. The concrete area will be removed, helping to decrease water run-off into the sewerage system and allowing natural drainage. Another key benefit will be improved perception of personal security resulting from the removal of a large derelict wall which currently provides a hiding place for various criminal activities.



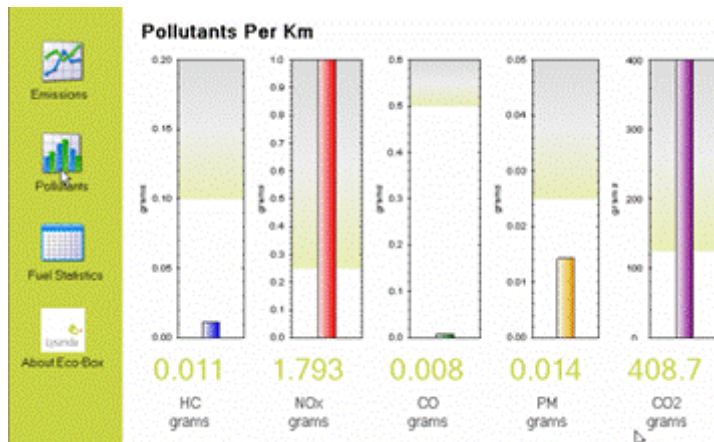
Half of the greening the grey site at Bunning Way and Frederica Street, N7

Eco-Log ongoing emission monitoring and driver training system

- 12.16 Islington Council is an international leader in green fleet management, having recently scooped three 2007 Green Fleet Awards including 'Public sector green fleet of the year'; and 'Fleet manager of the year', and having won awards for 'European public sector fleet of the year' and 'European public sector fleet manager of the year'. In 2007/08, TfL Environment and Climate Change funding was secured to allow the council to undertake a carbon baseline of its transport emissions, and to identify ways of reducing those emissions. The study also identified short-comings in the council's emission monitoring capabilities and made recommendations for addressing these in the future.
- 12.17 Building on this study, the council seeks funding to pilot the Eco-Log emission monitoring system on the council's own fleet. Eco-Log utilises a tablet screen mounted in the cab of any vehicle to display current levels of fuel consumption, CO₂, NO_x, HC and particulate emissions on an instant and average basis. This system will accurately provide data for our ongoing carbon baseline and other emissions monitoring targets. Eco-Log will be used in conjunction with SAFED (Safe and Fuel Efficient Driving – <http://www.safed.org.uk>) training to influence driver attitudes and significantly reduce

emissions. By providing an immediate feedback mechanism to the driver in 'real time', Eco-Log allows the driver to continually build their skills of driving fuel-efficiently. An example of the Eco-Log tablet screen is shown below.

12.18



Example of the range of feedback mechanisms provided to the driver by Eco-Log

Portable integrated hydrogen fuel cell power generator – education

- 12.19 In 2008/09, TfL Environment and Climate Change funding has been secured for the council to commission a portable 5kW integrated hydrogen fuel cell / photovoltaic power generator to help promote the viability of this new form of power at travel awareness events and on the mainstream market. Once commissioned, the generator will be used for council sustainability events as well as loaned to partners participating in the council's business travel partnership and the Islington Climate Change Partnership.
- 12.20 The council seeks funding for 2009/10 to develop an associated display to provide advice and information to both users and attendees at events relating to how the technology works and how they can green their own energy use. This high-quality educational resource will show in real-time the emission savings achieved by the hydrogen generator compared to a conventional diesel generator, thus allowing Islington to maximise exposure for one of London's first hydrogen-powered generators.

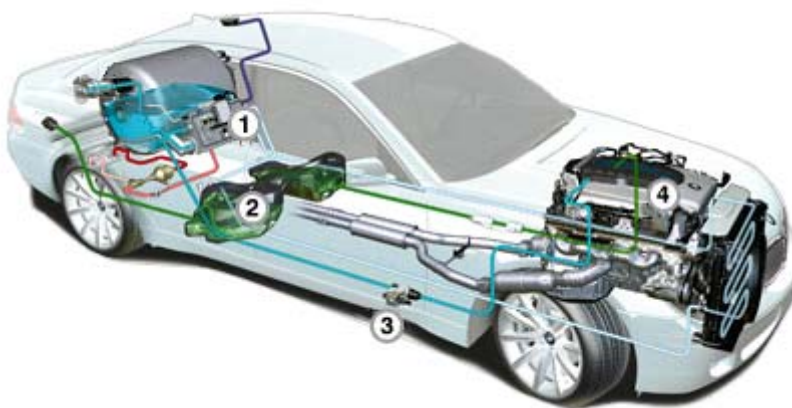
Flood prevention and water conservation at fleet and highways depots

- 12.21 The council seeks funding for an innovative climate change adaptation measure to help prevent flooding and to reduce water consumption by harvesting rainwater, recycling grey water and installing a green roof at our fleet and highways depots. Flooding is a major concern for central London, and Islington's run-off can exacerbate flooding in neighbouring boroughs. A feasibility study will be carried out initially to identify the most suitable materials and technologies for each site, with implementation following in 2009/10 and 2010/11.
- 12.22 In 2007, Islington Council was short-listed as a Beacon Council for Tackling Climate Change. In addition to helping to reduce the greenhouse gas emissions that cause climate change, the council also implements a range of climate change adaptation measures to begin preparing our services for the changes in climate that are already occurring such as hotter, dryer summers and increased flooding. One important aspect of adaptation is reducing water use, and another is preparing for more intense rainfall.

Street cleansing operations currently use 2,000 litres of water per day, and additional water is used to clean and maintain machinery and vehicles used in the collection and transfer of waste. The highways depot uses large quantities of water for mixing concrete, cleaning vehicles, etc. Rainwater harvesting will therefore not only help to significantly reduce the water demand of the council's public realm management services, but with the use of a green roof would also reduce surface run off to drains at peak rainfall time and improve biodiversity in a traditionally wildlife-unfriendly environment.

Greening the Fleet – Hydrogen car pilot

- 12.23 With increasing fuel prices and even the most environmentally friendly vehicles producing in the region of 100g/km of CO₂, there remains a need to support the emergence of new carbon neutral vehicles and engine technology. Electric vehicles powered by renewable energy are the closest we currently have, but these vehicles are still limited in range and performance, and require costly infrastructure for the purposes of charging. Hydrogen can be produced using renewable energy (wind or solar are the most efficient), and then this 'green' hydrogen can be used either directly by a modified engine or in conjunction with a fuel cell. This approach negates the need for charging, does not limit performance and provides a driving range similar to that of a conventional car. Finally, and most importantly, the only emission from the engine is water vapour. The only current drawback to hydrogen technology is its high cost.
- 12.24 As an award-winning international leader in green fleet management, Islington Council is well-placed to help champion the development of hydrogen vehicle technology. Islington is already working with TfL to explore the feasibility of a hydrogen re-fuelling facility within the borough. Funding is now sought towards the purchase of a hydrogen vehicle such as a third generation Honda FCX, or a BMW with a hybrid petrol and hydrogen engine (pictured below). Hydrogen technology will only reach the mainstream if early adopters like Islington Council are able to test out current technology to help its further development to an affordable level.



BMW petrol/hydrogen hybrid to be piloted by Islington Council

Greening the Fleet – Electric vehicle and hybrid retrofit programme

- 12.25 Islington Council is a European leader in 'zero-emission' electric vehicles, with a

growing electric fleet powered by a combination of wind turbines and renewable energy from the grid. We have already purchased a Modec electric commercial lorry and one of only 100 'Smart EV' electric cars on long-term lease. We work in partnership with both companies to help advance electric vehicle technology and shift it into the mass market.

- 12.26 The council seeks funding to continue proactively trialling EVs for a broader range of activities and services in the borough. Funding will not purchase whole vehicles, but rather will cover the cost difference between conventional and electric vehicles, which currently acts as the biggest barrier to take-up for larger and more specialised vehicles. We are hoping to expand our EV programme to include small and large vans. We have also found a company that can retrofit hybrid systems to diesel engines and we hope to start trials with this technology soon. This is a similar system to that found in others hybrids and will help to increase efficiency and reduce emissions. The council has already funded some early exploration of hybrid retrofits through a grant from its Climate Change Fund (£100K in 2008/09).



Islington's first Modec commercial EV

Creating a 'Wildlife Transport Network'

- 12.27 Islington's Biodiversity Action Plan highlights the need to protect corridors of wildlife movement, and to significantly increase the number of nesting habitats within Islington's wildlife-hostile street environment. During 2006/07, Islington installed 500 bird and bat boxes along the A1 (Upper Street and Holloway Road). In the first year of installation there was a 60% uptake of nest boxes. A webcam in one of the nest boxes drew public attention to the initiative, as people were able to witness the successful hatching and fledging of five young blue tits. For 2008/09, TfL funding has been secured to install approximately 500 bird and bat boxes along the borough's Strategic Road Network (SRN). Nest sites along the SRN are extremely important as local and migratory birds tend to follow major transport routes as part of their wayfinding system.
- 12.28 In 2009/10, funding is sought to expand this biodiversity programme by establishing the highest priority corridors and areas within Islington's transport network where provision of wildlife-friendly infrastructure will help improve the borough's biodiversity. The SRN

provides a physical barrier to the movement of wildlife and it has been shown that providing wildlife corridors can dramatically increase an area's biodiversity. Wildlife corridors do not have to cross the SRN at ground level. It has been demonstrated that providing small wildlife-friendly areas within the streetscape to create a link between larger greenspaces increases both the number and variety of species surviving in an urban environment. The concept could be considered a form of 'island hopping'. The funding would be required to carry out a detailed survey by specialist urban ecologists to map the priority areas in the borough that would benefit from provision of wildlife islands. Remaining funding would provide for the creation of some islands, from something as simple as nesting boxes to provision of a multi-species green roof or wall to creation of a new open space on the public highway. Islands would be focussed around the SRN, particularly at intersections with key habitats such as woodlands or waterways.

- 12.29 The results of this study will enable the council to prioritise our Greening the Grey strategy to maximise positive outcomes for biodiversity in Islington. Future funding for 2010/11 and 2011/12 will continue to be focused towards the findings of this study, for instance with further nest boxes and other islands being provided in other key locations on Islington's 'wildlife transport network'.

Benefits to the key environmental areas

- 12.30 Islington Council has developed a range of Environment and Climate Change proposals to help manage the negative environmental impacts of transport on air quality, noise, biodiversity, energy consumption, waste and climate change. The table below shows which of these key environmental areas each proposal will benefit.

PROPOSAL	Air Quality	Noise	Biodiversity	Energy	Waste	Climate Change
Electric vehicle charging points – Extension to businesses and licensed traders	X	X		X		X
Sustainable Streetbook – Roll-out of new techniques and materials	X		X	X	X	X
Positive Noise – wind-generated urban soundscape public artworks		X	X			
Greening the Grey	X		X		X	X
Eco-Log ongoing emission monitoring and driver training system	X	X		X		X
Portable integrated hydrogen fuel cell power generator – education	X	X		X		X
Flood prevention and water conservation at fleet and highways depots			X	X	X	X
Greening the Fleet – Hydrogen car pilot	X			X		X
Greening the Fleet – Electric vehicle and hybrid retrofit programme	X			X		X
Creating a 'Wildlife Transport Network'	X		X			X

Baseline Submission Form

- 12.31 The supporting information set out in this document has been compiled to provide more comprehensive descriptions of the proposed schemes outlined briefly in the 2009/10 to 2011/12 Baseline Submission Forms submitted separately to TfL and available for download from the council's website.

Sustainable Transport Strategy (STS) References

- 12.32 Islington's Local Implementation Plan, the Sustainable Transport Strategy (STS), was approved by the Mayor of London in October 2006 and adopted by the council in December 2006. It is available for download from the council's website. The proposals set out in this bid document will contribute towards the following objectives and policies of the STS:

- Appendix J, Draft Strategic Environmental Assessment (SEA) Statement
- Chapter 3, STS policy SA7, G1, G3-5, G13, AT7
- Chapter 4, STS proposal EN1-5
- Chapter 7, PI SEA1-11
- Appendix A, table A.17
- Appendix B, Form 32-Environment