

Southend-on-Sea Borough Council

Agenda
Item No.

28

Report of Corporate Director for Place

to
Cabinet
on

22 September 2015

Report prepared by: Jeremy Martin, Energy Projects Manager

Pier Hill Lift Replacement Project

Place Scrutiny Committee
Executive Councillor: Councillor Longley
Part 1 (Public Agenda Item)

1. Purpose of Report

- 1.1. The purpose of this report is to seek approval to spend up to £315k to replace the lifts in the Pier Lift Tower on Pier Hill and to provide a small solar array. This project is presented as an Invest to Save project with revenues from solar PV and savings from the reduction in maintenance and energy costs.

2. Recommendations

- 2.1 **This proposal recommends that the Council replaces the lifts in the Pier Lift tower and installs up to 20kWp Solar on the roof.**
- 2.3 **A new capital budget be approved for the £315k to be funded from the capital reserve.**

3. Background

- 3.1. The lifts in the Pier Tower are of an industrial design originally intended to simplify the workings. In practice, they are noisy, repeatedly break down and consume excess energy as the motors are so large.
- 3.2. The current lift motors were a prototype model and are specialist equipment from Sweden and parts can only be sourced through one company. This introduces excessive cost as parts are expensive and long delays are experienced as few parts are held in stock. Efforts have been made to find cheaper servicing which is in place but repair costs are still excessive.
- 3.3. Current maintenance costs are constructed using a service contract and additional parts and callouts. This structure was chosen to reduce maintenance costs because only one company was able to offer a fully comprehensive service. However, parts are only available from one company and are

expensive and are likely to get more expensive. Total current servicing costs are approximately £42k per annum based on the past few years but breakdowns appear to be getting more frequent.

- 3.4. The current operation used around 80,000kWh electricity each year. The proposed system is estimated to use 70-75% less energy but is likely to be used more because it will carry more people and will consume power when in use while the current system saves energy when not in use. 50% energy savings are estimated for the project taking this effect into account.
- 3.5. The current lift motors are wearing and are likely to require replacement in the next year. This is estimated at between £45-60k. This replacement will have some impact on the maintenance costs but the motors are only one part and therefore this impact will be minimal.
- 3.6. Replacing the lifts with a more conventional traction lift will allow variable speed motors to be used which will provide lower maintenance, lower energy costs and a faster, smoother lift action for passengers. As well as direct maintenance cost savings, the more conventional system will be attractive for more companies to maintain allowing competitive forces to keep costs down.
- 3.7. As well as improved reliability, the proposed cable driven lifts will provide a smoother, more comfortable ride and will speed up the lift operation allowing more passengers to be carried on busy days.
- 3.8. The roof on the Pier Tower is circular and the East, West and South facing areas will be suitable for solar generation. Approximately 20kWp solar can be installed which will generate around 1/3rd of the energy required to operate the lifts.
- 3.9. Micro-generation from renewables can generate free electricity whilst also generating revenue from Feed-in-Tariffs (FiTs). These will be linked to reduced maintenance to generate savings and revenue to repay the cost of the investment.

4. Proposal

- 4.1. The existing lifts will be replaced by new cable driven lifts using variable speed motors.
- 4.2. A 20kWp solar system will be installed on the boiler room rooftop to take advantage of the south facing aspect.

5. Timescale.

- 5.1. The project will commence immediately following the summer 2015 season to ensure that the Lift tower is in operation in time for the 2016 season.
- 5.2. A detailed implementation plan will be agreed once approval is granted but implementation is proposed to be as fast as possible.

6. Direct Savings

- 6.1. An estimated £7.6k revenue will be generated in year 1, rising to £16k by year 20, from energy savings and FIT income. The income will rise year on year linked to RPI and rises in energy costs.
- 6.2. Maintenance cost savings are estimated at around £14k per annum
- 6.3. Benefit net of cost (including funding) is low (£2.5k per annum, 0.81% of capital) but there is a £45-60k avoided future capital requirement.

Estimated Year 1 revenue and savings	£23.0k
Estimated Year 20 revenue	£38.1k
Annual estimated benefit (net of all costs including funding)*	£2.5k (0.81%)
Total 20 year estimated revenue and savings	£625k
Capital Cost	£315k
Future Capital requirements avoided	£45-60k

*Net cash excludes investment income from capital accrued

**NPV includes investment income from capital accrued

7. Other Benefits

- 7.1. The proposal will save 31tCO₂. The CO₂ reduction represents 0.17% of the CO₂ for which the Council is responsible and 0.004% of total CO₂ emissions for the entire borough.
- 7.2. The replacement of the lifts will improve reliability of the system and reduce breakdowns which are major frustration for staff.
- 7.3. Reduced demand on Resort Services staff enabling them to focus on core work areas. The frequency of breakdowns currently places a high workload on the Resort Services team. Not just through reporting and ensuring repair of the lifts in conjunction with the Property and Maintenance team but also through lift rescues and operating the Cliff Lift when both lifts are out of service and volunteers aren't available to operate to the other lift.
- 7.4. Reputational benefits. The town attracts some 5.5m visitors each year, most of who will visit the seafront and High street during their visit. Regularly out of order infrastructure will affect Southend's reputation as a visitor destination as well as perceptions locally, among seafront traders for example, that the visitor economy isn't valued so appropriate investment isn't being made to support it.
- 7.5. Increased reliability and speed of service will increase the number of passengers that can be served by the system

8. Risks

- 8.1. Distribution Network Operator (DNO). Approval for the grid connection of the solar will be required from the DNO – UK Power Networks. As most of the electricity generation will be used on site this is not expected to be a problem.

- 8.2. Timescale. The FiTs for Solar are revised quarterly on a downward trend based partly on the costs of solar installation but also on take up. The rates have recently been revised down and the figures till 30 September 2015 are assumed with 3.5% reduction to simulate the likely revenue. The solar will be permitted development so if approval can be gained quickly enough, FiTs could still be granted before they are cut which would raise revenue.
- 8.3. FiT Regime Changes. DECC have recently issued a consultation on changes to the FiT regime in the UK. There are two risks to this project as a result. First, the rate of FiT will fall from 11.3p per kWh to 3.69p from 1 January 2016 which would remove up to £1.2k per annum revenue. This risk will be managed by starting the procurement process early subject to funding approval to ensure that this element of the project can be installed before the end of 2015. The second potential impact to this project stems from a proposal within the consultation for a retrospective change to the export FiT relating to unmetered systems. The financial risk is that, from 2017 or after, up to £240 per year (inflating) could be lost from the revenue out of £7.6k estimated in year 1.
- 8.4. Timescale. Commencing the project too late will either affect the 2016 visitor season or will require a delay to the project until autumn 2016 thereby requiring another 18 months of breakdowns and maintenance.
- 8.5. Performance. The financial projections depend on the calculated savings and revenue generation from the measures being achieved. These have been calculated cautiously to ensure that the risks are on the upside. Nevertheless, there is a risk because the savings from maintenance will be subject to establishing a good contract post installation.
- 8.6. Weather. Performance of solar can be weather related and a cool summer with lower than average sunlight may result in a lower yield than predicted. Conversely, a summer with higher than average sunlight will generate a higher yield.
- 8.7. Resources. Whilst some of the projects can be managed through contractors, some internal engineering and project resources will be required. Fees to allow the use of external consultants and to provide for internal engineer resources have been included within the financial projections. 2% fees have been included to provide for repayment of costs for the energy team to the Transitional Fund.
- 8.8. Capital Cost. The costs for the measures have been estimated based on quotes from manufacturers and experienced sources. The final costs will be subject to the results from tenders of each measure.
- 8.9. Inflation. The financials are calculated using a standard assumption of 2.5% inflation (RPI) and 5% energy inflation. Lower inflation will result in lower revenues and lower savings but will be in an environment where the overall energy costs for the Council will be lower. If inflation is higher, the revenue and savings will be higher but this will be in an environment where the overall energy costs will be higher.

9. Funding

9.1 Funding of £315k is proposed from the capital reserve.

10. Financial Summary

10.1. The NPV (20 years, 6.09%) for this project is £21k calculated after allowing for repayment of all capital and funding costs including project resources using a risk weighted 6.09% index rate. To be updated once table in 6.3 is amended.

10.2. The project provides a solution which removes the need for near future capital of £45-60k.

11. Assumptions

11.1. The following key assumptions are included in the financial summary:

- Future years energy price inflation will be 5% per annum for all fuels
- FiT income will be uprated by RPI each year assumed to be 2.5% for the life of the project.
- Solar generation will be around 5% below Climate SAF database calculations. Evidence nationally and locally from other installations in Southend suggests that the databases are consistently predicting output low against Climate Classic and that Climate SAF is more accurate.
- Solar generation will continue on site beyond the 20 year FiT period. It is expected that the Council will have multiple generation facilities within the borough operating at that time and will negotiate a bulk sales rate for all export from such facilities.

12. Other Options

12.1 Other options considered include:

- Do nothing. Doing nothing will leave the lift towers exposed to poor reliability. The motors will require changing in the next few years which will require capital of between £45-60k.
- Fund through another source. It may be possible to fund the project through private sector finance sources but this would be more expensive.

13. Corporate Implications

13.1. Contribution to Council's Vision & Corporate Priorities

13.1.1 This project will support the delivery of SBC's second Low Carbon Energy and Sustainability Strategy which was adopted in late 2014. It will also support the Council's Economic Development and Tourism priorities through an improved visitor offer.

13.2. Financial Implications

13.2.1 This is an invest-to-save project and the predicted revenue streams cover the financing costs of the project and give a small net benefit. The paper assumes that funding will be from the capital reserve.

13.2.2 There are risks associated with the revenue returns and if circumstances transpired where they were not sufficient to cover the loan repayments, then the Department of Place would need to supply the shortfall from their budgets.

Finance consultation has been restricted to funding and accounting relating to the project proposals and not to the underlying capital costs or energy generation modeling

13.3. Legal Implications

13.3.1 There are no legal implications as a result of this report.

13.4. People Implications

13.4.1 This will reduce the demand on the Resort services staff over and above their daily operations by reducing lift rescues and operation of the cliff lift.

13.5. Property Implications

13.5.1 This proposal applies only to the Pier Lift tower

13.6. Consultation

13.6.1 Economy and Tourism, Property Services and Finance have been consulted in this project.

13.7. Equalities and Diversity Implications

13.7.1 There are no equalities and diversity implications as a result of this report.

13.8. Risk Assessment

13.8.1 The risks are reviewed in full at Section 8. The major risk relates to the quantum of energy saving given that the lift usage will increase with this proposal and that maintenance savings of £15k per year can be achieved.

13.9. Value for Money

13.9.1 This project will achieve value for money through open market tender for each element – lift replacement and solar PV.

13.10 Community safety implications

13.10.1 There is no community safety implications as a result of this report.

13.11 Environmental Impact

13.11.1 The proposal will save 31t CO2 per annum.

14. Background Papers

14.1 There are no background papers for this report.

15. Appendices

15.1 There are no appendices for this report.