Gateshead Council

REPORT TO CABINET
16 July 2019

TITLE OF REPORT: **"A Sustainable Future for Chopwell" – ERDF funding bid.**

REPORT OF: **Colin Huntington, Acting Strategic Director, Communities and Environment**

Purpose of the report

1. To seek approval to submit a full application to the North East European Regional Development Fund (ERDF) to progress the scheme, titled "A sustainable future for Chopwell".

2. To seek approval to enter into design and pre-construction contracts to commence detailed design, and pilot installations.

Background

3. In May 2018, Cabinet agreed the implementation of a 10-year plan to support the Chopwell and Blackhall Mill 10 Year Plan. The plan reflects local needs and priorities developed with the community. It comprises a range of short to medium term actions that will evolve over the Plan's lifetime.

4. Improving existing housing stock in the area is a key part of the plan, and to address this, the Council in November 2018 submitted an outline bid to the NE ERDF Low Carbon fund, to seek £5.8m in grant funding to support a scheme, titled "A Sustainable Future for Chopwell", which aimed to improve the energy efficiency of existing homes in Chopwell.

5. On 27th April 2019 the Council was invited to submit a full bid for this scheme, which needs to be submitted by 23rd July 2019.

Proposal

6. It is proposed that the Council continues to develop the above scheme, which aims to:
    a. Install solid wall insulation to around 500 homes, largely in the River Streets in Chopwell
    b. Install ground source heat pumps, and solar thermal panels, on around 350 homes
    c. Install air source heat pumps, and solar photovoltaic panels, on around 430 homes

7. Measures will be offered to all tenures, and the scheme aims to improve 300 Council homes, and 520 private homes. The cost of the scheme is estimated

at £19.0m, and would required a range of sources to fund the scheme, as follows:

a. £5.5m grant from ERDF
b. £2.6m grants from Energy Companies (to be secured)
c. £0.5m contribution from private landlords
d. £2.6m from Housing Revenue Account
e. £7.7m from Council capital programme.

8. The scheme would generate a number of income streams, to repay the £7.7m cost to the Council's capital programme, in full over 20 years, which are as follows:
   a. Renewable Heat Incentive, from the government, guaranteed for 20 years
   b. Heat services charges to residents for provision of new, lower cost heating system
   c. Sales of electricity from solar PV panels installed on customer properties.

9. The £2.6m contribution from the Housing Revenue Account will be financed through the existing Decency programme of capital works and from future revenue savings, and is still subject to ongoing assessment alongside other priorities to be funded from the HRA..

10. It is proposed to submit a full application to ERDF, seeking £5.8m of grant (£5.5m of capital grant, and £0.3m of revenue grant), to support the delivery of this scheme.

11. To meet the required timescales for delivery of works, its also proposed to appoint Willmott Dixon Construction Ltd, via the SCAPE Major Works England and Northern Ireland framework, to undertake the next stage of development, which is detailed design, preconstruction works, as well as pilot installations of all technology options in 6 Council homes, costed at £0.5m. This appointment is in advance of receiving a formal grant offer from ERDF, for the reasons outline in Appendix 1, but is included within the total costs of the scheme.

Recommendations

12. Cabinet is recommended to:

(i) Approve the submission of full application for £5.8m of grants to the NE ERDF Low Carbon fund.

(ii) Approve the awarding of contracts to Willmott Dixon Construction Ltd for design, preconstruction works and pilot installations in relation to the scheme.

(iii) Authorise the Acting Strategic Director, Communities and Environment, following consultation with the Strategic Director, Corporate Resources, to agree detailed terms, scope of contracts with Willmott Dixon Construction Ltd, within the agreed capital budget of £0.5m.

For the following reasons:

(i) To support the delivery of the Chopwell and Blackhall Mill 10 Year Plan.

(ii) To support the Thrive agenda, by reducing energy costs and fuel poverty in Chopwell, and supporting housing improvements and their associated benefits.

(iii) To continue to reduce carbon emissions of housing in Gateshead, in line with Gateshead's Climate Change Strategy.

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Appendix1

Policy Context

1. On a local level, the scheme will directly deliver many objectives within the Thrive agenda, as follows:

    a. ***Put people and families first***. Responding to need to improve homes, to remove risk of damp, cold housing, and risk of cold-related health issues
    b. ***Tackle inequality***. Scheme aims to reduce fuel poverty, by generating net savings to residents energy bills of at least 20%, which is estimate to be ca. £100 – 150 / yr.
    c. ***Invest in our economy***. Improving the local housing market, by improving property condition and value, which could stimulate viability of other new-build housing, including the Chopwell Heartlands site.
    d. ***Opportunities for employment, innovation and growth***. To test and demonstrate new models of low carbon heat supply to existing housing stock, in what would be the UK's largest trial of its kind, stimulate new areas for employment in the supply chain, as well as further recognition for Gateshead in the energy sector, alongside its other energy innovations.

2. In addition, the scheme will contribute to targets within the Council's Climate Change Strategy, and actions within Gateshead Sustainable Energy Action Plan around reducing energy consumption in homes, and increasing the amount of renewable energy generated locally. These strategies were adopted by the Council in 2010, and have been reinforced by the Council's recent decision to declare a Climate Emergency in May 2019.

Background

3. Nationally, the UK has recently committed to becoming zero carbon by 2050, in order to tackle climate change. Whilst the UK is making progress towards that goal, especially in decarbonising grid electricity, a significant challenge is how to decarbonise heating.

4. UK policy is promoting three main technologies to decarbonise heat:
    1. Use of low-carbon district heating networks
    2. Introduction of green hydrogen into the gas network
    3. Electrification of heat, replacing gas boilers with heat pumps.

5. Gateshead already has initiatives in place around items 1 + 2, and is trialling heat pumps in some high rise and new build schemes (Gateshead HEIGHTs, Innovation Village, Clasper). But retrofit of heat pumps to existing low-rise homes is challenging, and can potentially increase the cost of heat to residents when switching from gas boilers (4p/kWh) to electric heat pumps (5-6 p/kWh).

6. In Gateshead, deployment of district heating is restricted to dense urban areas, or high rise homes, and hydrogen networks are still 5-10 years away at least. Deployment of heat pumps will support the Thrive agenda in the short term, and to continue to lower residents fuel bills.

7. With regards to Chopwell, attempts have been made to address socio-economic issues and support sustainability in Chopwell with some limited success. However, the longer-term regeneration initiatives such as house building, that are key to the area's future vitality have been stifled due to wider issues like the broader economic climate, austerity and the impact of regeneration across other local authority boundaries. This Plan incorporates these elements within a wider socio-economic approach to the area.

8. As a focus for investment, Cabinet has previously agreed the following:
    - July 2017 - development of a sustainable communities' plan in consultation with local residents.
    - December 2017 - the key themes emerging from the initial consultation
    - May 2018 - the implementation of a £1m 10-year plan from the summer of 2018 and where necessary receive annual reviews on progress and ongoing resource allocation within the agreed budget envelope.

9. The Chopwell and Blackhall Mill 10 Year Plan reflects local needs and priorities developed with the community. It comprises a range of short to medium term actions that will evolve over the Plan's lifetime, recognising that fluctuations in local markets and dependencies on third parties will impact on delivery.

10. The scheme, "A Sustainable Future for Chopwell" has specifically been proposed to generate investment into the existing housing stock in Chopwell, to both improve housing quality and condition, whilst supporting energy efficiency and low-carbon systems that reduce fuel costs for residents.

Proposal – capital scheme

Summary

11. The scheme targets two key areas in Chopwell (please see map in Appendix 2a):

    - **River Streets (blue area):** c. 530 solid wall terraced houses. Solid wall construction means residents experience issues relating to cold homes and high energy bills. Ownership is a mix of all tenures as follows: Council 13%, private ownership 87% (rented 23%, owner occupied 64%)

    - **South Chopwell (yellow area):** ca. 300 homes in a primarily Council-owned area, with a mixture of semi detached and bungalow properties, in both traditional and non-traditional construction styles. Homes are insulated but could still benefit from reduced energy bills and lower carbon heating. 75% of homes are Council owned, with 25% owner occupied.

12. The energy scheme will offer a combination of energy efficiency and low carbon energy generation measures, designed to lower carbon emissions and reduce fuel costs by 10 – 20% on average. The range of measures offered, to cater for different property types will include:

- **South Chopwell.** Homes will receive the following measures. The choice of ground source heating for this area has been made, as homes are still largely owned by the Council, and as GSHP requires higher investment, this is targeted where the Council has greater control of uptake:
    - **Ground source heat pumps (GSHPs):** heat is collected from the ground via boreholes which go to a depth of 150m. An electrically powered heat pump installed in the house converts this heat to a higher temperature, providing heating and hot water to the home. System is up to 30% more efficient than a traditional gas system, reducing carbon emissions and energy bills.
    - **Solar thermal:** Installed in properties that also have GSHPs. Hot water collected is returned into the GSHP boreholes to store summer heat, for use in the winter.

- **River Streets.** Homes will receive the following combination of measures. The choice of Air Source Heat Pumps has been made as the area is predominantly privately owned, and the installation is less challenging and less disruptive than GSHP, which aims to increase acceptability to residents, and hence uptake**:**

    - **Solid wall insulation:** an external covering fit to the outside of solid wall properties which reduces the amount of heat lost by the home, reducing carbon emissions and fuel bills and increasing thermal comfort
    - **Air source heat pumps (ASHPs):** Same as GSHP, except the heat is collected from the air outside rather than the ground, therefore the installation is smaller and does not require boreholes. ASHP is less efficient than GSHP, and so produces less cost saving, but is easier to install which may encourage uptake.
    - **Solar photovoltaic (solar PV):** Rooftop installation which converts solar energy into electrical energy.

13. In terms of benefits, the scheme seeks to deliver the following:
    - Energy improvements to 820 homes, giving a 10- 20% cost saving to residents.
    - For owner-occupiers, residents will not need to make an upfront contribution to the scheme.
    - Boosting property values, to support viability of new-build housing in Chopwell
    - Carbon savings of 1,300 tonnes/yr, with an average of 50% reduction per property
    - First large scale retrofit demonstration of ground source heating, using solar thermal to store heat from the summer in the ground, for use overwinter
    - Creation of a new commercial model and business opportunity, for ground loops as a new public utility, which the Council will own and operate.

Financials

14. The table below shows the total cost of the scheme is estimated to be £19.0m, and shows cost breakdown of the main elements, as well as the sources of capital funding.

Costs	£m
Solar PV install	1.52
Ground source / solar thermal	6.34
Air source heat pumps	3.66
Solid wall insulation	3.37
Fees	4.07
Total	18.95
Funding	
ERDF grant	5.57
ECO grants	2.63
Private Landlords	0.48
HRA	2.6
Council borrowing	7.68
Total	18.96

15. These costings are based on RIBA Stage 2 costs from a potential delivery contractor (Willmott Dixon), as well as engaging various specialist suppliers to further understand the feasibility and costs of installing measures across the various property types. It assumes an uptake rate of 90% in private homes.

16. The Council will seek £5.5m match funding from the ERDF Low Carbon funding call, which can fund up to 50% of eligible costs. All the capital elements, with the exception of the heat pumps, can be supported by ERDF.

17. In addition, Energy Company Obligation (ECO) funding is available for the next 2.5 years until Oct 2021. Discussions with potential funders indicate potential for ECO grants of between £1600 - £3,300 per property, which has been factored into the project proposal. We are seeking in principles offers of grant funding, to ideally have this confirmed prior to submission of the ERDF bid in late July.

18. For private landlords, its proposed that landlords would be required to make a small contribution towards the cost external wall insulation measures (c.£3k), which is estimated to contribute £0.48m in total.

19. A £2.6m contribution towards the costs of works in Council homes is required from the Housing Revenue Account (HRA). At present, the Asset Management Plan for Council homes in the Chopwell area indicates that £1.5m is allocated for ca. 2 boiler replacements per property over the next 25 years, for the 227 Council homes included in the scheme, as follows:

    - over the next 5 years, £0.35m is required to replace 108 boilers,
    - between 5-25 years a further £1.15m is required to replace 346 boilers.

20. In addition, a further £0.5m of savings over 20 years are assumed, from avoided gas safety checks, and boiler repairs and maintenance (assuming annual cost of £120 per property).

21. The total allocation and savings amount to £2.0m, which infer that additional HRA funding of up to £0.6m (£2,200 per property), is required that is not currently programmed within the Asset Management Plan. In addition, the yearly profile of

spend to the HRA is not currently budgeted for in the HRA capital programme, as follows:

a. £0.5m in 2019/20 - whilst this is not currently budgeted for, by delaying ca. £0.2m of decency works in Chopwell, and using expected slippage, this amount can be accommodated
b. £2.1m in 2020/21 – this amount is not budgeted for, and relates to bringing forward investment from future years. To accommodate this amount in HRA cashflow requires works to be funded from the existing decency budget for 2020/21 – 2023/24. Investment in the scheme will still need to be assessed against other priorities for within the 2020/21 – 2023/24 HRA Capital Programme.

22. In terms of the benefits to the HRA, this additional investment will provide the following benefits:

    a. solid wall insulation to ca. 55 homes in the River Streets, improving property condition and energy ratings.
    b. New radiators, and heating controls to 227 properties
    c. Residents receive savings of between 10 – 20% on fuel costs, or £100 – 200 per year.
    d. Given emerging UK policy on gradual phasing out of gas boilers, the HRA will have to find other means to provide low-carbon heating systems over the next 5-10 years. This scheme provides an opportunity to test and deploy technologies that can inform future investment strategies for the HRA around low-carbon boiler replacements.

23. The remaining £7.7m of capital costs will be funded via prudential borrowing. Prudential borrowing is used to bridge the funding gap in private properties remaining after grants are netted off, with the breakeven position being achieved over life of the scheme. The various incomes streams below are then used to cover the financing costs of prudential borrowing:

    a. **RHI payment.** The Council will receive ca. 9p for every kilowatt hour of heat generated by the ground source heat pump through the RHI (Renewable Heat Incentive) subsidy. This payment is guaranteed for 20 years and is index linked to RPI. The subsidy for air source heat pump is 11p/kWh and guaranteed for 7 years.

    b. **Electricity income.** The Council will charge residents (all tenures) for every unit of electricity they use that has been generated by the solar PV panels for a 20yr period. The unit price the Council charges for electricity will aim to be 20% below the market price, and index linked to electricity retail prices. The business case has used government electricity price forecasts.

    c. **Standing charge.** All residents receiving a heating system will no longer require a gas supply, and no longer need to fund boiler maintenance and replacement. This is equivalent to a saving of c.£250 per year, based on current gas prices and boiler costs. For private residents, we will instead ask residents to pay the Council an equivalent service charge. The resident will still see a saving on their energy bill overall, because of the more

efficient heating system and energy efficiency measures. For social and private tenants, the standing charge will be split between resident (ca. £100) and landlord (ca. £150)

24. These incomes streams used to subsidise the cost of energy efficiency measures for owner occupiers, so they do not have to make any financial contribution towards the energy efficiency measures. Whilst ERDF does not permit profit-making schemes, as the income is used to subsidise other cost, overall the scheme is projected to be breakeven, and within ERDF guidelines.

25. In all options, private landlords will be required to cover the non-grant funded cost of energy efficiency measures (which is estimated to be ca. £3,500 per property).

26. The revenue streams outline above has been factored into the cash flow model for all options of the scheme. This results in all options broadly cover their costs over the 25 year scheme life time. A summary cash flow model can be found in Appendix 2b.

27. Other assumptions, and key points, considered in the financial case are as follows:

    a. For private homes, at the end of the periods (7 years for ASHP, 20 years for GSHP / Solar), all equipment is handed over to the owner occupier, or landlord. At year 7, ASHP will have 8 – 13 years useful life left. For GSHP, equipment will have up to 5 years life left. For solar PV, equipment is likely to have further 10 years life, albeit at reducing efficiency.
    b. Should private homes change ownership, heat/power service agreements with existing owners can be drafted to be transferable to new owners on sale of property. Equally its prudent to include provisions for early repayment of capital sums on sale of properties, to manage risk of new owners not wishing to participate.
    c. RHI is largest income stream, secured when the installation is commissioned and with the amount is deemed on property type in year 1, and then inflated by RPI each year. Once agreed, it is guaranteed for 7 years for ASHP and 20 years for GSHP.
    d. The Council will continue to own the ground water loops supplying heat to c. 300 ground source heat properties. The life of the ground loops is up to 100 years, and represents an ongoing utility network from which the Council can continue to provide heat to residents. This is not currently factored into the business model, but represents additional income of ca. £40k/yr, after the scheme costs are fully recovered.

Delivery and Procurement strategy

28. Gateshead Council will be the sole applicant for ERDF funding, and the client of a single delivery contractor for the works outlined above.

29. Under the terms of ERDF grant funding, the Council cannot self-deliver the works, either through Council services, or direct award to its subsidiary companies (e.g. the Gateshead Housing Company). The Council therefore is required to procure an external main contractor, in accordance with the Public Contract Regulations.

30. As a complex scheme, the key requirements for the procurement of a delivery contractor are as follows:
    a. All works must be completed by March 2021, to ensure RHI subsidies are secured, before the RHI scheme expires on 1st April 2021
    b. Contractor needs experience of delivery energy retrofit to mixed tenure housing
    c. Best value must be realised through the procurement of the contractor.
    d. Procurement must be compliant to ERDF audit standards.

31. To meet these timescales, and ERDF audit requirements, its proposed that accessing contractors through an existing framework, that is known to have passed previous ERDF audits, is the best approach. Various SCAPE frameworks have been successfully used by the Council on recent ERDF schemes (PROTO, Gateshead HEIGHTs, Plastic Pipes), with contractors performing well, to time and programme, and managing health and safety risks well. Best value is assured, as main contractor overheads / costs have already been procured through SCAPE, and the main contractor is obliged to tender all subcontractor works.

32. For the above reasons, the Council has therefore engaged Wilmott Dixon, under the SCAPE Major Works England and Northern Ireland framework, to provide, at no cost to the Council, a RIBA Stage 2 cost proposal.

33. The Council has also received a RIBA Stage 3 design and pre-construction contract proposal, to carry our detailed design, surveying and customer engagement.

Pre-construction phase

34. To meet the timescales for delivery, its proposed that subject to Cabinet approval and submission of the ERDF bid on 23rd July 2019, the Council engages Wilmott Dixon to undertake Stage 3 Pre-construction and Design works from August 2019 onwards, at a budget cost of £500,000 (£250k for design/surveys plus an £250,000 for pilot installations). This would include:
    a. Progressing a pilot installation at up to 6 Council housing properties in the River Streets (4 homes) and South Chopwell (2 homes), due to commence at the start of August 2019 and be complete by October 2019.
    b. Full design of the technical solutions for all properties (ASHP, GSHP, solid wall, solar PV and thermal)
    c. Relevant site investigations and surveys
    d. Development of customer offer, following outcome of pilot installations and selection of which technology to deploy in which areas.
    e. Commencement of customer engagement and sign up.

35. The Pre-construction phase (Aug – Dec 2019) will allow the contractor to prepare and propose a Construction Contract, including cost and programme, based on the known level of uptake and commitment from residents, and preferred technology types. Its expected that the construction contract would run from January 2020 to July 2021.

36. Under the terms of the ERDF outline application offer, the Council is permitted to incur cost from the date of the outline offer (April 2019), and submit retrospective

claims. However, this is entirely at the risk of the Council, and remains subject to receiving and agreeing a full grant offer from ERDF. On past experience of ERDF approval processes, its estimated that a full grant offer would take 3-5 months to be agreed.

37. The likelihood of ERDF not offering a full grant, having already invited a full application, remains low. Its noted that in the unlikely event that ERDF decided not to offer the full grant, an estimated 50% design costs incurred up to that point would be at the Council's risk, and without a capital scheme, be charged to revenue. It is estimated that this may be £125,000,. However, guidance received is that ERDF have allocated the budget for the scheme, and unless the scheme deviates significantly from the outline bid, grant funding is likely to be awarded to help the NE ERDF team meet the targets imposed on them.

Revenue costs and funding

38. The Council also intends to bid for ERDF revenue grant funding, within the same bid. Revenue funding will be used to support project delivery, as follows:

    a. Creation of a new Project Co-ordinator post, for the duration of the project (2.5 years). This requires £62k of match funding from the Council, which has been budgeted for in the Chopwell and Blackhall Mill 10 year plan.
    b. Funding support for existing staff. This includes project staff within Council Housing Design and Technical Services, as well as support from Private Sector Housing, and tenant liaison officers in the Gateshead Housing Company. This represents income of £171k, to offset staff costs over the period of the scheme.
    c. Creating a small operating budget of £32k, to cover costs of communications and external validation / monitoring. This will requires match funding of £16k, which has been budgeted for in the Chopwell and Blackhall Mill 10 year plan

39. We estimate total revenue costs of ca. £520,000, as outlined in the table below, and aim to bid for £260,000 in revenue grant support.

	2019	2020	2021	Total	ERDF grant
Salaries	£60,266	£176,903	£183,666	£420,835	£210,418
On costs	£9,040	£26,535	£27,550	£63,125	£31,563
Marketing	£5,000	£2,500		£7,500	£3,750
Consultants		£10,000	£20,000	£30,000	£15,000
Total	£74,306	£215,938	£231,216	£521,460	£260,730

40. Detailed revenue budget requirements will be brought forward for consideration and approval in the near future, particularly in relation to the creation of the new post as certainty of ERDF grant approval becomes clear. Its aimed that the new Project Co-ordinator post will be in place by Autumn 2019.

Consultation

41. Cabinet members for Environment & Transport have been consulted and support the proposal

Alternative Options

42. The other options considered, and discounted, are as follows:

- **Do nothing**. Under this option, the Council would avoid all financial risks related to the scheme, but not address the issues presented here, and not secure additional grant income to invest in Chopwell.

- **Reduce scheme scope, to reduce risks**. Under this option, the Council has considered delivering a scheme that targets a smaller number of properties, to reduce the level of investment required and the level of risk. However, as the scheme has an element of fixed costs, reducing scheme outputs below those proposed here start to impact on the ability to fully recover scheme costs over the scheme life. In addition, the outputs would be reduced, and may risk not securing the same level of ERDF grant.

- **Increase scheme scope to increase income and viability**. Under this option, the Council could increase the number of homes, to increase the amount of income generated. However, this additional investment brings additional risk. Subject to the pilot installations, and detailed design, if costs reduce, or risks reduced, the Council could consider expanding the number of homes included at a later stage, subject to viability.

Implications of Recommended Option

43. **Resources**:

a) **Financial Implications** – The Strategic Director, Corporate Resources confirms that the scheme can be accommodated within the 2019/20 – 2023/24 Capital Programme subject to the award of ERDF grant funding and receipt of RHI subsidy as detailed in the report.

b) **Human Resources Implications** –.the scheme seeks to create 1 new post in the Council, for the duration of the project (2.5 years). The project also provides 50% grant funding support to ca. 2.75 FTE positions, over the duration of the project.

c) **Property Implications** – the proposal will improve 227 Council homes, improving energy efficiency ratings, and where receiving solid wall insulation, its expected that property values will be increased.

44. **Risk Management Implications** – Due to the scale and complexity of the scheme, and the reliance on uptake by private sector households and private landlords, the proposal has significant risk key risks as follows:

a. Whilst the financial model currently indicates all finance costs are recovered, there remains the risk that the Council does not recover all of its investment cost over 25 years, for example, due to non-payment by customers of heat and power charges.
b. The borrowing requirement may increase, should additional capital expense during scheme delivery

c. If private sector uptake is lower than 90%, the new solid wall insulation may not creating a consistent character in the River Streets, where a patchwork of old and new wall finishes exist.

45. Cabinet is recommended to consider these significant risks, as well as others, listed in Appendix 2c, prior to any approval of the recommendations.

46. **Equality and Diversity Implications** – measures will be offered to all residents in the areas stated, and engagement and communications designed to ensure all residents have equal opportunities to benefit from the scheme.

47. **Crime and Disorder Implications** - None.

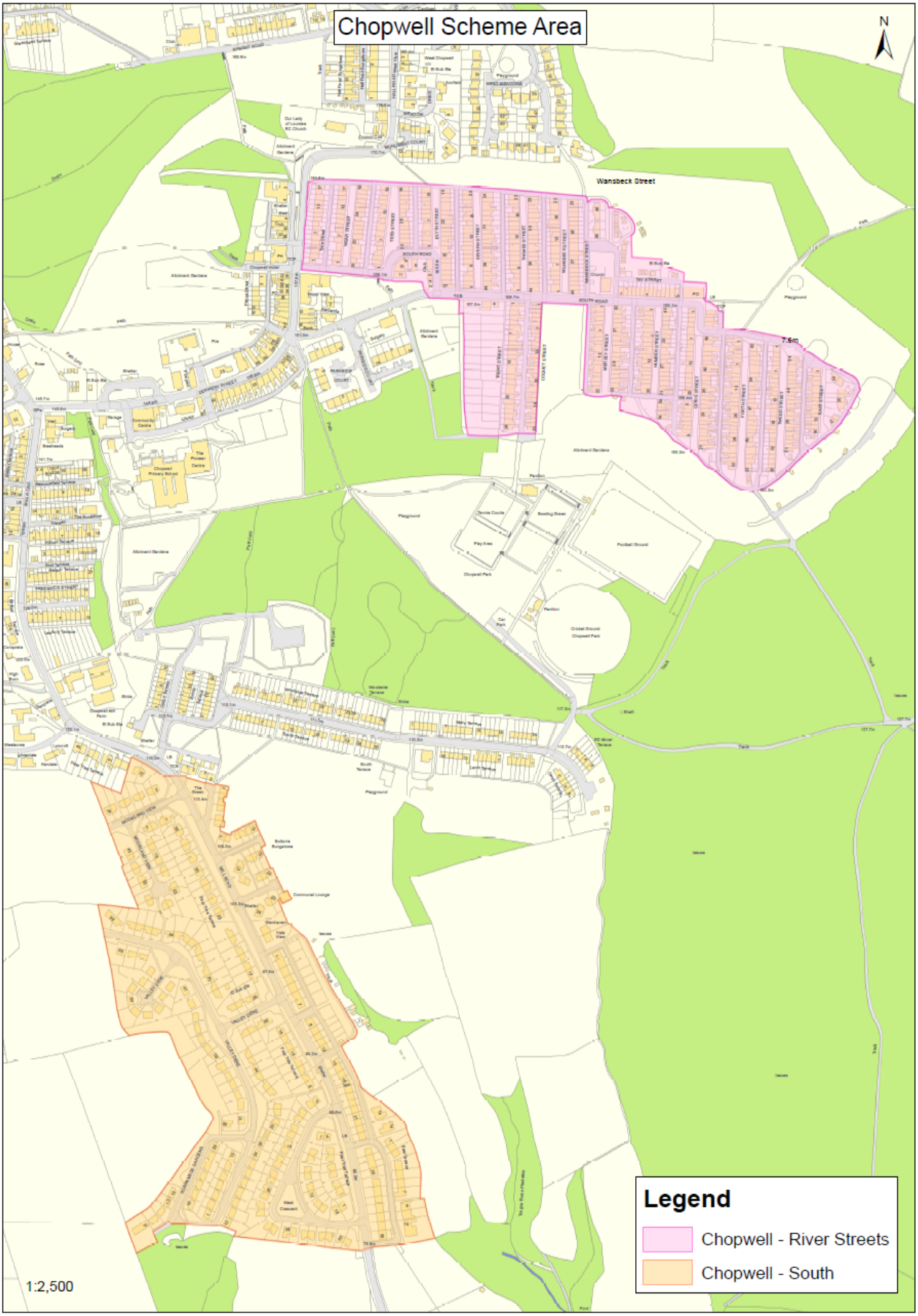
48. **Sustainability Implications** – the scheme supports the Council in achieving its objectives around reducing carbon emissions, energy consumption, and generating more energy from renewable sources.

49. **Health Implications**. The energy efficiency improvements will also increase warmth and comfort in homes, thus reducing the incidence of cold-related illness.

50. **Human Rights Implications** - There are no human rights implications.

51. **Ward Implications** - The proposals are located in Chopwell and Rowlands Gill Ward.

APPENDIX 2a.


Chopwell Scheme Area
N
Wansbeck Street
Legend
Chopwell - River Streets
Chopwell - South
1:2,500

APPENDIX 2b.

Cashflow model outputs for the scheme, for the General Fund:

Costs, 000s	Year 1	Year 8	Year 16	Year 25	25yr total
Loan repayment	£601	£267	£267	£0	£7,678
Interest	£269	£187	£187	£0	£4,311
O+M costs - privates	£57	£34	£41	£0	£943
Total costs	£927	£488	£495	£0	£12,932
Incomes, 000s					
Solar income	£52	£52	£51	£0	£1,031
Heat charges	£161	£60	£73	£67	£2,449
RHI income	£583	£340	£415	£0	£9,553
Total incomes	£797	£453	£539	£67	£13,033
Surplus / deficit	-£130	-£35	£44	£67	£101

Assumption in the cashflow model include:

- Interest rates on borrowing assumed as 3.5%
- Loan repayment based on 7 year term for ASHP, and 20 year term for GSHP and solar PV
- General costs, and RHI subsidy assumed to inflate at RPI of 2.5% per annum

APPENDIX 2c.

Table summarising key risks of the project

Risk	Mitigation
Engagement and uptake. This is greatest risk of the project, as without uptake, ERDF outputs will not be met, and lower uptake, increases relative cost per measure.	Fully funded offer to owner occupiers to increase uptake, and maximising Council homes in scheme (1/3 of homes) to ensure delivery.
Capital Cost risk. Costings are still subject to full design and procurement and could increase. Abnormal costs may occur after construction works commence.	Contractor refreshing Stage 2 costings, and allocating budgets for abnormals and risk items. We continue to seek other govt. innovation funds to mitigate cost increases.
Technical. Large scale deployment of heat pumps in existing housing is rare. Scheme is testing new technical and commercial models of delivery.	Pilot phase will test technologies prior to commencing mass rollout to ensure technologies are fit for purpose
Planning. Planning constraints have limited uptake of solid wall insulation to date, which seek to protect the character of Chopwell, The project will require an area-wide planning approach, that could potentially create a new character for Chopwell, but lose the existing brick finish of some of the housing. Low uptake could create a patchwork of old and new finishes	With the Council as lead developer, and using contractors working to defined standards, and agreed products, initial consultation with planning officers indicates that a workable solution is more likely to be possible through the proposed scheme
Grant Clawback. As with all ERDF schemes, there is the potential for grant clawback, due to failure to comply with key areas (e.g. procurement, state aid, publicity, outputs).	The Council has considerable experience in managing successful ERDF schemes to avoid these risks
ECO grants. The scheme relies on ECO grant support, to be viable. Risk that grant is not secured, or retracted during works.	Seeking in principle grant offer prior to submitting ERDF bid, which would need to be contracted prior to starting construction phase.
Income generation. Option 2 relies on generating £13m income over 20 years. While £9.5m is from guaranteed RHI payments, the remainder is from billing residents, with risks of non-payment or bad debt.	Bulk of income from RHI. Project needs to consider technical billing options to disincentivise non-payment.