

## **Battery Storage Investment at City Hall – Appendix G, – Comments from Financial partners**

*“This is a pilot project to introduce a battery power system into City Hall and forms part of the commitment by the City Council to be carbon neutral by 2025. The project requires £0.356m of Prudential Borrowing (PB) to be reallocated from a Solar Energy programme to the new investment in battery storage (PL18 Energy services - Renewable energy investment scheme).*

*The City Hall battery Business Case model has been developed over a 20 year period. The initial capital costs for fully installing the battery system is £0.356m. The battery is estimated to need replacing after 10 years at a cost of £0.090m and there are some smaller capital costs for replacement fans and capacitors, as well as on-going annual maintenance and financing costs. Over the 20 year period the total costs of the project is estimated to be £0.554m. PB alone won't cover the costs of the project, but the battery has the potential to make savings and generate an income stream to the Council to more than make-up the difference.*

*Over the 20 year business case, the City Hall battery project has a positive Net Present Value (NPV) £0.057m, a sufficient Internal Rate of Return (IRR) of 6% and a payback period of 14 years. The payback period is higher than normal, but certainly less than previous successful Solar energy projects with payback periods of 20 years. The City Hall battery project is a newly developing concept which is intended to unlock a sustainable business case for future investments.*

*The battery project will make energy savings for City Hall by reducing the energy consumption at the most expensive period of the day (around 17:00 – 19:00). The battery is then recharged at the cheapest time of the day (usually at night) in preparation for the up-coming day. Savings are initially estimated at £0.017m p.a, steadily increasing over the 20 year period, so that savings are estimated to total £0.510 over the 20 years.*

*As well as energy savings in City Hall, the battery specification chosen will allow for the generation of an income stream to BCC. The energy stored in the battery from recharging at the cheapest period can be sold back when demand and energy prices are at their highest. Also, the battery energy can be used to help balance the national energy grid, quicker response times allow of the generation of 'Flexible Frequency Rate' income. The total income generated is initially estimated to be £0.020m p.a and over the 20 year period to be £0.304m.*

*In summary over the 20 year business case model, the costs of the City Hall battery project are £0.554m, with savings of (£0.510m) and income generation of (£0.304m), resulting in a net saving of (£0.260m), discount back to a positive Net Present Value of £0.057m.*

*There are obviously some risks involved in any project and changes to energy prices could affect income generation and the savings achieved at City Hall. The development of battery technology is currently very rapid and competition is likely to grow. But, greater opportunities for BCC are possible in this energy field and this pilot project could unlock and allow this development.”*

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