NORTH AYRSHIRE COUNCIL

20 March 2018

Cabinet

Title:	**Solar PV Social Housing Retrofit**
Purpose:	To inform Cabinet of the updated business case to install 500 rooftop solar photovoltaic (pv) systems across the North Ayrshire Council housing stock, as part of continued implementation of the North Ayrshire Environmental Sustainability & Climate Change Strategy 2017-20.
Recommendation:	That Cabinet approves the updated business case and associated financial implications as outlined within Appendices 1 and 2, to allow appointment of a preferred installer.

1. Executive Summary

1.1 An outline business case to consult with tenants and install rooftop solar panels on Council housing stock was presented to Cabinet in January 2017. Officers have since undertaken consultation and developed the project to the stage of appointing a preferred installation partner. The project features within the North Ayrshire Environmental Sustainability & Climate Change Strategy 2017-20, and contributes towards our overall approach to renewable energy generation and energy efficiency within existing housing stock. The scheme was designed to supply tenants with electricity from the panels at a tariff which was less than that of their main electricity supply. The scheme also provided other benefits such as carbon emission reduction, increased energy security, and potential for local job creation.

1.2 The consultation included the issue of 1100 letters to households identified as potentially suitable for installation through a desktop exercise appraising factors such as house type, roof orientation, solar irradiation, and information from the Scottish Index of Multiple Deprivation.

1.3 Approximately 150 tenants responded by registering their interest in the proposals. This led to development of the business case and technical specification, which informed a competitive tender process. A preferred bidder has now been identified to deliver specific property surveys, installation of the systems and, working with officers, to increase the number of properties for inclusion in this phase of works up to the original target of 500 installations.

1.4 The outline business case was designed to be self-financing, in that the tenant contributions and UK Government feed-in-tariff would repay the capital and borrowing costs. However, the cost of scheme installation within the tender returns is less than originally forecast within the outline business case. As a result it is proposed that the tenant contribution is removed from the investment grade business case, which improves the savings on offer to tenants, and simplifies administration of the scheme. The changes to the business case now means that there will be a small cost to HRA, equivalent to less than £4.00 per system per month which will be annualised over the 20 year life of the project.

1.5 Members are invited to approve the investment grade business case as detailed within this report, which will allow the preferred installation partner to be appointed in the coming weeks, with initial installations anticipated to begin in May 2018.

2. Background

2.1 An outline business case to consult with tenants and to thereafter install rooftop solar panels on Council housing stock was presented to Cabinet in January 2017. The report sought approval for four key elements of the business case:

- Proceeding with tenant engagement
- Proceeding with a procurement exercise
- The use of Housing Revenue Account (HRA) budget to fund capital and operational costs
- That HRA funds would be fully repaid through UK Government feed-in-tariff subsidy payments, along with a small additional charge on tenants' rent.

2.2 Tenant engagement began with a presentation and discussion of the offer at the March 2017 meeting of the North Ayrshire Network. An article outlining the scheme was then issued to all tenants through the Tenancy Matters magazine. Officers also established a dedicated page on the external facing Council website with more specific details of the offer. Finally, a targeted mail drop was delivered to c.1100 properties identified as potentially suitable for the rooftop pv systems.

2.3 Approximately 150 tenants responded to the mail campaign by registering their interest in the scheme. The positive response led to a competitive procurement exercise undertaken using an existing Scotland Excel procurement framework. Bids were received in January 2018 and have been evaluated based on their commercial suitability and quality.

3. Proposals

Changes to the Offer

3.1 The original business case included a tenant contribution, to be recovered via rents through updated tenancy agreements, which, along with the feed-in-tariff subsidy, would repay the capital burden carried by the Housing Revenue Account (HRA). By undertaking a competitive tender process, many of the conservative cost assumptions made in the original business case have been refined and, in some cases, reduced. This has lowered

the required tenant contribution to the point where the costs of recovering the contribution exceed the value of the contribution itself.

3.2 Removing the tenant contribution delivers other benefits; most importantly that the saving available to tenants is substantially higher and means that there is no risk of the saving being less than what the tenant contributes. Concerns relating to the apportionment of arrears and challenges during a change of tenancy are also negated. For these reasons it is proposed that the tenant contribution be removed from the offer.

3.3 Consequently this presents a more attractive offer for tenants than originally communicated. To address this we propose to notify the c.1100 tenants originally contacted of the updated offer. Additional properties would be considered for inclusion on a first-come-first-served basis up to a limit of 500 installations. This was the cap in the outline business case and remains a reasonable scale of pilot for installation and subsequent monitoring and evaluation to inform potential further roll-out in the future. The specification for the installation works included a requirement for the necessary metering arrangements to allow the actual consumption of solar power to be monitored at a property level. This will provide useful data further inform future roll-out.

Savings

3.4 Based on this revised offer the potential saving available to tenants has increased from £37 to £115 in year 1 (based on 50% consumption). To encourage this each system includes the placement of a live display in the home to indicate when power is being generated and available for use. Importantly, with no tenant charge, there is no risk of the tenant failing to make a saving. Over a 20 year period, based on 500 installations, the combined tenant saving is expected to be in the region of £1m, along with carbon emission savings of up to 6400 tonnes.

Business Case

3.5 The overall cost of the project is £1.600m. This includes the initial capital cost of the installation works for 500 properties and an allowance for maintenance for each installation over 20 years. In the event that no additional properties are added the overall of installing on 150 properties would be £0.500m.

3.6 Currently the feed-in-tariff is still available and will be claimed for the installed systems. It is expected that this revenue will recover approximately 75% of the original capital and maintenance costs after 20 years.

3.7 In summary, while the investment grade business case does not provide full cost recovery, the updated proposal is considered to be an enhanced offer on the basis that:

- The small cost of the scheme is far outweighed by the financial benefits for tenants
- Over the life of the scheme, the financial impact to the HRA equates to less than £4.00 per system per month. The administrative burden associated with recovering this charge would not be cost effective
- The issue of tenant equity is addressed by the fact that significant investment to improve condition and energy efficiency takes place across the Council housing stock portfolio on an ongoing basis to reduce fuel bills for tenants and provide increased thermal

comfort. The nature of the stock, which encompasses a wide ranging age profile and numerous housing types, means that naturally the type of investment varies, and reaps different levels of savings for individual tenants. The solar pv project is therefore no different to other investment options available, such as boiler replacement or insulation

- The scheme is a pilot. Solar pv schemes are expected to reach 'grid parity' within the next 2-3 years, meaning that they are expected to be financially viable without subsidy support. Delivery of a pilot at this stage positions the Council to roll out a further programme at a later date, with the benefit of the knowledge gained from the pilot.

3.8 An updated programme of works aims to have up to 500 systems fully installed by Autumn 2018 to help tenants realise benefits during periods of high generation.

4. Implications

Financial:	The overall burden to the HRA over a 20 year period is expected to be no more than £1.600m (based on capital, operating and maintenance costs for 500 systems). Revenue from the available feed-in-tariff is expected to total up to £1.200m over 20 years but this will be proportional to the number of systems installed. This is equivalent to a net cost of less than £4.00 per system per month.
Human Resources:	These works will be delivered as a capital project through existing resource. Removal of the tenant contribution eliminates the additional resource burden that would have resulted from the original proposals. There will be an ongoing requirement for administration of FiT claims on a quarterly basis. Responsibility for this will lie with the Corporate Sustainability team and will be aligned with current systems and procedures for other installations.

Legal:	A formal agreement will be required with tenants, even in the absence of a contribution, to ensure ongoing access for installation, commissioning, and maintenance. This will also establish the responsibilities of both parties and that there is no risk of challenge to the council in the event of faults or system outages. Such agreements are to be prepared with support from Legal colleagues.
Equality: **Children & Young People:**	None. None.
Environmental & Sustainability:	The project aims to have a positive impact on the environment and sustainability through decarbonisation of the electricity supply to 500 properties, generating an equivalent saving of 6400 tonnes of carbon over 20 years.
Key Priorities:	The project contributes to the Council Plan strategic priority of protecting and enhancing our environment for future generations. The project will provide tenants with an opportunity to make savings on their electricity bills, helping to tackle fuel poverty in North Ayrshire. It is also expected to deliver up to 6400 tonnes of carbon savings over 20 years. The project contributes to delivery of the North Ayrshire Environmental Sustainability & Climate Change Strategy (ESCCS) by reducing carbon emissions, increasing energy security and increasing renewable electricity generation.
Community Benefits:	The scope for community benefit clauses has been considered as part of the tender specification and review.

5. Consultation

5.1 Officers within Finance and Legal have been consulted in the preparation of this report.

CRAIG HATTON
Executive Director (Place)

For further information please contact **David Hammond, Senior Manager (Housing Strategy & Corporate Sustainability)** on **01294 324764**.

Background Papers
None.

APPENDIX 1 – Updated Costs, revenue and benefits.

Figures based on the installation of 150 systems and a 20 year life:

Costs	
Capital, Operation and Maintenance	£491,568
TOTAL EXPENDITURE	£491,568
Revenue	
Feed-in-tariff Income	£356,840
Tenant Contribution	£0
TOTAL REVENUE	£356,840
Benefits	
Tenant potential saving, year 1 (40% consumption)	£92
Tenant potential saving, yearly average (over 20 years)	£105
Tenant potential saving (individual total over 20 years)	£2,110
Tenant potential saving (total for 150 properties over 20 years)	£316,326
CO_2 equivalent savings over 20 years (for 150 properties)	**1,926 tonnes**

Figures based on the installation of 500 systems and a 20 year life:

Costs	
Capital, Operation and Maintenance	£1,638,561
TOTAL EXPENDITURE	£1,638,561
Revenue	
Feed-in-tariff Income	£1,189,466
Tenant Contribution	£0
TOTAL REVENUE	£1,189,466
Benefits	
Tenant potential saving, year 1 (40% consumption)	£92
Tenant potential saving, yearly average (over 20 years)	£105
Tenant potential saving (individual total over 20 years)	£2,110
Tenant potential saving (total for 500 properties over 20 years)	£1,054,419
CO_2 savings over 20 years (for 500 properties)	**6,400 tonnes**

APPENDIX 2 – Savings Calculation (typical single system)

The following illustrates the approach adopted for valuing the available savings. The model used varies the unit price for grid electricity annually based on future projected scenarios issued by DECC (now DBEIS).

Total Installed Capacity (kWp)	2
Indicative Annual Yield (kWh/kWp)	804
Estimated Total Yield (kWh)	1608
Unit price for grid electricity (p/kWh)	13.8
Equivalent annual value of generated solar electricity (£)	221.9 *(yield x electricity price)*
Proportion of solar electricity consumed in the property (%)	50
Equivalent annual value of consumed solar electricity (£)	110.95 *(equivalent annual value x consumption)*