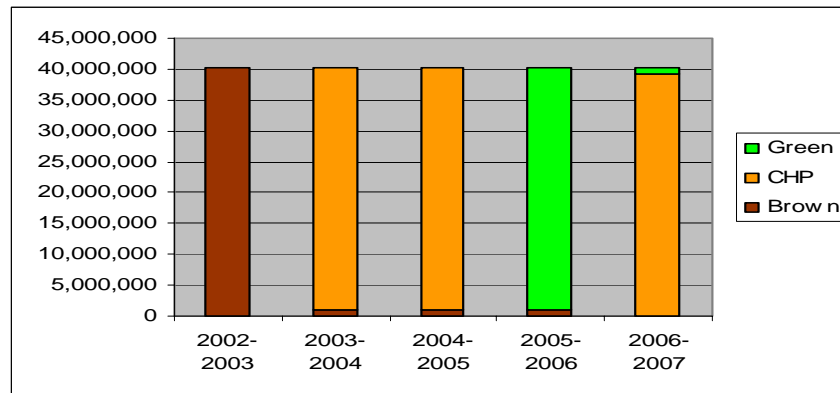


From NCC's Carbon Management Plan published April 2007

Extract from Chapter 2 Baseline – Nottinghamshire County Council's carbon footprint

2.3 Street Lighting

- 2.3.1 A very similar picture has emerged in relation to street lighting. The energy efficiency of street lighting until recently was assessed through Best Value Performance Indicator BVPI180b, a measure of the average lamp circuit wattage compared with average consumption/ wattage by local authorities in the UK. The last time BVPI180b was submitted in 2002/03 it showed that the authority was performing at 398% as compared to the national figure of 325% - in other words that the energy efficiency of the Authority's street lighting is poor. However, as for buildings, BVPI180b has been discontinued and future comparisons will be difficult unless reintroduced by Government.
- 2.3.2 Actual data on street lighting efficiency is not available as the supply is not metered. Billing is based on an inventory of columns and bulb wattages multiplied by the number of lighting hours of use measured by the energy supplier utilizing accurate photoelectric cells. This has resulted in an allocated usage rise from 30,038,568 kWh/yr in 2002/3 to 30,346,000 kWh/yr estimated for 2005/6. This 1.02% increase is accounted for by new lighting provision associated with new development, road safety and crime and disorder projects, offset by efficiency projects.
- 2.3.3 Although energy use in street lighting has increased, the Authority secured a contract in 2004/5 for a mix of Combined Heat and Power (CHP)/ green electricity and in 2005-6 was buying 100% green electricity, at no additional cost. The contract for street lighting was renewed in September 2006, and it was not possible to secure a fully green option at a reasonable cost. The contract now consists of a small percentage of green with the remainder on a CHP tariff giving savings of 7,000 tonnes CO₂.



2.3.4 Thus carbon emissions from street lighting are now reduced compared to a fully brown contract. Whilst this is a positive picture, it should be borne in mind that there is still the danger of reverting back to a fully brown contract should supplies of green be restricted.

Chapter 5 Street Lighting

5 STREET LIGHTING

5.1 Introduction

- 5.1.1 As set out earlier, although carbon emissions from street lighting are currently much reduced due to the fact that the Authority has procured CHP and Green Electricity, this may not be the case in the future due to shortages of supply. In fact energy use in street lighting has increased over recent years. The strategy for reducing carbon emissions should seek to reduce total energy usage through greater lighting efficiency, whilst at the same time seeking to increase supplies of green electricity.

5.2 Proposals

Aim:- To Review existing lighting levels					
Key Actions	Timescale	Contribution towards Aim	Total Estimated cost	Estimated saving per year	Target CO2 emission reductions per year
Review lighting standards on new developments in line with European Standards and – National Code Of Practice	April 2007	Ensure over-lighting does not take place on new developments and that efficient design takes place.	Zero	No data available	No data available
Ensure all lighting renewal and replacement schemes are designed using latest design standards	April 2007	Ensure lighting level is appropriate for road hierarchy.	Zero	No data available	No data available

Aim:- Reduce energy consumption by use of dimming and lighting switch offs					
Key Actions	Timescale	Contribution towards Aim	Total Estimated cost	Estimated saving per year	Target CO2 emission reductions per year
Investigate dimming and lighting switch offs in light of Essex County Council trials and guidance to be published from the CSS and Institution of Lighting Engineers.	April 2007	Potential for significant savings. Legal advice on dimming and switch offs currently being sought.	No data available	No data available but 5% saving would give £175,000 p/a	Potentially 1,346 tonnes
Investigate reducing photo electric cell switch on lighting levels. Potential for reducing the operational running time of High Pressure Sodium (SON) Lighting by 5% per annum	April 2007	Capital funding is required to purchase new controllers – approx £15 per unit. Saving of approx £2 energy charges per unit per annum.	£250k required	£33k annual saving	253

Aim:- To ensure energy efficient equipment is used					
Key Actions	Timescale	Contribution towards Aim	Total Estimated cost	Estimated saving per year	Target CO2 emission reductions per year
Review current lamp types purchased – taking advice from manufacturers on energy efficiency	March 2007	Confirm existing specification is robust in terms of energy efficiency	No data available	No data available	No data available
Trial use of LED lighting at selected sites	Dec 2007	LED lighting uses much less electricity to provide the same lighting levels	No data available	No data available	No data available

Aim:- To ensure energy from renewable sources is used where it is appropriate to do so					
Key Actions	Timescale	Contribution towards Aim	Total Estimated cost	Estimated saving per year	Target CO2 emission reductions per year
Ensure use of green electricity as part of tendering process for street lighting energy	August 2008	Green electricity is carbon neutral	No data available	None	11,700
Trial solar and wind powered lighting	Sept 2007	Trial of emerging technologies.	No data available	No data available	No data available

