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Title of meeting: Full Cabinet

Subject: Renewable Energy and Energy Efficiency

Date of meeting: 26th March 2020

Report by: James Hill, Director of Housing, Neighbourhood and Building Services

Wards affected: All

1. **Requested by** Councillor Gerald Vernon-Jackson, Leader of the Council

2. **Purpose** To update the Cabinet as to the ongoing work to make the Council's non-domestic building portfolio more energy efficient and implementing renewable energy technologies where appropriate

3. Background

3.1 Portsmouth City Council's (the 'Council') energy services team is responsible for a number of key services related to the provision of energy across the Council's estate; broadly including:

- Delivery of the Council's capital projects related to renewable energy technologies and energy efficiency
- Procurement, management and compliance related to energy, water and carbon
- Acting in a consultancy capacity for clients internal and external to the Council

3.2 In recent years the role of low and zero carbon generation and energy efficiency has been an important focus the Council; helping to lower energy bills, create a sustainable income, which can be used for essential services, and lower carbon emissions. This paper sets out some of the key achievements and statistics relating to this work.

3.3 Work over recent years has laid a foundation on which a greater scale and scope of projects can be delivered. This paper sets out some of the key work being undertaken now and in future related to energy services.

3.4 The energy services team also leads work in the city around domestic energy efficiency. That work, was included within the publication of the Council's *Home Energy and Water Strategy* at the 10th March 2020 Cabinet.

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4. Recent and Current Projects

4.1 Over recent years, the Council has directly invested in, and installed, around 400 solar PV systems (consisting approximately 26,000 panels). These owned and operated solar systems generate around £850,000 income and savings each year for the Council; offsetting over 1,600 tonnes of CO₂e per annum. The total generating capacity of this solar is 6 mega-watts (MW); enough to provide power for more than 1,500 typical homes each year.

4.2 The Council's achievements around solar and other energy services have received regional and national recognition. Over the past two years, the Council has twice won 'Council of the Year' at the regional Energy Efficiency Awards; as well as national recognition through awards and publications. The success of the Council's solar programme has been a key contributor to this recognition.

4.3 This recognition, has in part, led to the energy services team being appointed in a consultancy role to project manage the delivery of solar projects for external clients, where they are making their own investments in the technology. Investments by neighbouring local authorities and other clients, delivered through the Council's energy services team, has totalled nearly £5 million. In the case of West Sussex County Council, this has included installation of solar across 80 schools.

4.4 Battery storage is a new technology which creates a benefit by capturing solar-generated power and storing it for use during times of peak power demand. This ensures that as larger proportion as possible of a building's energy consumption comes from zero-carbon generation. The potential for the Council to invest heavily in batteries, as the capital cost of the technology falls further, has been recognised. The technology is now being piloted across 15 sites with existing solar arrays within the Council's building portfolio. Additionally, batteries are now being specified alongside new solar PV systems as a matter of course.

4.5 The Council has invested heavily in energy-efficient LED lighting in key buildings, such as the Civic Offices, Central Library and Isambard Brunel Carpark. The collective energy savings in these buildings amounts to £130,000 per year; saving 254 tonnes of CO₂e.

4.6 Where LED lighting has been employed across the street lighting portfolio it has made an estimated 54% energy usage reduction; approximately £690,000 will be saved per annum; alongside carbon savings of 1,273 tonnes of CO₂e per year.

5. Future Projects

5.1 Over £5 million of capital funding is available specifically for energy efficiency and low-carbon generation investments. As such, the Council appraises potential projects as and when they arise. The following are key projects to be carried out

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over the next twelve months, showing a range of technologies employed. These should not be seen as an exhaustive list.

5.2 Projects being brought forward in the new financial year include the installation of solar at Hilsea Industrial Estate, Oakdene House and Wilmcote House. Between them, the projects will save around £30,000 in electricity costs and 105 tonnes CO₂e. Battery storage located alongside these systems, will help to increase the energy savings further.

5.3 A range of ambitious energy projects are being considered, and feasibility studies being undertaken, at the newly acquired Lakeside site; including roof-mounted and car-port solar panels, electric vehicle charging infrastructure, upgraded transformers and combined heat and power (CHP) to efficiently provide heating and cooling. As many as 6,000 solar panels could be installed at the site, subject to feasibility.

5.4 Portsmouth International Port has made large strides towards lower energy as part of its plans to become the UK's first zero emissions port; installing LED lighting, EV charging points and 200 solar panels. In order to increase the energy and carbon savings further, plans are underway to increase the solar PV capacity to up to 1MW (around 4,000 extra panels); along with additional feasibility work being undertaken to assess the colocation of battery storage and upgrading the site's transformers.

5.5 Although in the early stages; the potential to develop a solar farm on Council owned land at Dunsbury Park is currently being explored.

5.6 The energy services team is increasing the scale and scope of the work it does with external clients. A significant project is being delivered to support Brighton and Hove City Council's solar PV rollout; with discussions with further peer local authorities ongoing.

5.7 CHP is to be delivered at the Mountbatten Centre in the early part of the new financial year; to provide heating to the building and to help offset the high electricity demand of the building.

5.8 A range of new lighting projects including offices, schools and housing sites is being brought forward. Savings have been identified through audit and survey; with a budget secured to deliver energy savings of around £250,000 per annum.

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Signed by
James Hill - Director of Housing, Neighbourhood and Building Services

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Appendices:

Background list of documents: Section 100D of the Local Government Act 1972

The following documents disclose facts or matters, which have been relied upon to a material extent by the author in preparing this report:

Title of document	Location