

Report of the Strategic Director of Place to the meeting of Keighley Area Committee to be held on 16th November 2023

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Subject:

SMART STREET LIGHTING – UPDATE ON PROJECT PROGRESS

Summary statement:

The following reports seeks to provide Members with a progress report on the Smart Street Lighting Project and the work undertaken to date.

EQUALITY & DIVERSITY:

There are no equality and diversity issues.

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Portfolio:

Regeneration, Planning & Transport

Overview & Scrutiny Area:

Regeneration and Environment

1. SUMMARY

- This report provides Members with an update on progress of the Smart Street Lighting project, specifically, the work completed in the Keighley constituency replacing old street lighting luminaires, life expired columns and the installation of the Central Management system and LoRaWAN network.

2. BACKGROUND

- The Council approved an invest to save project of £45m to update its current lighting stock, of approximately 56,500 assets, with the aim of significantly reducing energy consumption, maintenance costs and reducing CO² emissions. The project will replace the existing inefficient lighting with energy efficient LED's whilst retaining most of the existing lighting columns. It is envisaged that there will be a need for the replacement of approximately 15,600 life expired lighting columns which were identified during a survey of all existing assets (carried out in 2019-20). The new lighting solution will be controlled using a Central Management System (CMS) to control the lighting via a Low power wide area network (LoRaWAN) platform to facilitate Internet of Things (IoT) connectivity for a variety of sensors and devices.
- The project has been split into two work streams "In Scope" works around 48,300 assets which are the standard column replacements, connections and luminaire replacements on the majority of streets across the district and "Out of Scope" works around 8,200 which are the more challenging assets such as heritage assets, pole mounted and wall mounted luminaires, columns in back streets, overhead cabled columns etc.
- The "In Scope" works is being undertaken by the external contractor Amey OW Ltd. and the "Out of Scope" works will be a mix of the Councils in house delivery teams for the luminaire replacements and a further contract resource for the remaining column replacements and connections.

3. OTHER CONSIDERATIONS

- None currently.

4. FINANCIAL & RESOURCE APPRAISAL

- There are no financial issues arising from the project to date. The funding was agreed by the PAG and is split as follows;
£25,893,509 Prudential Borrowing
£19,084,597 SALIX interest free Government Funding for carbon reduction projects.
- Upon completion of the project, it is projected that the Council will have reduced the annual energy consumption, as outlined in the table in Appendix A.

5. RISK MANAGEMENT AND GOVERNANCE ISSUES

- Due to the size and nature of the project there are several risks in delivering the works, these are being effectively managed through the NEC contract with Amey OW Ltd. as well as the whole project being overseen by a governance framework and monthly project board meetings to ensure that risks are managed and mitigated effectively.
- The Smart Street Lighting Project Board reviews the risk register at each meeting and assesses whether escalation is required or whether the Project Executive is satisfied that the risks are being managed effectively.

6. LEGAL APPRAISAL

- There are no current legal issues.

7. Links to the Locality Plan

Smart Street Lighting is an all-District service delivery project.

7.1 SUSTAINABILITY IMPLICATIONS

- The Smart Street Lighting project forms part of the Council Plan in helping to deliver the priority area “A Sustainable District”. By replacing the old street lighting units with energy efficient LED’s this will reduce the Councils energy consumption for street lighting by at least 65% whilst providing lower maintenance requirements and costs.
- The installation of the Central Management System facilitates the dynamic control of the lighting enabling dimming and switching off lights, automatic fault reporting which saves on physical night inspections of lights to identify failures as well as pseudo energy metering so that the actual consumption of the units can be monitored and provided for billing purposes.
- The specification for all new lighting columns has been developed to provide a useful life of 50 years rather than 30 years offered with standard specification columns, reducing the necessity to replace as frequently. Also, the LED luminaires are projected to have a 20-year life, again reducing the need for frequent replacement as opposed to the old lamps which had a 4 – 6-year life.

7.2 GREENHOUSE GAS EMISSIONS IMPACTS

- By reducing the energy consumption of the street lighting assets this provides a significant reduction in CO² emissions. It is anticipated that the savings will be around 6000 tonnes of CO² per annum when the project is complete. In addition to this by specifying materials with longer life this also reduces the Councils carbon footprint.

- The provision of the CMS and the LoRaWAN network enables the Council to control the lighting and provide connectivity of a plethora of sensors which could assist in providing data to support the Councils response to the Climate Emergency. Refer to Appendix A for carbon reduction figures.

7.3 COMMUNITY SAFETY IMPLICATIONS

- The first phase of the project was to survey every asset in the District to ascertain both electrical and structural safety, this included non-destructive testing of all steel lighting columns. During the survey, columns were identified for replacement based on the results of the testing with many concrete columns proposed for replacement. Overall, the column replacements identified are in the region of 30% of the stock.
- Inevitably, during the survey around 700 columns were found to be structurally unsafe requiring immediate action. These units were cut down to just above the shoulder around 1.2m above ground level and made safe. Risk assessments were undertaken to identify those requiring urgent replacement based upon whether they were the only light in the street or multiple lights in the same street. The vast majority of these have been replaced with around 15 outstanding across the District.
- The provision of a safe, modernised, fit for purpose streetlighting infrastructure is an important service for ongoing community safety.

7.4 HUMAN RIGHTS ACT

- There are no human rights implications.

7.5 TRADE UNION

- There are no trade union implications.

7.6 WARD IMPLICATIONS

- As an all-District project, all wards in the Keighley Constituency are affected by the project. This includes installation works resulting in traffic management measures, barriers on pavements and limited time disruptions in all streets as work is carried out.
- Ward specific data regarding the number of assets and completed works can be found in Appendix B.

7.7 AREA COMMITTEE ACTION PLAN IMPLICATIONS (For reports to Area Committees only)

- The project aligns with the Area Committee Action Plan priority of A Sustainable District, not only in providing energy efficient lighting but also

improving the street scene by replacing outdated concrete columns and providing lower maintenance LED lighting.

7.8 IMPLICATIONS FOR CHILDREN AND YOUNG PEOPLE

There are no implications for children and young people.

7.9 ISSUES ARISING FROM PRIVACY IMPACT ASSESMENT

No issues arising.

8. NOT FOR PUBLICATION DOCUMENTS

- None

9. OPTIONS

- This report provides information on the progress of the Smart Street Lighting Project and therefore there are no options requiring a decision.

10. RECOMMENDATIONS

- That Members acknowledge the progress of the Smart Street Lighting project and welcome future updates
- That Members endorse the project and the positive impact for the Keighley constituency and its wards.

11. APPENDICES

- **Appendix A** – Charts outlining Load Reduction, Energy Savings and CO2 savings by ward.
- **Appendix B** – Chart identifying Smart Street Lighting works, by work type and completed works by ward to date.

12. BACKGROUND DOCUMENTS

- None

Appendix A

Chart 1 – This indicates the load of the street lighting in Killowatts before and after the installation of the new lighting.

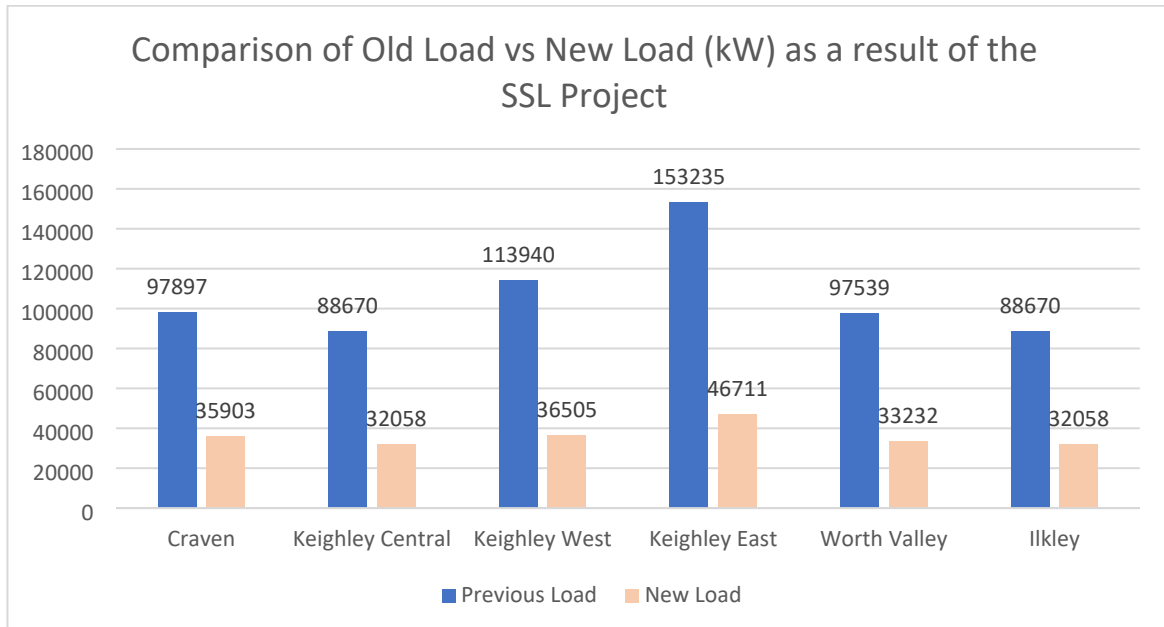


Chart 2 – This shows the consumption of energy in Kilowatt Hours for a 12 month period as a comparison between the old lighting and new lighting.

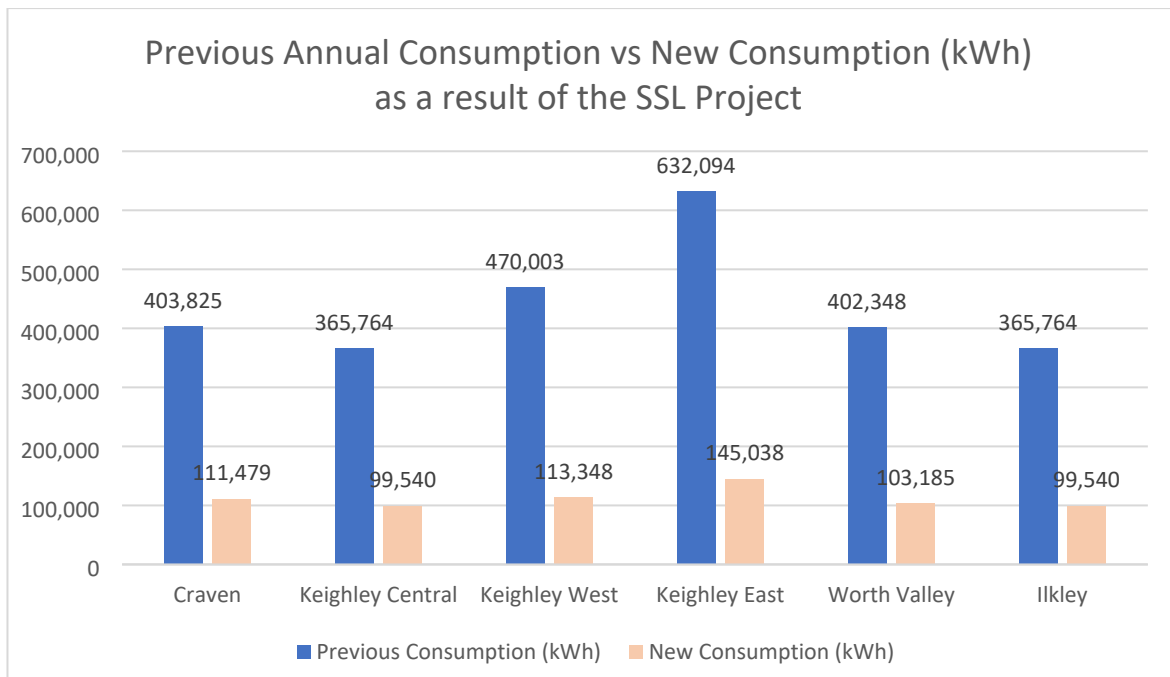


Chart 3 – This provides an estimated energy cost for a 12 month period as a comparison between the old and new lighting based on a per unit rate of 31.5p per Kilowatt/Hour

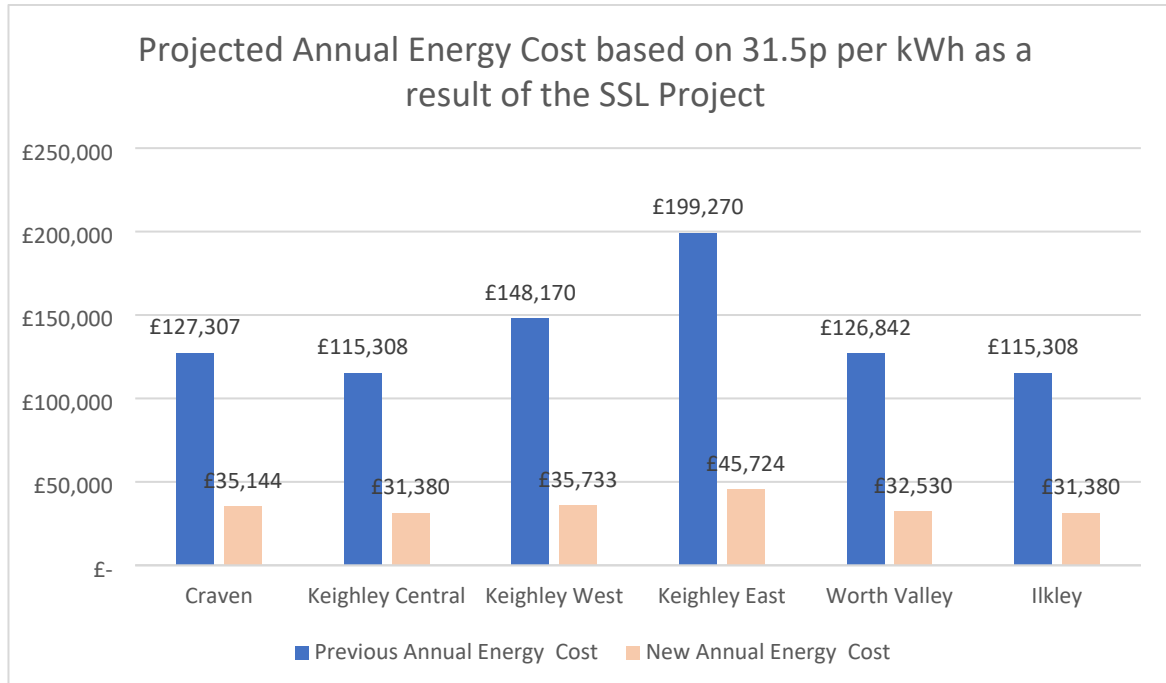
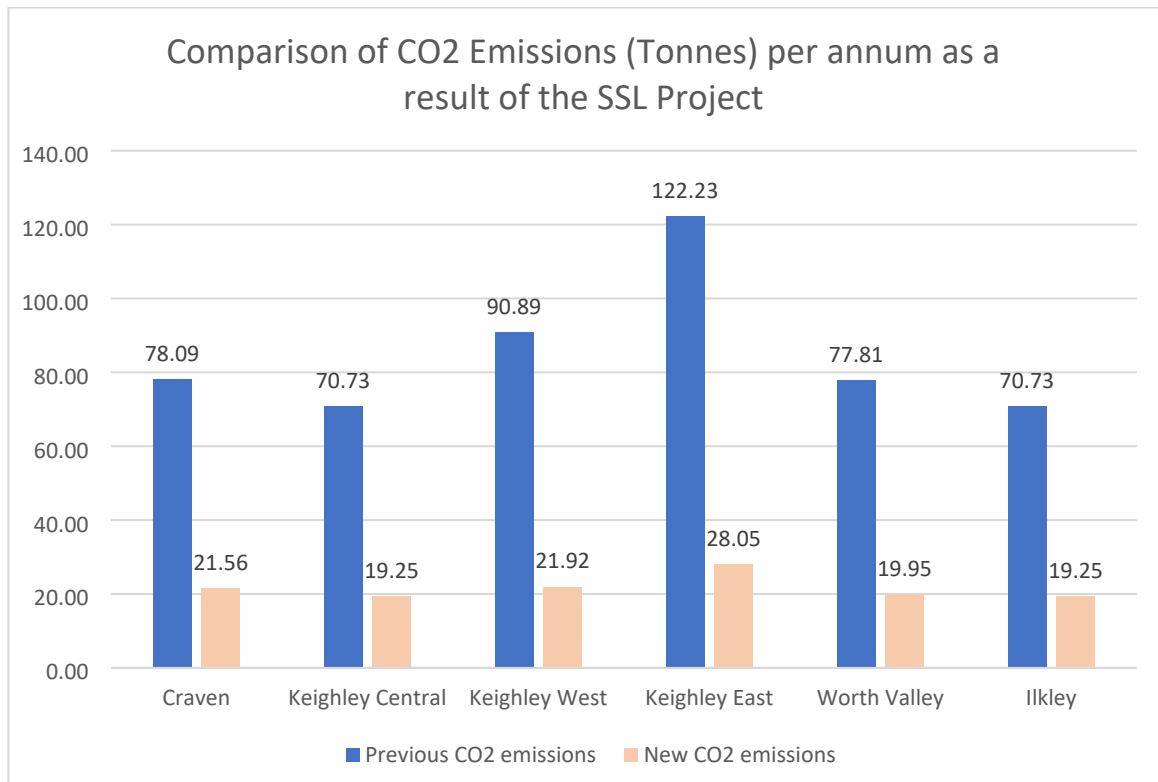
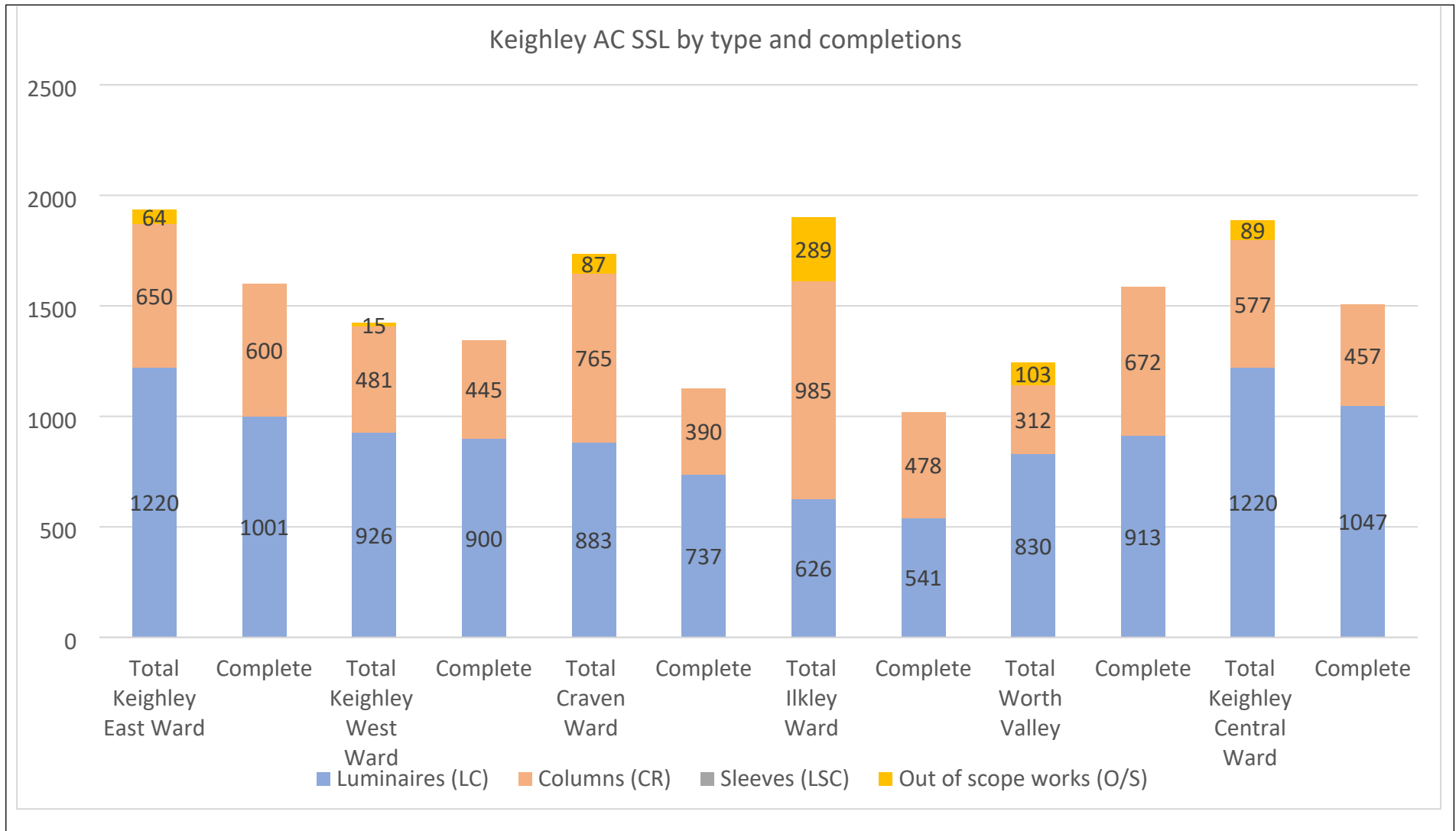


Chart 4 – Shows the estimated before and after CO² emissions in tonnes per annum as a result of the SSL project



Appendix B

This provides details of the work required in the left hand column for each ward defined by work type, and in the second column for each ward indicates the work completed by work type.



Data as at October 2023