

APSE Wales Renewables and Climate Change Advisory Group

Street Lighting
Wrexham County Borough Council



Introduction

Wrexham County Borough Council currently maintains 1,140km of classified highway which includes circa:

13100 street lights

2200 illuminated signs

725 illuminated bollards

Current lighting stock includes a variety of lanterns with an assortment of different lamps:

3800 SOX lamps (29%)

4700 SON Lamps (36%)

950 CPO Lamps (7.3%)

560 CDMT Lamps (4.3%)

2881 LED Lanterns (22%)

Other types (1.4%)



Drivers for Change

- Ageing Street Lighting Infrastructure
- Increased Demand on Limited Staffing Resource
- Rising Maintenance Costs
- Forecast Increase in Energy / Network Distribution Costs
- Climate Charge Levy (Carbon Tax)
- Reducing National/Local Revenue Budgets
- Limited Capital Funding
- (Proactively replace life expired infrastructure)*
- National Local Policies (Carbon Reduction)



Reduce Energy Consumption

Options:

- Dimming
- Part Night Time Switch Off
- Full Switch Off
- Alternative Switch Off
- LED Conversion/Dimming

Considerations/Impacts:

- Highways Road Safety
- Crime Levels (Actual/Perceived)
- Level of Support (Public/Political Support)
- Contribution to Local Priorities
- Costs (Implementation/On-going Maintenance)



Preferred Option - LED

Benefits

- Reduction in Carbon Emissions
- Reduction in Energy consumption / costs
- Reduced Maintenance costs
- Welsh Government Well Being Goals:
 - *A Prosperous Wales*
 - *A Resilient Wales*
 - *A Globally Responsible Wales*
- WCBC Local Priorities:
 - *Pride in our Environment*
 - *Working with Partners to Make Wrexham Safe*



WCBC LED Projects (Phase 1, 2 and 3)

Phase 1

Welsh Governments Invest to Save Fund.

Funding

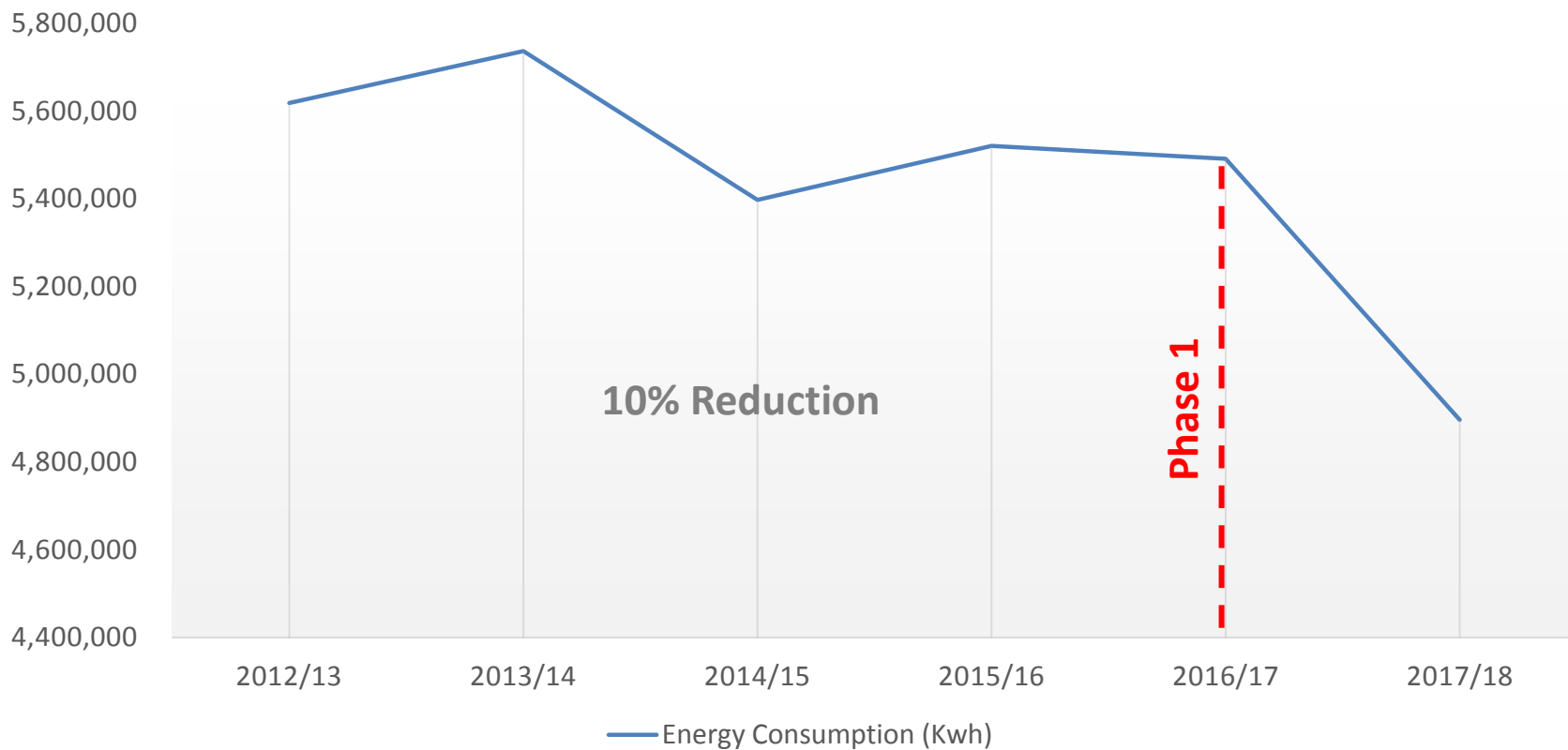
- Invest to Save - £890,000
- Wrexham County Borough Council Contribution - £190,000

Scope of Scheme

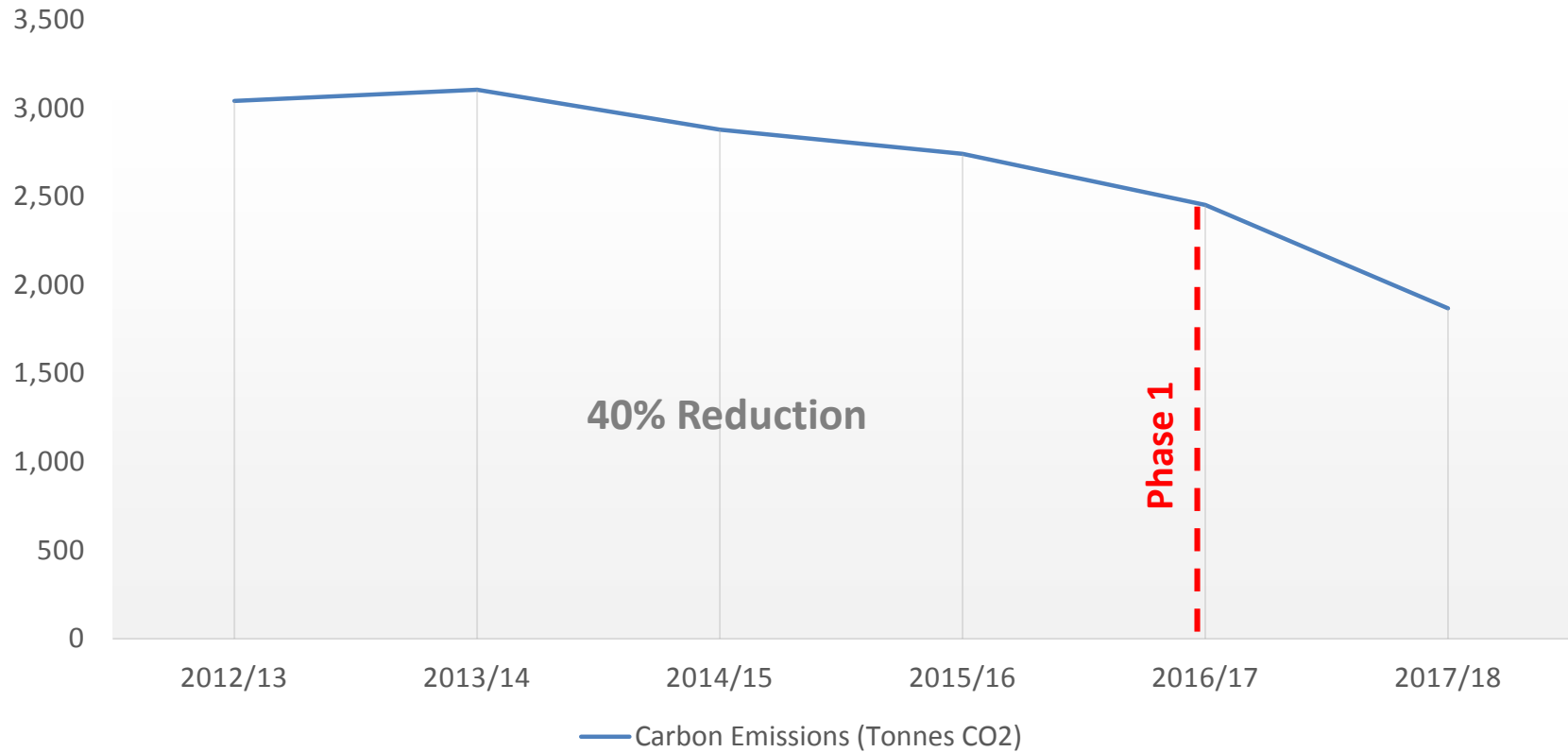
- Installation of 2400 LED lanterns
 - Local Strategic Routes
 - High Energy Lamps
 - Costly to Maintain (Traffic Management Issues)
- 160 Life Expired Street Lighting Columns.



Energy Consumption (Kwh)



Carbon Emissions (Tonne's CO2)



WCBC LED Phases 2 & 3

These next Phases will see the conversion of all the remaining non LED lanterns (10,400 units)

Funding

- Salix Invest to Save Funding: £1.5M
(7.2 years payback / energy savings)
- WCBC Capital Contribution: £700K

Phase 2

- Conversion of 2,000 units to LED, due to commence on site in January 2019 completed by March 2019

Phase 3

- Remainder of units (8,400) completed by during 2019 and 2020.



Anticipated Savings

- Annual Carbon Savings of circa 592.7t
- Energy cost savings £200,000
- Maintenance (to be determined)

What Next/Challenges

- LED Programme Is this Enough!!!
- Community Footway Lighting
- De-illumination of bollards and signs
- Replacing all required Illuminated Bollards and Signs with LED
- Use of Solar Powered Units, where appropriate.

