Item No. 10

Report to the Chairperson and Members of the Transportation Strategic Policy Committee

Report on Public Lighting

Scale of Public Lighting Infrastructure.

Dublin City Council has 45489 light units.

8661 of the units are mounted on ESB poles.

2941 of the units are mounted on wall brackets

33887 of the units are mounted on a variety of dedicated public lighting poles

Lighting Technology Used

The following is a summary of the various lighting technologies we employ.

Technology	Number	Type of light	Efficacy
Metal Halide	2480	White Light	70 to 115 Lumens/Watt
SON	20200	Yellow Light	85 to 100 Lumens/Watt
SOX	21800	Very Yellow Light	100 to 200 Lumens/Watt
Cosmopolis	490	White Light	110 to 120 Lumens/Watt
LED	300	White Light	90 to 120 Lumens/Watt

Energy cost per annum is €3.6M approximately.

The cost of maintenance on the asset is €4M per annum.

Meeting Carbon Reduction Targets.

DCC public lighting consumes approximately 22,000,000 units of electricity annually.

The carbon reduction can be achieved by implementing the following:

- **Replacement of Sodium lighting with LED lighting.**
- **Installation of dimming technology**

DCC have the following range of Low Pressure Sodium (SOX) lanterns

Number	Wattage	Units consumed per annum
15000	55 Watt (69)*	4,243,500
2500	90 Watt (116)	1,189,000
3400	135 Watt (163)	2,272,000
	Total Units	7,704,500

***The number in brackets is the billed wattage. This figure includes losses.**

SOX technology is being phased out and the price of replacement lamps is increasing at a rapid rate.

Note public lights burn for approximately 4100 hours per annum.

These lanterns will be replaced by the following LED lanterns.

Existing Watts	Number	New LED Wattage	Units consumed per annum
55 Watt (69)*	15000	36 Watt	2,200,000
90 Watt (116)	2500	70 Watt	720,000
135 Watt (163)	3400	110 Watt	1,530,000
		Total Units	4,450,000

The estimated cost of replacing all of these lanterns is of the order of €7,000,000.

DCC have the following range of High Pressure Sodium (SON) lamps

Number	Wattage	Units consumed per annum
183	50 Watts (56)	42000
4833	70 Watt (84)	1,664,500
6599	100 Watt(114)	3,085,000
4714	150 Watt (168	2,363,000
3431	250 watt (270)	3,798,000
369	400 Watt (435)	658,000
	Total	11,610,500

The number in brackets is the billed wattage. This figure includes losses.

These lanterns could be replaced with the following LED lanterns.

Existing Watts	Number	New LED Wattage	Units consumed per annum
50 Watts (56)	183	36 Watt	27,000
70 Watt (84)	4833	52 Watt	1,031,000
100 Watt(114)	6599	65 Watt	1,759,000
150 Watt (168	4714	110 Watt	2,126,000
250 watt (270)	3431	180 Watt	2,532,000
400 Watt (435)	369	290 Watt	439,000
		Total	7,914,000

The estimated cost of replacing these lanterns is €9,600,000

The above two investments combined yield an energy saving of 35% approximately.

It is intended to implement dimming between midnight and 6:00 a.m. This measure would yield a further 15% reduction in energy consumption.

The public lighting division have just completed a tender competition for the supply of LED lanterns. A capital fund of €1M per annum has been set aside for the replacement of all of our Low Pressure Sodium Lanterns. This work will start immediately.

Asset replacement.

It has not been practice to invest in a programmed way to renew aging asset items.

There are a number of pole types that are a cause of concern and need to be replaced as follows:-

Pole Type	Number	Cost
Concrete	1200	€2,400,000
Tram Poles	1100	€2,200,000
Bromford Pillars	140	€350,000
Old Un-Galvainised steel Poles	8500	€9,300,000
	Total	€14,510,000

A capital investment needs to be put in place to replace the above poles over the next 10 to 15 years.

The concrete poles were installed between 1930 and 1960. Parts of them are falling away and in many cases we have had to remove the brackets on safety grounds.

The old tram poles were installed to support the overhead cables of the original tram system. Many of these poles are in a poor condition.

The Bromford pillars are showing serious corrosion problems. These poles were installed in 1950 and 1960.

Un-galvanised poles were installed in the 60s and have exceeded their design life and in many instances they show serious corrosion problems.

A capital sum of €1M per annum has been provided over the next three years to replace poles.

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