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2003-2005



INVESTOR IN PEOPLE

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SECTION I - GENERAL OVERVIEW AND FUTURE PLANS

Introduction

The issue of energy efficiency continues to be a high profile topic with the Government committed to achieving targets set at the 1997 Kyoto Earth Summit.

Within the framework of its Climate Change Programme, the Government has set a target for the Public Sector of a reduction of 1% per year in carbon dioxide (CO₂) emissions from buildings against a 1999/00 baseline. This target is also supplemented by a system of benchmark objectives.

While it is evident that a reduction in CO₂ emissions from Public Sector buildings is crucial, it is also important not to lose sight of the need to reduce energy consumption, as this is an important factor in the move towards improved energy efficiency. Achieving both these aims within the Public Sector will help in the battle against global warming while also reducing costs, thereby releasing resources to the front line of public services.

The Government has further reinforced its commitment to improving energy efficiency by recently announcing a scheme to promote renewable energy in Northern Ireland through a £59 million fund. This scheme is being made available to both the domestic and public sectors. The education sector will be able to access an element of this funding for 'renewable' energy efficiency projects through the Central Energy Efficiency Fund.

Background

- 1.1 This is the 13th Annual Report on energy efficiency activity in the education sector and covers the 2003/04 and 2004/05 financial years. In previous years the Department issued a report on energy efficiency, containing various information about energy issues within the education sector relating to a certain financial year. It has been noted that over the past few years the deadline for issue of the report has been extended several times due to the submission of inaccurate or very late information across all the contributing sectors. As a result the annual report has been issued late - up to two years after the end of the financial year to which it relates. In order to rectify this situation we are issuing this two-year combined report which should in turn allow us to produce a more timely and relevant 2005/06 report.

- 1.2 The report comprises energy information from Education and Library Boards (ELBs), Voluntary Grammar Schools (VGS) and Grant-Maintained Integrated (GMI) schools. Included in this report is an outline of each Board's overall energy consumption and CO₂ performance and, equally importantly, a general overview of their investment in energy efficient schemes and energy related initiatives within their area. Each Board's overall data is collected from controlled and maintained schools, as well as youth clubs, teachers' centres and school meals accommodation in their area. Sections 7 and 8 give a general outline of the performance of VGS and GMI sectors respectively and the contribution they can make in achieving progress on energy efficiency. We encourage all sectors to monitor energy performance on a continual basis and make use of the Central Energy Efficiency Fund (CEEF) administered by the Department of Finance and Personnel (DFP) and any other sources of revenue to promote energy efficiency and renewables (energy from a renewable source – eg solar panels).

Current Government Targets

- 1.3
- To reduce absolute carbon (CO₂ for non-industrial sectors) from fuel and electricity used in buildings by 12.5% by 2010-11, relative to 1999-2000.
 - To increase the energy efficiency of the buildings, measured in terms of kilowatt-hours (kWh) of fuel and electricity used per square metre of building floor area by 15% by 2010-11, relative to 1999-2000.
 - To source at least 10% of electricity requirements from renewable sources by 31 March 2008.

Performance

- 1.4 This report compares 2003/04 and 2004/05 consumption, carbon dioxide (CO₂) emissions and costs against the 1999/00 base year (the year the Government has chosen to measure targets against). The Boards continue to show excellent progress in reducing CO₂ emissions with overall savings 43.4% and 47% in the respective years. This can be mainly attributed to the ELBs switching from 'brown' electricity, which is produced from fossil fuels, to EcoEnergy, which is electricity produced from renewable sources eg wind or solar power. Also, schools in all sectors converting from oil or electrical heating to Natural Gas, which emits less CO₂, has been beneficial in reducing emissions. However, progress on reducing the Boards' energy consumption

has been much more problematic. In 2003/04 an overall reduction of 6.54% was achieved with only the NEELB and SEELB demonstrating actual savings. The overall reduction in 2004/05 was a mere 2.8% compared to 1999/00 with only SEELB showing consumption savings.

- 1.5 The VGS sector has shown a very commendable performance, in both reporting years, by reducing CO₂ emissions by 36.7% in 2003/04 and 38.6% in 2004/05, and in energy consumption savings of 21% and 21.5% respectively. The savings in this sector can be mainly attributed to major energy efficiency improvements at schools such as Methodist College, the conversion of many schools to Natural Gas and an increased number of EcoEnergy customers. It should be noted that the base year figures were much higher than those in the Boards' estate.
- 1.6 DE did not begin to collect information from the GMI sector until 2001/02 so this will be used as the base year for this sector. In 2003/04 and 2004/05 the sector showed good reductions in CO₂ emissions of 16.23% and 28.06% respectively. They demonstrated an energy consumption increase in 2003/04 of 4.99% and a reduction in 2004/05 of 4.46%. This is a very small sector and the above figures can be detrimentally affected by a few schools not submitting completed energy monitoring forms.

Factors Affecting Performance in the Education and Library Boards

- 1.7 The ELBs have identified a number of factors which negatively affected their performance in 2003/04 and 2004/05:
 - Continuing implementation of the Classroom 2000 initiative and general increases in IT, CDT and portable electrical equipment.
 - The need for ever increasing security provision in schools has resulted in a need for additional lighting, both internally and externally, as well as CCTV and security systems.
 - The presence of asbestos in some school properties has excluded them from energy efficiency improvement programmes.
 - Increases in both oil and Natural Gas prices have resulted in increased costs in most ELBs and this trend looks set to continue.

- The current age and condition of the school estate, including energy plant and equipment.
- Lack of metering and related computer software impedes efficient monitoring.
- Low priority given to energy management by individual end users.
- Increased community use of schools, both at night and over the summer.
- Lack of investment resulting in reduced savings.

Other Factors Affecting Performance - All Sectors

Weather-Correction Factors

1.8 In April each year, Energy Branch of DFP furnishes the Department of Education (DE) with a Northern Ireland-wide weather-correction figure. This figure allows regional weather variations to be factored into the analysis of energy performance. The weather-correction figures since 1999/00 are listed below:

1999/00 - 1.1789

2000/01 - 1.0279

2001/02 - 1.2063

2002/03 - 1.1434

2003/04 - 1.1423 - low figure reflecting colder winter conditions

2004/05 - 1.2045 - high figure indicating much milder weather

Most of the Boards indicated that the high weather-correction factor in 2004/05 did not allow a true reflection of their performance.

Education and Library Boards' Future Plans

- 1.9 The Boards have provided a breakdown of their future plans and targets below:
- Most ELBs have repeated their intention to decrease CO₂ emissions by 1% per annum (this target has been superseded by the targets in paragraph 1.3).
 - All Boards' should aim to meet the Northern Ireland Audit Office (NIAO) recommendation to invest an amount, equivalent to at least 10% of their total energy bill, on energy efficiency schemes.
 - In 2005/06 the Boards and the VGS sector have successfully secured resources from the Central Energy Efficiency Fund of £1,388,000 and £289,000 respectively.
 - The SELB intends to increase the purchase of electricity from renewable sources.

New Format Report Tables

- 1.10 The tables included in this year's report compare the 2003/04 and 2004/05 performance against the 1999/00 base year and show:
- the amount of CO₂ emitted (kg/m²);
 - the amount of energy used (kWh/m²);
 - the average cost across all fuel types (p/kWh).

SECTION II - BELFAST EDUCATION AND LIBRARY BOARD (BELB)

Performance

2.1 The Board's performance from the two years is shown in the table below against the base year:

Weather-corrected	1999/00 Base Year	2003/04	% Difference from Base Year	*2004/05	% Difference from Base Year
CO ₂ Emitted (kg/m ²)	65.17	36.86	-43.43	32.58	-50
Energy Used (kWh/m ²)	193.16	197.41	2.20	194.44	0.66
Cost (pence/kWh)	2.2	2.7	22.7	2.99	35.6

* BELB figures for 2004/05 may be distorted by the re-measurement of the Board Estate

Investment

2.2 In 2003/04 the BELB spent £225,938 on the energy efficiency related portion of maintenance, shown in the breakdown below. This was 8.36% of the Board's total energy costs which is just under the 10% target set by the NIAO. The Board was successful in securing funding of £306,893 from the Central Energy Efficiency Fund for draughtproofing, cavity wall insulation and roof insulation schemes.

Category	Energy Investment Value	
	2003/04 £	2004/05 £
Boiler and heating system replacements	109,235	22,590
Lighting improvements	nil	39,301
Rewiring	37,985	nil
Servicing	12,851	12,500
Roofing improvements	38,144	2,608
Glazing improvements	27,723	1,687
Conversion to Natural Gas	nil	38,056
Total	£225,938	£116,742

- 2.3 However, in 2004/05 the Board was only able to spend 4.2% of the total energy costs due to pressures on the maintenance budgets. The Board also secured £133,662 from Central Energy Efficiency Fund for draughtproofing, cavity wall insulation and installation of reflective radiator panel schemes. In 2004/05 the Department also made available funding £136,000 for capital energy efficiency schemes in the controlled and youth sectors.

Staffing

- 2.4 In 2003/04 the Board employed two full-time staff concentrating on energy and environmental issues. Unfortunately, in 2004/05 one of the energy staff left, leaving all energy and environmental issues to be taken forward single-handedly by the Energy and Environmental Officer.

Special Initiatives and Good News Items

- 2.5 Cavehill Primary School is a new 12-classroom building built as an exemplar for sustainable design. It has an integrated photovoltaic field producing energy and high thermal efficiency. Also, the building employs natural ventilation, maximises use of natural light and minimises water consumption by means of a rain-water harvesting system. The building materials used were selected for low environmental impact where possible.

SECTION III – NORTH-EASTERN EDUCATION AND LIBRARY BOARD (NEELB)

Performance

3.1 The Board's performance from the two years is shown in the table below against the base year:

Weather-corrected	1999/00 Base Year	2003/04	% Difference from Base Year	2004/05	% Difference from Base Year
CO ₂ Emitted (kg/m ²)	59.27	31.81	-46.33	33.86	-42.86
Energy Used (kWh/m ²)	158.2	147.24	-6.93	171.68	8.52
Cost (pence/kWh)	2.85	3.57	25.21	3.58	25.63

Investment

3.2 During 2003/04 the NEELB spent £311,000 on energy efficiency type works (eg roof replacements, double glazing, rewiring and boiler replacements) which was 8.3% of their total energy costs and just short of the NIAO target of 10%. This figure was reduced in 2004/05 to £205,000 equalling just 5.4% of the total energy costs. Over the two years the Board also secured £357,000 and £303,000 respectively from the Central Energy Efficiency Fund. This enabled the Board to undertake conversion to Natural Gas, heat recovery, thermostatic radiator valves, heating controls and installation of solar panel schemes etc.

Staffing

3.3 In both 2003/2004 and 2004/2005 the Board employed one full-time Energy Officer who spent 90% of his time on Energy Management and a Clerical Officer who spent approximately 30% of their time on energy efficiency issues.

Special Initiatives and Good News Items

- 3.4 The NEELB have a number of staff motivation programmes, measures etc:
- Continual monitoring of energy consumption has assisted in achieving savings.
 - Schools that have had energy efficiency projects installed, are contacted to ensure satisfactory operation, during the maintenance period of the contract, with further assistance available at any time.
 - Oil and electricity sub-meters were installed in an ongoing programme to enable energy users to monitor consumption. It is hoped that these will be made available to all schools in the next few years.
 - Annual school energy consumption league tables encourage schools to monitor energy consumption and to eliminate waste, thereby improving their overall position on the table.
 - Energy Audits are carried out on schools to identify reasons for high energy consumption, and appropriate action taken to solve the problem. Also high energy users are given talks on energy efficiency based on an ongoing programme, and the properties are considered for possible projects to reduce consumption.
 - Caretaker training was available on an ongoing basis throughout the year.
 - Principals received training on the use of time clocks to help reduce wasteful operation of equipment.
 - Six Primary Schools had high frequency lighting and controls fitted. This has reduced their energy consumption to be only a third of what it had been previously.

SECTION IV – SOUTH-EASTERN EDUCATION AND LIBRARY BOARD (SEELB)

Performance

4.1 The Board's performance from the two years is shown in the table below against the base year:

Weather-corrected	1999/00 Base Year	2003/04	% Difference from Base Year	2004/05	% Difference from Base Year
CO₂ Emitted (kg/m²)	64.87	32.78	-49.46	28.34	-56.31
Energy Used (kWh/m²)	168.7	146.83	-12.97	146.17	-13.36
Cost (pence/kWh)	2.68	3.48	29.86	3.77	40.68

Investment

4.2 In 2003/04 the SEELB spent £251,462 on the energy efficiency related portion of maintenance and minor works schemes, shown in the breakdown below. This was 8.5% of the Board's total energy costs and under the 10% target set by the NIAO. The Board also received £112,200 from the Central Energy Efficiency Fund, in order to carry out roof insulation during building works and Natural Gas fuel conversion schemes.

Category	Energy Investment Value	
	2003/04 £	2004/05 £
Building management systems in 5 schools	24,764	
Oil to gas conversions in 8 schools	65,357	
Windows renewal in 5 schools	56,851	
Thermostatic valves in 2 schools	3,340	
Pipe insulation in 2 schools	5,606	
New roofs in 23 schools	85,276	
Point of use water heaters in 8 schools	5,728	
Low energy lighting in 4 schools	4,540	
Insulating of roof spaces during building work		8,100
Boiler cleaning		7,400
Total	£251,462	£15,500

In 2004/05 the SEELB spent £15,500 on the energy efficiency related portion of maintenance, shown in the breakdown above. This was only 0.5% of energy expenditure for that year and falls far short of the 10% NIAO target on energy investment. This disappointing figure can be mainly attributed to pressures on maintenance resources within the Board. The Board also received £111,200 from the Central Energy Efficiency Fund, in order to carry out draughtproofing, gas water heaters, building energy management, installation of thermostatic radiator valves projects and also further Natural Gas fuel conversion schemes. In 2004/05 the Department also made available funding of £137,000 for capital energy efficiency schemes in the controlled and youth sectors.

Staffing

- 4.3 During 2003/04 and 2004/05 the Board employed one full-time Energy and Environmental Officer and a part-time Clerical Officer to assist on data input and administration.

Special Initiatives and Good News Items

- 4.4 A number of schools within the Board area are beginning to see benefits of the recent installation of Natural Gas water heaters. These heaters have a number of advantages over the old hot water storage calorifiers:
- The amount of water and energy wasted is reduced.
 - Large boilers that had previously provided hot water for kitchens and wash-hand basins can be turned off from May to October.
 - The heaters produce hot water quickly and can be used outside normal school hours avoiding the need to fire up the large inefficient main boilers.
 - The hot water produced by these heaters is fresh from the mains water supply and not from storage tanks.

Renewable Energy Technologies

- 4.5 Solar panels have been fitted to the roofs of three schools providing enough energy to generate hot water. Information on temperature and energy generated is indicated via a PC allowing the school to see the benefits of having solar panels and enabling pupils to calculate in class the amounts of energy used, money saved and the reductions in carbon dioxide emissions.
- 4.6 During building work being carried out at St Caolan's Primary School, a Geo-Thermal heating system was installed. This system extracts heat from deep within the ground (through two 140 m boreholes) which is then used to provide heat for the school's under floor heating system. It is possible that this system can reduce carbon dioxide emissions by 6.5 tonnes per year and produce a 60% energy cost saving.

SECTION V - SOUTHERN EDUCATION AND LIBRARY BOARD (SELB)

Performance

5.1 The Board's performance from the two years is shown in the table below against the base year:

Weather-corrected	1999/00 Base Year	2003/04	% Difference from Base Year	2004/05	% Difference from Base Year
CO ₂ Emitted (kg/m ²)	63.55	40.94	-35.57	35.39	-44.31
Energy Used (kWh/m ²)	167.01	174.69	4.60	169.83	1.69
Cost (pence/kWh)	2.72	3.22	18.01	3.75	37.8

Investment

5.2 The Board invested approximately £240,000 on energy efficiency measures through minor works and maintenance in 2003/04. This was 6.9% of the total spend on energy which falls below the NIAO target of 10%. The SELB was also successful in securing funding of £362,450 from the Central Energy Efficiency Fund in 2003/04 for a number of schemes including roof insulation, insulated wall and roof panels, boiler, heating controls, low energy lighting and controls, point of use water heaters and thermostatic radiator valves.

In 2004/05 £179,000 was invested by the Board which was just 4.5% of the total spend. The Board also secured funding of £263,602 from the Central Energy Efficiency Fund in this year for schemes including roof and pipe insulation, energy controls, reflective radiator panels, lighting and occupancy detectors. In 2004/05 the Department also made available funding of £81,000 for capital energy efficiency schemes in the controlled and youth sectors.

Staffing

- 5.3 The Board employs one Energy and Environmental Officer and one Clerical Officer, both full-time to deal with energy and environmental issues.

Special Initiatives and Good News Items

- 5.4 The Board was awarded £104,000 to conduct a joint INTERREG solar water heating project in 20 schools.
- 5.5 The Department of Trade and Investment awarded £121,000 to the Board to install photovoltaics at Fivemiletown High School and two further applications to the NIE SMART Programme for lighting controls have also been successful.
- 5.6 £15,500 was invested in low energy lighting at the Board's Headquarters producing a 5% saving in the electricity consumption.
- 5.7 Photovoltaic systems were installed at Banbridge High School and Craigavon Primary School.
- 5.8 Installation of lighting occupancy sensors in some schools has reduced electricity used for lighting by 17-18%.
- 5.9 To combat increased electricity use the Board were able to secure 50% funding from Energia for energy efficiency lighting. However, the cost savings were offset by increased electricity costs.

SECTION VI - WESTERN EDUCATION AND LIBRARY BOARD (WELB)

Performance

6.1 The Board's performance from the two years is shown in the table below against the base year:

Weather-corrected	1999/00 Base Year	2003/04	% Difference from Base Year	2004/05	% Difference from Base Year
CO ₂ Emitted (kg/m ²)	70.42	41.75	-40.72	39.4	-44.05
Energy Used (kWh/m ²)	178.26	180.94	1.5	184.34	3.41
Cost (pence/kWh)	3	3.62	20.56	3.76	25.24

Investment

6.2 In 2003/04 the Board invested £147,671 on the energy efficiency related portion of maintenance and minor works schemes. This is 4.56% of the Board's spend on energy and falls short of the 10% NIAO target. The WELB was also successful in securing funding of £250,000 from the Central Energy Efficiency Fund in 2003/04 for a number of schemes including cavity wall insulation, boiler, heating and lighting controls, automated energy monitoring and thermostatic radiator valves. A breakdown of the 2003/04 investment is detailed below:

Category	Energy Investment Value £
Boiler Cleaning/Serviceing	3,695
Window Replacement (Double Glazing)	122,359
Roof Insulation	11,963
Lighting Upgrades	9,654
Total	£147,671

No information was available from WELB regarding the Board's own investment in 2004/05. However, the Department records showed the WELB received £59,000 from the Central Energy Efficiency Fund for thermostatic radiator valves, cavity wall insulation and heating controls. In 2004/05 the Department also made available funding £139,000 for capital energy efficiency schemes in the controlled sector.

Staffing

- 6.3 The Board continues to allocate one full-time Energy and Environmental Officer and one full-time Energy and Environment Support Officer.

Special Initiatives and Good News Items (relating only to 2003/04)

- 6.4 At the newly built Gibson Primary School the Board installed a PV panel as part of their policy to install renewable energy technologies into new and existing premises where possible.
- 6.5 The Board presented the pupils and staff of St Mary's Primary School, Mullymesker, with a certificate in recognition of their efforts in caring for the environment and reducing energy usage through a range of good housekeeping measures.

SECTION VII - VOLUNTARY GRAMMAR SCHOOLS (VGS) SECTOR

Performance

7.1 The Voluntary Grammar Schools' performance from the two years is shown in the table below against the base year:

Weather-corrected	1999/00 Base Year	2003/04	% Difference from Base Year	2004/05	% Difference from Base Year
CO ₂ Emitted (kg/m ²)	81.61	51.65	-36.71	50.10	-38.61
Energy Used (kWh/m ²)	232.53	183.58	-21.05	182.46	-21.53
Cost (pence/kWh)	2.32	3.21	38.34	3.51	51.15

NB – A number of schools failed to return energy data as requested.

Energy Efficiency Walkabouts

7.2 The Department continues to carry out energy efficiency visits to Voluntary Grammar Schools and between 2003/04 and 2004/05 the following schools were visited: St Louis' Grammar, Ballymena, Coleraine Academical Institute, Larne Grammar School, the Royal School Armagh, Belfast Royal Academy, Christian Brothers' Grammar School and Sacred Heart Grammar School. The aim of these surveys is to gather information about how energy is being used in terms of lighting, heating and the envelope of the building. In turn this data can help identify where energy and water is being wasted, and what measures might be taken to improve performance. Such measures might involve schools, with the help of their consultants, making bids to the Central Energy Efficiency Fund administered by DFP. When the next requests for energy data are issued, they will include an offer of a visit and we would encourage any school who has not been visited recently and would like advice on ways to save energy, to apply.

Central Energy Efficiency Fund (CEEF)

- 7.3 Over the two years the Voluntary Grammar Schools sector succeeded in securing resources of £506,607 from the CEEF. A variety of different schemes attracted funding such as draughtproofing, cavity wall/roof insulation, change of fuel to Natural Gas, heating and lighting controls, zoning of heating systems, insulation of pipe work and boiler decentralisation.

Good News Story

- 7.4 Methodist College, Belfast, successfully applied for substantial funding from the Central Energy Efficiency Fund over the 2002/03 and 2003/04 financial years, £236,472 and £120,728 respectively. The majority of the funding was to enable the school to upgrade and decentralise the heating system throughout their estate. They also secured funding for cavity wall, loft and pipe insulation and draughtproofing which enhanced the benefits of the decentralisation work. The school has been asked to provide a post project evaluation for the overall project which should demonstrate the benefits of such large investment.

Good Housekeeping

- 7.5 Good housekeeping only requires the investment of time and the implementation of good practice to reduce consumption and therefore the cost of energy and water. This strategy can include practical activities that need to be undertaken on a daily or weekly basis and some which are of a seasonal nature. Actionenergy, now known as the Carbon Trust, have produced a Good Practice Guide GPG343 called 'Saving Energy – A Whole School Approach'. This booklet has been circulated to all schools and gives good practical energy efficiency advice aimed specifically at schools.
- 7.6 Some examples of good practice measures are outlined below:
- Switch off lights if daylight is sufficient.
 - Make sure blinds and furniture do not prevent maximum use of natural light.
 - Ensure hot and cold taps are turned off after use.
 - Check for leaks by examining water meters on a regular basis.

- Activate energy saving devices on PCs.
- If classrooms become overheated, reduce the thermostat instead of opening windows and doors.
- Cover swimming pools when not in use.

7.7 Undertaking appropriate measures of this nature can save up to 10% of schools' energy bills, and DE would encourage all Boards of Governors to bring good housekeeping strategies to the attention of staff and pupils.

EcoEnergy

7.8 Over the two years the number of Voluntary Grammar Schools who are obtaining EcoEnergy for their electricity requirements has risen from two to six. Unfortunately, due to the high demand, EcoEnergy from Northern Ireland Electricity's (NIE) subsidiary, Energia, is no longer available to non-domestic users. Any schools wishing to obtain their electricity supply from a renewable source will need to transfer to an alternative supplier. A full list of suppliers is available from The Office for the Regulation of Electricity and Gas (OFREG - ofreg.nics.gov.uk).

SECTION VIII – GRANT-MAINTAINED INTEGRATED (GMI) SCHOOLS SECTOR

Performance

8.1 The Grant-Maintained Integrated Schools sector performance from the two years is shown in the table below against the base year:

Weather-corrected	1999/00 Base Year	2003/04	% Difference from Base Year	2004/05	% Difference from Base Year
CO₂ Emitted (kg/m²)	60.75	50.89	-16.23	43.70	-28.06
Energy Used (kWh/m²)	156.88	164.71	4.99	149.88	-4.46
Cost (pence/kWh)	3.67	3.93	7.09	4.33	18.24

DFP Central Energy Fund

8.2 Since 1990, Government has been seeking to improve energy efficiency in buildings throughout the public sector, including education. The Department of Finance and Personnel (DFP) has an annual Central Energy Efficiency Fund of approximately £2.7m that supports projects across the NI public sector that reduce energy efficiency and carbon dioxide emissions. It also encourages sponsors to think about schemes that use renewable energy (eg wind or solar power). Proposals that offer value for money and cost £2,500 or more can be considered. Maintenance type schemes or those of a health and safety nature are not eligible for consideration.

8.3 It has been noted that very few Grant-Maintained Integrated schools have submitted schemes for consideration. DE would encourage school authorities to consider proposals although it has been noted that buildings within the sector tend to be either new build, leasehold or mobiles, and the number of schools eligible to submit bids is limited.

Energy Efficiency Walkabouts

- 8.4 The purpose of these inspections is to improve the understanding of how energy and water is being used, and make recommendations to Boards of Governors on how energy efficiency can be improved in the short and longer term. These could involve the implementation of good housekeeping measures and opportunities for investing in projects that will lead to a reduction in consumption and overall costs. DE has decided that rather than selecting schools for a programme of energy efficiency walkabouts, schools themselves will be given the option to request a visit and information about this will be included in the request for 2005/06 energy data.

Monitoring Performance

- 8.5 Information on energy efficiency provides the basis for a school's ability to monitor and set targets for energy and water consumption. An effective monitoring and targeting system will include:
- collecting data from meters, if available, for water, electricity, Natural Gas and oil and also from fuel bills;
 - undertaking ongoing analysis of energy and water consumption;
 - the observations from pupils' surveys or walk-arounds to help identify problems;
 - calculating and analysing performance;
 - adopting targets for the following year.
- 8.6 The information derived from these activities can be used to provide evidence of successful energy efficiency measures. This will encourage both staff and pupils to continue to play their part in the decision-making and future planning, relating to the use of energy and water within the schools. The Department would ask all Grant-Maintained Integrated schools to adopt the above strategy as a means of assessing energy performance and pinpointing where energy is being wasted. Monitoring energy is also important as DE will be asking for energy data (how much electricity, oil, Natural Gas etc is used and how much it costs) annually and having the information readily available will be much more convenient for the school.

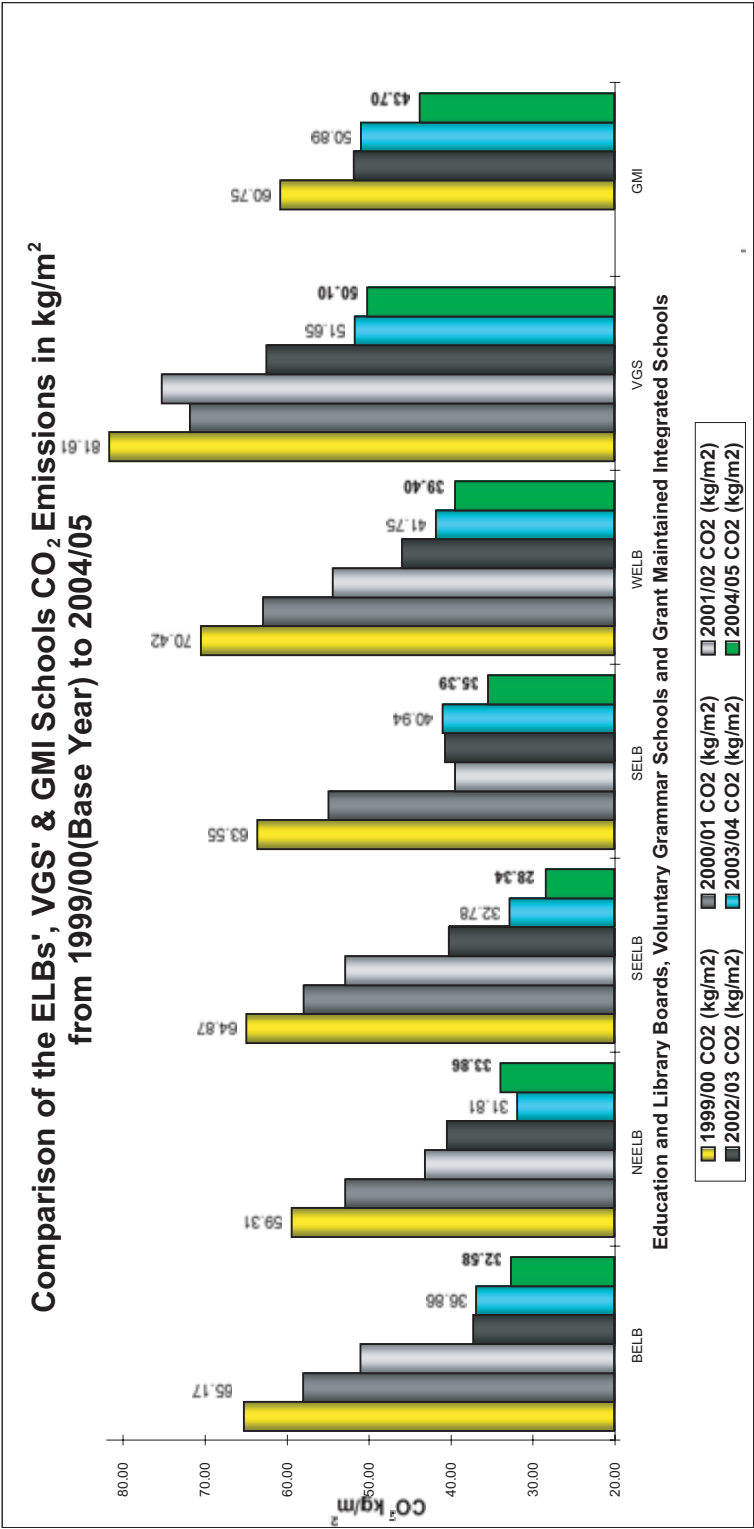
Benchmarks

- 8.7 DE provided benchmarks to the GMI sector, for the first time, relating to 2002/03. The exercise provides figures on an individual school basis along with benchmark figures calculated by using all the figures from similar schools. This benchmarking will be carried out again in the near future and as the information needed for this is obtained from the consumption data it is necessary that data being submitted is as accurate as possible.

EcoEnergy

- 8.8 In 2004/05 three Grant-Maintained Integrated schools started receiving EcoEnergy as their only source of electricity. Other information about EcoEnergy can be found in paragraph 7.8 of the Voluntary Grammar Schools section.

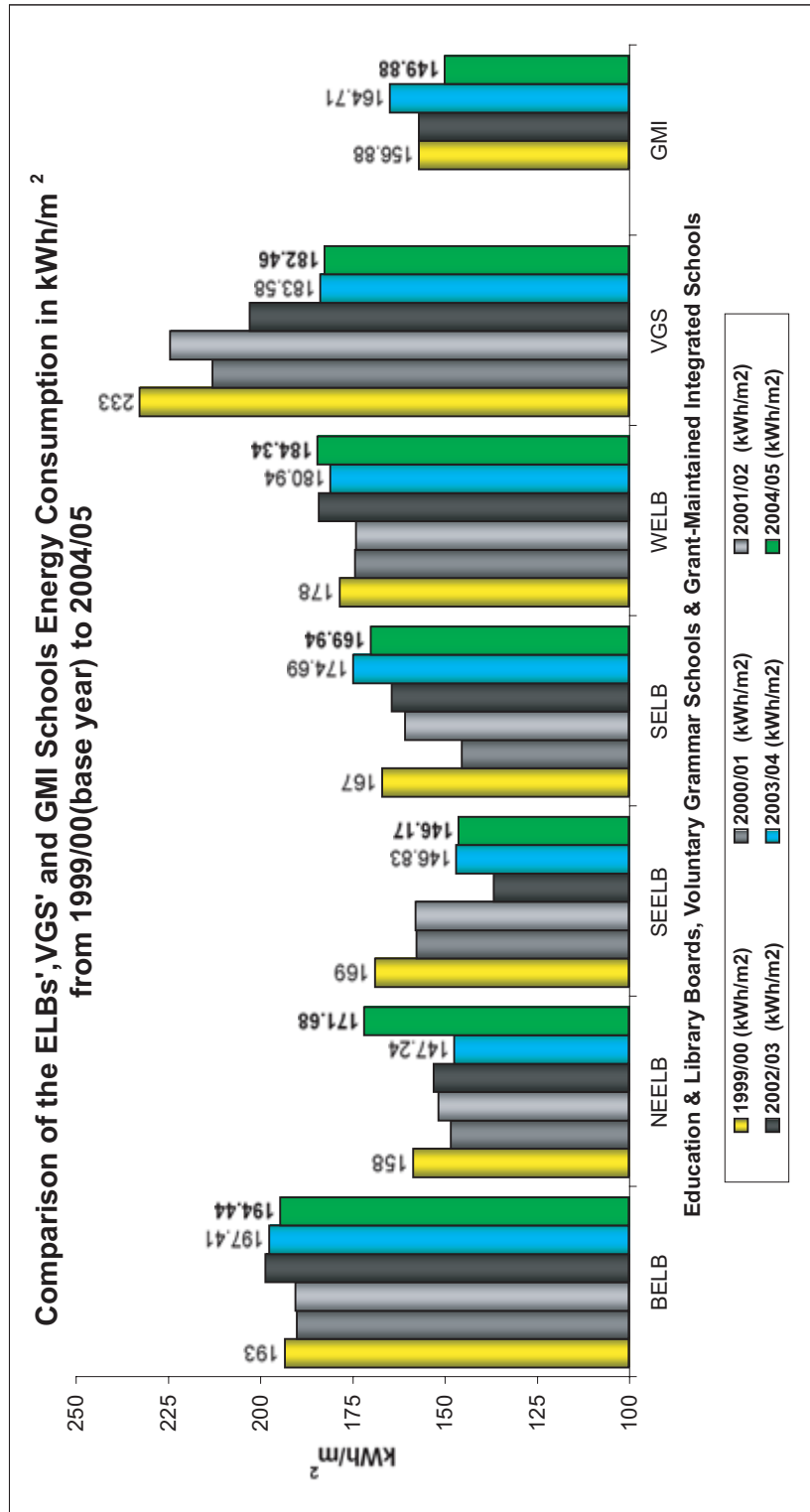
Chart 1



Footnotes

The CO₂ emissions and the Energy Performance figures have been weather corrected. It should be noted that the GMI sector have only supplied data from 2001/02.

Chart 2



Footnotes

The CO₂ emissions and the Energy Performance figures have been weather corrected. It should be noted that the GMI sector have only supplied data from 2001/02.

Chart 1

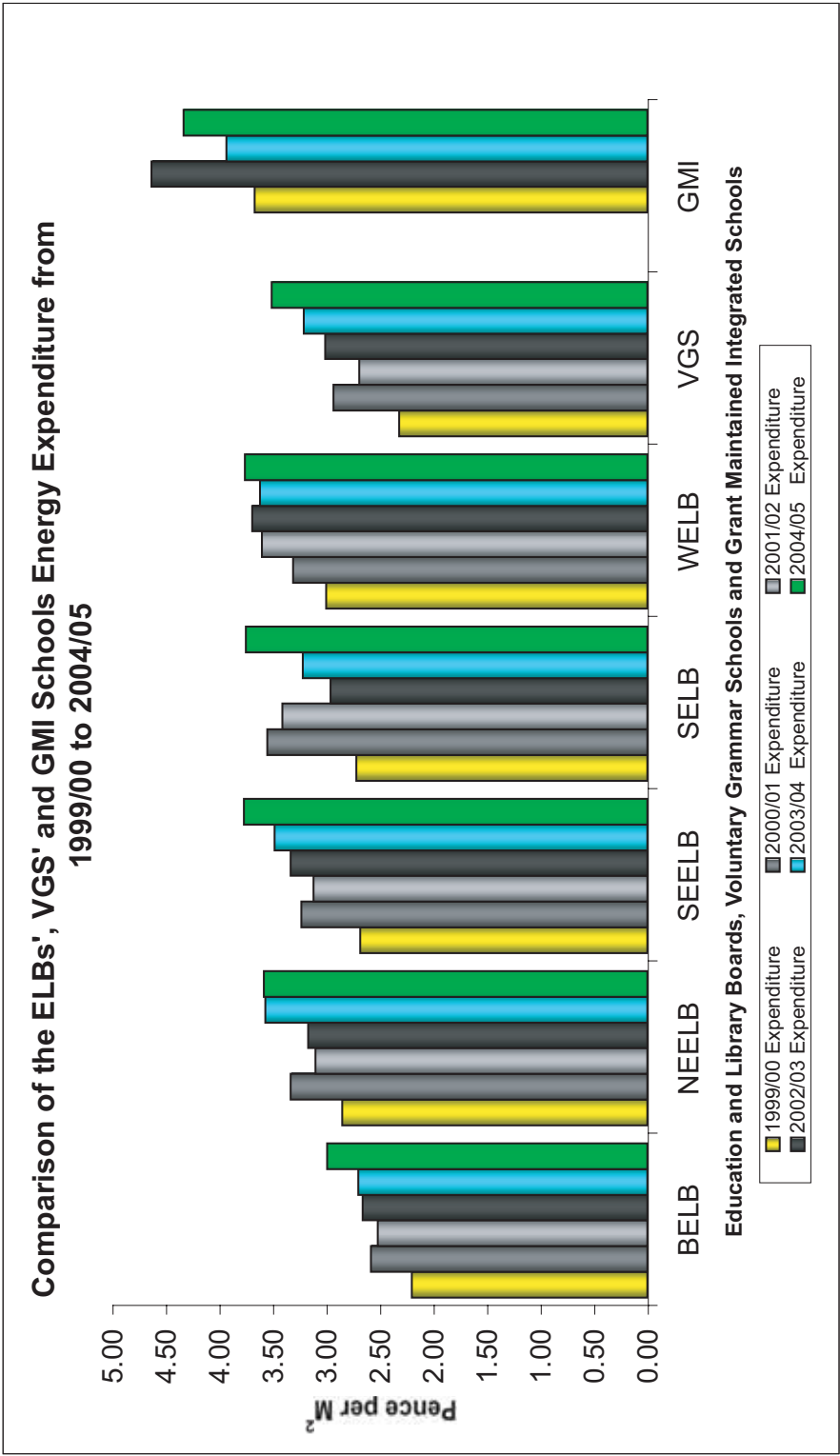
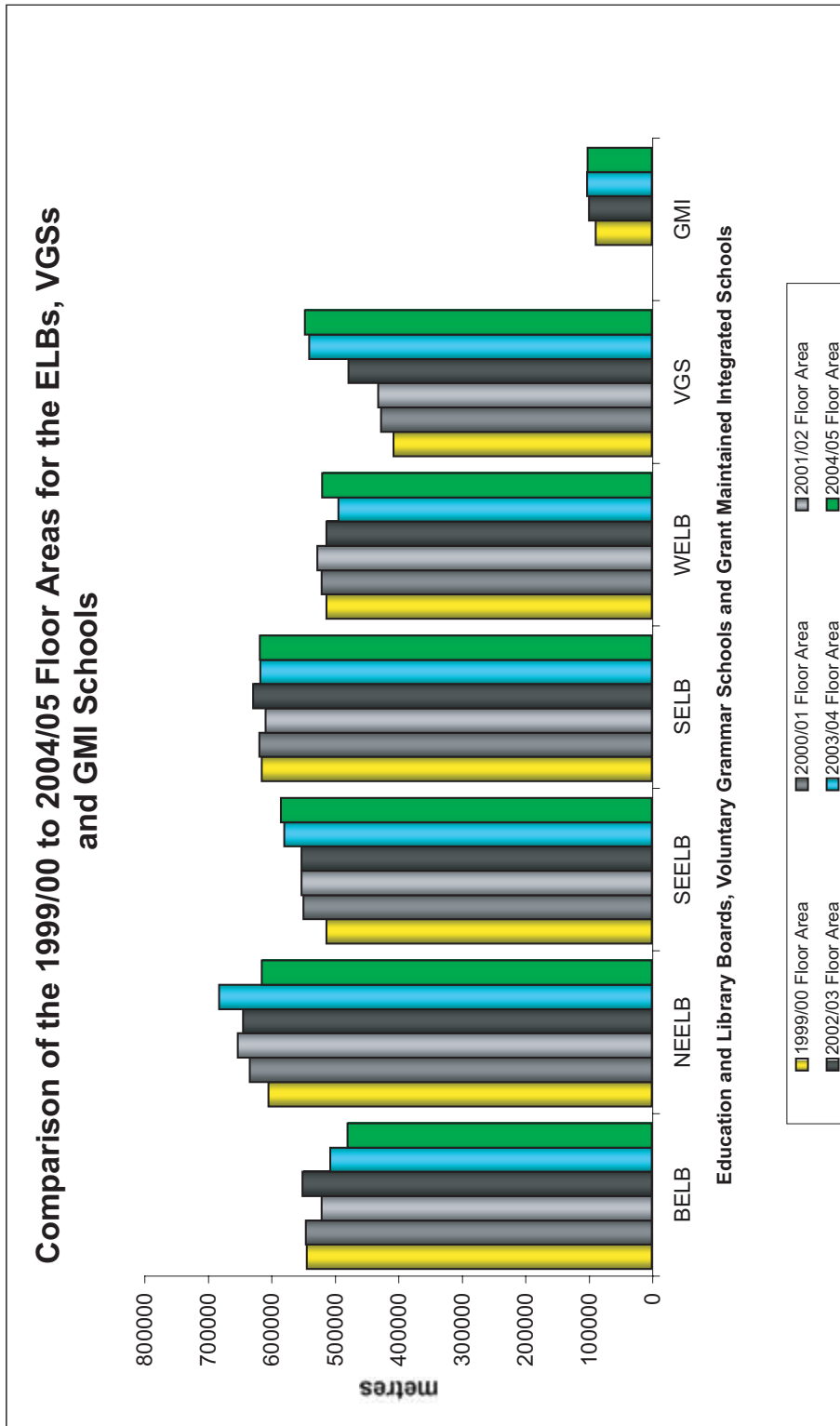


Chart 2



GLOSSARY

Base Year	1999/00 (ELB and VGS sectors) 2001/02 (GMI sector)
BELB	Belfast Education and Library Board
BRE/BRECSU	Building Research Establishment and Building Research Energy Conservation Support Unit (Energy Efficiency Advisory Bodies)
CCTV	Closed Circuit Television
CDT	Craft, Design and Technology
CO ₂	Carbon Dioxide (Greenhouse gas)
DEFRA	Department of the Environment, Food and Rural Affairs
DFP	Department of Finance and Personnel
EcoEnergy	Electricity supplied by a renewable source
ELBs/Boards	Education and Library Boards
GMI	Grant-Maintained Integrated
Heavy Fuel Oil (HFO)	Heavier Grade of Fuel Oil (low refined – 900 sec)
IT	Information Technology (computer, printers, etc)
kg	kilogram (general unit for carbon dioxide measurement)
kWh	kilowatt hour (general unit for energy consumption measurement)
LPG	Liquid Petroleum Gas
NDPBs	Non-Departmental Public Bodies
NEELB	North-Eastern Education and Library Board

NIAO	Northern Ireland Audit Office
NIE	Northern Ireland Electricity
Photovoltaic	Solar power cells
SEELB	South-Eastern Education and Library Board
SELB	Southern Education and Library Board
VGS	Voluntary Grammar Schools
WELB	Western Education and Library Board

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Responsibility for future NEELB energy efficiency issues will come under the responsibility of Robert McCreery (SELB) from 1 April 2006 under a shared services scheme.

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USEFUL WEBSITES

www.est.org.uk

Energy Saving Trust set up to help reduce CO₂ emissions in the UK.

www.defra.gov.uk

Department of Environmental, Food and Rural Affairs (UK site) contains information about the Climate Change Levy.

www.schoolsenergywise.com

Site for Schools with information about involving young people in school energy management.

www.ukonline.gov.uk

Quick access to more than 900 Government websites.

www.ogcbuyingsolutions.gov.uk

The Office of Government Commerce (OGC) site offers advice on value for money purchasing (including energy efficiency advice).

www.eco-schools.org.uk

Information on how sustainable development can become part of the life and ethos of schools.

www.clearskies.org

Government initiative targeted at homeowners and communities to provide grants and advice for renewable energy projects.

www.create.org.uk

National co-ordinating body for energy education.

www.groundwork.org.uk

Provides regeneration and educational programmes to help schools to enhance teaching of energy awareness.

www.think-energy.co.uk

Think Energy has created two resource packs on energy aimed at teaching 7-11 year olds and 11-14 year olds.

www.energychest.net

This website encourages younger pupils and teachers to get involved in management of energy in schools.

www.funenergy.org.uk

Designs fun and games for home and classroom use to promote energy saving ideas.

www.practicalhelp.org.uk

Offers support and advice to local authorities relating to the use of energy in buildings and facilities.

www.cse.org.uk

The Centre for Sustainable Energy works with schools to promote energy efficiency and sustainable energy planning, it also provides a wide range of publications.

www.tsoshop.com

HMS Stationery Office website where you can obtain a booklet on "Purchasing Energy" in schools produced by "The Department for Education and Skills".

www.cee.org.uk

The Council for Environmental Education, it produces material relating to environmental education in schools.

