CABINET - 4 SEPTEMBER 2008

REPORT OF THE DIRECTOR OF TECHNICAL SERVICES

'REDUCING THE COUNCIL'S CARBON FOOTPRINT' - PROGRESS REPORT

1.0 EXECUTIVE SUMMARY

- 1.1 This report updates Members on the various projects currently being undertaken by Technical Services to achieve the Corporate Objective to 'Reduce the Council's Carbon Footprint', as set out in the Council's Corporate Plan.
- 1.2 Cabinet Members are asked to note the progress made to date on these ongoing projects and to endorse the further initiatives proposed, including the monitoring of future progress by senior officers in conjunction with the Cabinet Member for Environment.

2.0 BACKGROUND

- 2.1 At its meeting on 20th September 2007, Cabinet approved a new Corporate Plan structure focusing on five key Corporate Objectives with a series of corresponding first year Improvement Priorities. The second Corporate Objective is "to create a clean, pleasant, safe and sustainable environment" with the following Improvement Priorities for 2008/9:
 - Increase levels of recycling:
 - Reduce our carbon footprint; and
 - Reduce the number of people killed or seriously injured in road accidents.
- 2.3 Technical Services has and will continue to play an instrumental role in the achievement of these Improvement Priorities and the overall Corporate Objective. The Technical Services Departmental Business Plan approved by Cabinet on 13th March 2008 (Minute 546 refers) focuses on the achievement of these Improvement Priorities through a robust project planning approach.

3.0 POLICY CONTEXT

3.1 Climate change is now at the top of the political agenda and Local Authorities have a crucial role to play in responding to the challenge posed. Tackling climate change requires that we reduce our emissions of Greenhouse Gases (Mitigation) and adapt to the changes in climate that will occur (Adaptation).

- 3.2 In October 2000, Nottingham City Council launched 'The Nottingham Declaration on Climate Change'. The authorities attending the launch agreed to sign up to the Declaration as a first step in tackling climate change. Wirral attended the launch and was one of the first to sign up in 2001 the first Merseyside authority to do so. Over 400 local authorities have signed up to date.
- 3.3 Wirral Councillors unanimously re-affirmed their support for the Nottingham Declaration in a Council Motion on the 13th February 2006, and requested Cabinet to seek reports on the way in which Wirral is working to meet this global challenge. Technical Services have taken the lead in developing a coherent approach to Climate Change mitigation and adaptation. Key achievements to date include:
 - The Nottingham Declaration Working Group was set up in April 2006 comprising officers from key areas across the Council, viz; Transport, Procurement, Waste & Recycling, LA21, Housing Strategy/Fuel Poverty, Planning, Energy sourcing and use. The inaugural meeting of the Nottingham Declaration Group took place on 27th April 2006 and the group has now met on 10 occasions, with meetings approximately every six weeks.
 - On 19th October 2006, Cabinet Members endorsed the development of a Climate Change Strategy for Wirral by Councillors and Officers.
 - Nottingham Declaration Seminar & Workshops took place in October 2006 and 2007 in Birkenhead Park Pavilion, with key representatives from the Local Energy Support Programme team (LESP), GONW and Environment Agency, Consultants 'Practical Help', Council Members and key officers delivering presentations and workshops.
 - On 20th June 2007, Cabinet Members agreed the Council's Climate Change Strategy and Action Plan which is consistent with, and supports a number of key National, Northwest, and Merseyside Climate Change and Sustainability strategies.
 - A Council-wide Energy Efficiency Investment Programme developed and in place since 2006, with phase 1 completed, and phases 2 and 3 ongoing.
- 3.4 Wirral's Climate Change Strategy Action Plan comprises a series of Technical Services led projects. Since implementation, these schemes have begun to reduce the Council's CO₂ emissions by improving our energy efficiency, reducing energy needs and improving overall environmental performance.
- 3.5 From 1st April 2008 our performance in reducing Council CO₂ emissions will be measured by NI 185 in the Government's new National Indicator set. NI 185 will measure the progress of the reduction of CO₂ emissions from our buildings and transport used to deliver our various functions. The Council's CO₂ emissions for 2008-09 will be used as first year data to be reported in 2009. Systems are now in place to collect this data. The Council's CO₂ reductions from 2003/04 to date are highlighted at section 4.0.

4.0 OUR PERFORMANCE TO DATE IN REDUCING THE COUNCIL'S CARBON FOOTPRINT

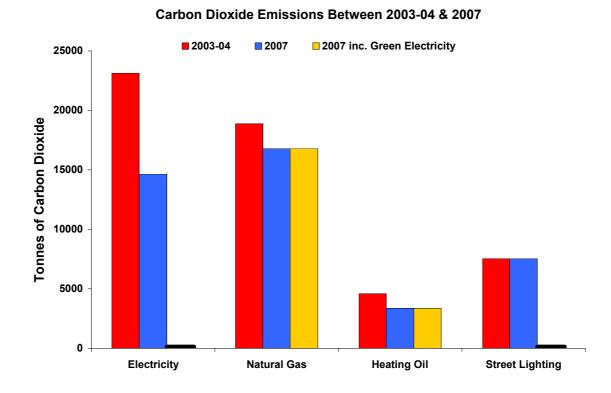
4.1 The purpose of the Council's Climate Change Strategy is:

To achieve a 20% reduction in Wirral Council's carbon emissions by 2010, starting with year on year reductions in emissions from council activities, and working with residents, communities and local businesses to achieve their own reductions.

This reduction target was based on Wirral's 2003/04 carbon emission data. The Council is therefore aiming for a 20% CO₂ reduction over five years, an average of 4% a year, a challenging target, but in line with the UK's Kyoto target.

4.2 Wirral's 2003/04 baseline carbon footprint was 54,170 tonnes. Our baseline carbon footprint for 2007 was 42,369 tonnes, a reduction of 22% (11,800 tonnes) from our 2003/04 footprint, and well ahead of our projected 20% target by 2010. When the carbon free green electricity is applied to the analysis the figure drops significantly to 20,157 tonnes - a reduction of 63%.

Our reduced CO₂ emissions breakdown between 2003/04 and 2007 is highlighted in the chart below :



4.3 This significant footprint reduction is due to the purchase of 'green electricity' for our buildings and street lighting. Whilst there is currently no reduction in the emissions from street lighting when the green electricity is omitted from the analysis, we will expect to see reductions following the introduction of street lighting efficiency measures later this year.

5.0 PROGRESS UPDATE ON INDIVIDUAL COUNCIL PROJECTS

5.1 Investment Energy Efficiency Programme (IEEP) Phase 1

5.1.1 Building Energy Management System (Phase 1)

Phase 1 of the BEMS project is complete are operational. The BEMS control engineer is now in post and managing the system. Phase 1 improvements are currently being evaluated and we believe that further fine tuning will produce improved performance.

5.1.2 Burner Management Units

This project is now complete a total of 68 sites were converted, ongoing inbuilt system tests suggest that we have reduced burner operations by an average of 20%.

5.1.3 Leisure Sites

The Heat Recovery Systems at West Kirby Concourse, Leasowe & Woodchurch Recreation Centres are complete and operational. The installation at the Oval forms part of the refurbishment scheme and will be completed shortly.

5.1.4 Energy Efficiency Savings

Energy efficiency savings resulting from the three projects described above are difficult to separate as the projects were carried out over a similar period of time although we have calculated that the **combined savings equate to 5,000,000 kWh's or 937 tonnes of carbon dioxide.**

5.1.5 Building Energy Management System (Phase 2)

We have been able to condense years 2 & 3 into year 2. This will allow us to realise the benefits earlier. Phase 2 is currently being installed in the remaining 19 sites.

5.1.6 Water Reduction Scheme

The Pool Water Recovery System at Europa Pools is now in operation and appears to be exceeding expectations. Following a detailed survey of the various sites the contract for the remaining water saving equipment has been extended, due to operational and contractual difficulties this contract is now due to be completed shortly.

5.1.7 Boiler Replacement Programme

Work is continuing to identify and replace ageing systems with new boilers. Saving are made due to the improved efficiency of the new equipment being installed.

5.1.8 Bill Validation Scheme

The new database is now operational and we are receiving electronic data from our suppliers, we are currently introducing an web based online meter reading service to allow sites to provide the Energy section with real-time monthly meter readings to enable us to provide accurate billing data to reduce estimates.

5.2 IEEP Phase 2

5.2.1 Cavity Wall and Boiler House Insulation

These schemes are progressing and we will shortly be in a position to go out to tender.

5.2.2 Good Housekeeping Awareness Raising: Two Awareness Raising officers have now been appointed and will begin to develop the programme to raise awareness of the need to reduce energy use to all sites\staff. Commencing in September 2008, the officers will visit Schools and Council buildings to encourage staff and management to reduce energy waste through the use of site visits, basic audits, staff inductions, staff training, seminars, posters and displays, good housekeeping guides, green teams and newsletters.

As part of our awareness raising campaign, together with our partners Wirral NHS PCT and Cheshire & Wirral Partnership NHS Trust, we have produced a series of posters based on the cross cutting themes of energy, waste and transport. The posters will go on display later this year. The generic nature of the posters means that they will remain topical for a number of years, please refer to Appendix A to view a sample.

5.2.3 Electrical Energy Efficiency Scheme: This scheme is underway with sites, surveys and suitable schemes being identified. Areas for improvement will include improved\automatic lighting controls - energy efficient lighting - the use of time clocks to control (suitable) equipment i.e. water heaters, vending machines, photo-copiers etc. - the Council wide use of software to automatically close down non-essential computers - supply voltage optimisation - variable speed drives - power factor correction - awareness raising of the efficient use of, and switching off, of equipment (refer to previous section) and the future purchase of energy efficient plant and equipment in line with our existing Sustainable Procurement Policy.

5.3 IEEP Phase 3

- 5.3.1 Automatic Meter Reading (AMR) Project: Using this service provision, data (daily meter reading) is transmitted from the AMR device using inbuilt GSM SMS (text messaging) technology. The data would be collected by our service provider and validated, the data would then be made available for analysis by us via their website. The data would also be sent to our suppliers to provide accurate bills. We are currently in discussions with OGC Buying Solution who are working to provide a national solution.
- 5.3.2 Street Lighting/Signage Energy Efficiency Improvements: Proposals to improve the efficient operation of Street Lighting are currently being developed. This project is subject to approval by a separate Cabinet report. The projects include switching off all traffic signs (where illumination is no longer required as a result of a relaxation of the legal requirements) conversion of illuminated signs and bollards to night time operation only (currently signs continuously illuminated, switch to mini-photocell to allow night time illumination only) conversion of illuminated bollards to solar power (option being implemented on all new schemes) replacement of old

equipment with more energy efficient items - dimming some streetlights for part of the night.

5.4 Related Energy Projects

- 5.4.1 Combined Heat and Power (CHP) Project: We are currently working on the proposal to introduce a Discounted Energy Purchase CHP scheme at Europa Pools and West Kirby Concourse also a replacement unit at Leasowe Recreation Centre. Due to poor initial interest shown by suppliers we have only been able to attract two companies to provide proposals. A detailed report will go to Cabinet for approval in September 2008.
- 5.4.2 **Carbon Reduction Commitment**: The Carbon Reduction Commitment is a statutory carbon trading scheme for Public\Private sector organisations over a certain size (inc Wirral). Preparatory work commenced in 2008 for full implementation in 2010. Emissions trading is an administrative approach used to control pollution by providing economic incentives for achieving reductions in CO₂ emissions. Although mandatory, the Carbon Reduction Commitment will involve self-certification of emissions, backed up by auditing, rather than third-party verification. Emission allowances are to be auctioned, with the income from the auctions recycled back to the participants through a bonus or penalty according to the organisation's position in a CRC league table.
- 5.4.3 **Display Energy Certificate Scheme**: The statutory provision of Display Energy Certificates (DEC) and Energy Performance Certificates (EPC) for qualifying buildings etc. from October '08 will require the Council to provide the appropriate certification to all qualifying sites. Preparatory work is now underway to commence roll out to public buildings from October.
- 5.4.4 **New Area Based Surface Water Charges Scheme**: A review of the New Surface Water Charges Scheme introduced by United Utilities from April 2008 is under way, the revised charging mechanism will have financial implication for the Council. We are currently working to assess the implication for the Council.
- 5.4.5 **Carbon Neutral Council**: In a Council Notice of Motion on 29 October 2007, Council Members sought, inter alia, to achieve carbon neutrality for the borough by 2050 through the implementation of a carbon emissions reduction programme.

Through our developing Climate Change Strategy and the work of the Nottingham Declaration Group, we are working towards reducing our carbon footprint through the various actions highlighted in this report. The green initiatives and energy efficiency projects highlighted in this report are part of an ongoing Carbon Reduction Programme.

As 93% of our current CO_2 emissions are from our buildings and only 7% from our transport (5% if we exclude staff business travel), striving to become carbon neutral is not a realistic or feasible option due to :

- Age, type and construction of our existing property portfolio which does not lend itself at present to replacing\offsetting our use of carbon
- Not currently financially viable as we would need to replace the vast majority of our existing buildings

To realistically achieve a carbon neutral status we will need to robustly review our existing property portfolio over the next 10-15 years and provide the significant investment necessary to achieve it.

5.5 Microgeneration and Renewables

- 5.5.1 One member of staff is currently employed (50% of time) to develop, implement and manage the microgeneration strategy and demonstration projects. A condition of grant aid from the Low Carbon Buildings Programme (LCBP) is the use of approved contractors\suppliers. We, along with a number of other Local Authorities, have had continuing problems dealing with the approved contractors which has caused delays.
- 5.5.2 The Solar Water Heating scheme at Europa Pools is now operational. We have now received approval (in principle) from the Landlord to commence the Photovoltaic scheme at Cheshire Lines Building. An application for planning permission will shortly be submitted for the Wind Generator at the Thurstaston Visitors Centre. The Micro CHP at Pensall House is currently under development.
- 5.5.3 A Capital Bid submission was made in November 2007 to implement future schemes. The bid was successful and £180K of funding was approved from the Council's 2008/09 budget (plus matched funding from the LCBP).
- 5.5.4 To ensure that we are able to work towards a Carbon Neutral Wirral, it is proposed to extend the microgeneration project to include all renewable technologies currently available. This will expand the types of technologies we can install, and it will also increase the size of equipment that the Council can install as the definition of microgeneration is limited in both the types of technologies used and their size.

5.6 'Green Building' Specifications

- 5.6.1 The development of 'Wirral GreenSpec' is underway in the Department's Design Consultancy. This green specification will ensure the design of more energy and resource efficient buildings, roads and infrastructure on all Council capital projects. 'GreenSpec' will profile a range of accredited 'green' or recycled building materials that will reduce the carbon footprint of the Council's building and civil construction projects. Key areas of focus within the GreenSpec programme will be:
 - Reduce/Reuse/Recycle
 - Biodiversity
 - Variable Rainfall
 - Sustainable Energy Sources

A series of staff seminars will be rolled out in Autumn 2008 to introduce 'Wirral GreenSpec' to Technical Services design staff and colleagues from 'client' departments across the Council.

5.6.2 Key Education Projects: The £26M Woodchurch 'Building Schools For the Future' project will be designed to achieve BREEAM 'Very Good' as a minimum standard, and has been specifically funded by DCSF to achieve 60% carbon reduction on 2002 Building Regulations standards. This has the potential to save 250 tonnes of CO₂ per annum. A number of low carbon technologies are also being evaluated by the design team including biomass, solar hot water, wind turbines and ground source heat pumps, with a view to incorporating some of these into the scheme. This is in addition to high levels of thermal insulation and thermal mass, high efficiency mechanical and electrical design and a rainwater harvesting system for WC flushing proposed for the building.

The approx £11M New Primary Schools Programme for Park Primary and Pensby Primary schools will build upon in-house research and experience gained during the Children's Centre programme. This programme made use of super-insulated timber frames, recycled cellulose boards, natural linoleum flooring, solar hot water and water based finishes as well as low energy mechanical and electrical fittings and controls, and low water use sanitary fittings. The first of these projects, Park Primary School, is at early consultation and design stage, and additional 'green' proposals being considered include passive solar design, rainwater harvesting, recycled rubber play surfacing, high recycled content bricks and blocks, and recycling the rubble from the old school for use in construction. Again the design team intend to achieve BREEAM 'Very Good' as a minimum standard, with an aspiration towards an 'Excellent' rating.

5.7 Site Waste Management Plans

- 5.7.1 UK construction produces an estimated 70 million tonnes of waste each year three times more than that produced by all the country's households put together. Construction also uses 53% of all primary materials and has the second biggest environmental footprint in the UK after food production.
- 5.7.2 There is growing legislation for UK businesses to operate more sustainably, but there are also benefits for companies in the construction industry which do so. From 6th of April 2008, for example, it became compulsory for contractors to develop and have Site Waste Management Plans (SWMP) in place on all construction projects over £300,000 in value.
- 5.7.3 We have now amended the Council's Standard Contract documentation to now include the requirement for SWMPs to be provided by contractors on all Council construction projects above this £300,000 value threshold. The implementation of SWMPs by contractors will be monitored by the Department's appointed project officers and/or clerk of works.

5.8 Waste Minimisation and Recycling

5.8.1 There is an established recycling collection system in most Council buildings. Technical Services intends to carry out a detailed audit of the

current situation to establish if there are any gaps in the recycling service requiring further investment. Technical Services will report back on the findings of the audit and will make recommendations to Members in a future report. The detailed audit will also gather information on the use of plastic bags within Council buildings. This will establish baseline information for the Notice of Motion on the use of plastic bags. The aim of both of these projects will be to increase recycling within the Council and to minimise the amount of plastic bags used until Wirral becomes a plastic bag free Council.

5.9 Reducing Council Mileage

5.9.1 Wirral Council has had an adopted Travel Plan in place since 2002. The current Travel Plan approved by Cabinet in 2006 has modal share and mileage reduction targets for the end of 2009/10. It is a package of practical measures with the aim of improving access by all modes of travel, improving choices for everyone. Examples of measures implemented include a tax free cycle and annual bus ticket purchase scheme for staff, cycle facilities and promotional events. A snapshot survey was undertaken in November 2007 to ascertain progress made towards mode share targets. The results were as follows:

Mode	Nov 2005 Survey All sites	Target by end 2009/10	Nov 2007 Snapshot Survey
Car alone	61.2%	55%	55.7%
Car with others	17%	20%	15.6%
Public Transport	9.7%	12%	19.3%
Bus	5.6%	6.5%	8.6%
Train	4.1%	5.5%	10.7%
Walk	8.6%	10%	5.3%
Cycle	2.1%	3%	1.2%
Other			

- 5.9.2 These interim results suggest that there has been a reduction in the number of staff travelling to work by car alone. Results suggest a decrease in the number of staff walking and cycling. However, lower numbers of staff using more active modes and high public transport use reflects a greater number of survey responses from main council buildings within the Birkenhead and Wallasey Town Hall rather than more outlying sites.
- 5.9.3 The Council has seen a 3% reduction in staff business mileage from 2003/4 to 2007/08, although not by a huge amount, this has nevertheless, reduced our CO₂ footprint by 29 tonnes of CO₂ from 2003/4 to 2007/08, or the equivalent of the Council planting 1,450 trees.
- 5.9.4 Wirral is successfully implementing a range of measures including the introduction of facilities, policy changes, and promotional events which are

not only demonstrating a reduction in the number of staff travelling to work by car and on council business but are also reducing the council's carbon footprint, promoting a healthier workforce and setting a positive example to the public and business community.

5.10 Grounds Maintenance/Arboricultural Contract

- 5.10.1 In terms of the service delivery of the grounds maintenance the contractor has divided the Borough into operational areas to avoid unnecessary travel by operatives and the transportation of maintenance equipment. The contractor has also recently purchased more efficient grass cutting equipment to improve the fortnightly grass cutting operation the new mowers have increased manoeuvrability reducing the time taken to cut highway verges.
- 5.10.2 The arboricultural contractor is to survey all 20,000+ highway trees in the Borough to ascertain their condition and then based on the results of this survey to prepare a 3 year programme of maintenance, beginning with those trees considered to be high risk as a priority. All arboricultural arisings from the 3 year maintenance operation will be recycled as "biomass woodchip" which is a sustainable low/neutral carbon fuel used in the energy industry.

5.11 Highway and Engineering Services

- 5.11.1 As part of the current procurement process for the new HESPE Contract, tendering companies are required to provide details of their Environmental Policies, Environmental Management Systems and include practical details of how they will minimise the carbon footprint and overall environmental impact of administering the contract.
- 5.11.2 Agile working has recently been introduced in the Highway Maintenance Division as part of the statutory highway inspection procedures. This has significantly reduced Highway Maintenance staff mileage as regular trips back to the office base are no longer necessary.

5.12 Council Transport

- 5.12.1 The majority of the Council's transport fleet (200+ vehicles) currently runs on a 5% bio diesel mix and has been for over 18 months. A pilot project commenced in April 2008 fuelling 40 Operational Services vehicles with a 20% bio diesel mix.
- 5.12.2 No problems have been experienced with the 5% bio mix up to date, nor with any of the 20% mix. Manufacturers still maintain that anything over the 5% mix could compromise the vehicle warranties, and for this reason all the vehicles placed on the 20% bio mix trial are out of manufacturers' warranties.
- 5.12.3 The 20% bio trial is initially for a period of 12 months, and during this time we will monitor any ill effects (if any) on the 40 vehicles taking part, and we will also look at vehicle fuel consumptions for any efficiency improvements.

- Findings from the pilot will be shared with Transport and Travel Research (TTR) and EU energy network, which is being coordinated by Merseytravel.
- 5.12.4 It is noted that recent concerns have been expressed in relation to the overall environmental impact of bio-fuels and this will be taken into account when reviewing the success of these trials and future Council policy in this area.

6.0 ARRANGEMENTS FOR MONITORING DELIVERY OF THE PLAN

- 6.1 The proposed monitoring and delivery of the Carbon Footprint Reduction Projects will be as follows:
 - Regular updates to Nottingham Declaration Working Group meetings, held approx every 6 weeks
 - Technical Services Business Planning and Performance Management arrangements based on PIMS and regular reports to Chief Officers Management Team, the Cabinet Member and Overview & Scrutiny Committee in the usual manner
 - Regular informal Cabinet Member briefings.

7.0 STAFFING and FINANCIAL IMPLICATIONS

- 7.1 The various projects in this Plan are largely funded from within existing Technical Services budgets though it is important to note the 2008/9 Policy Option of £115,000 approved by Cabinet on 21 February 2008 (Minute 523 refers) will be used to deliver related projects in this area during the current financial year.
- 7.2 The delivery of these various Projects has and will continue to be from within existing Technical Services staffing resources, plus the additional posts previously agreed by Cabinet (the two Energy Awareness Officers).
- 7.3 Technical Services staff currently based in the Energy Conservation team will be transferring to the new Legal, HR and Asset Management Department sometime during Autumn 2008. The Energy Conservation initiatives highlighted at 5.1 to 5.5 above, will continue from this new Department.

8.0 EQUAL OPPORTUNITIES IMPLICATIONS

8.1 There are no specific implications under this heading.

9.0 PLANNING IMPLICATIONS

9.1 There are no specific implications under this heading.

10.0 COMMUNITY SAFETY and HUMAN RIGHTS IMPLICATIONS

10.1 There are no specific implications under these headings

11.0 LOCAL AGENDA 21 IMPLICATIONS

11.1 We will reduce the Council's Carbon Footprint by improving our energy efficiency, reducing our energy needs and improving our overall environmental performance. Our progress and performance to date will enable us to take a lead and encourage local partners and communities to reduce CO2 emissions across all sectors in the borough.

12.0 SOCIAL INCLUSION IMPLICATIONS

- 12.1 There are no specific implications under this heading.
- 13.0 ANTI-POVERTY IMPLICATIONS
- 13.1 There are no specific implications under this heading.

14.0 ACCESS TO INFORMATION ACT

14.1 There are no specific implications under this heading.

15.0 LOCAL MEMBER SUPPORT IMPLICATIONS

15.1 The Council's Carbon Footprint Reduction projects are borough wide.

16.0 RECOMMENDATIONS

- 16.1 Cabinet is requested to:
 - (i) Note the performance and progress of the various Council 'Carbon Footprint Reduction' projects to date undertaken by the Technical Services Department.
 - (ii) Endorse the further 'Carbon Footprint Reduction' projects proposed
 - (iii) Endorse the proposed arrangements for monitoring the delivery of these projects including regular informal briefings for the Cabinet Member for Environment.

DAVID GREEN

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Appendix A – Sample Poster (Original paper size - A3)

