

FIRST QUARTERLY MONITORING REPORT, MOBILISING LOCAL ENERGY INVESTMENT

To: Commercial and Investment Committee

Meeting Date: 22 March 2019

From: Graham Hughes, Executive Director - Place and Economy

Electoral division(s): All

Forward Plan ref: N/a **Key decision: No**

Purpose: To report progress delivering energy investments across four key investment programmes including corporate buildings, schools, community and other assets, plus our work in compliance and strategic business development.

Recommendation: Members are asked to:

- a) Approve the first quarterly report as the baseline for future quarterly reporting on our energy investment programmes; and**
- b) To note the key challenges delivering and influencing energy programmes.**

<i>Officer contact:</i>		<i>Member contacts:</i>	
Name	Sheryl French	Name:	Joshua Schumann
Post:	Project Director, Energy Investment Unit	Post:	Chairman, Commercial & Investment Committee
Email	sheryl.french@cambridgeshire.gov.uk	Email	Joshua.schumann@cambridgeshire.gov.uk
Tel:	01223 728552	Tel:	01223 706398

1. BACKGROUND

- 1.1 In March 2017, the Council approved its Corporate Energy Strategy with the view to invest in clean energy projects on its assets to generate income and make savings for the Council. The strategy also supports using the Council's assets to facilitate school and community energy projects plus work to develop the broader low carbon economy including the electrification of transport, housing and delivery of smart communities.
- 1.2 The Council is ambitious with its plans for commercialisation and investment as it is looking to generate revenue from its assets to bridge the funding gap in its budget. Energy projects have the potential to generate revenue and are an important part of its commercialisation plans.
- 1.3 The Energy Investment Unit (EIU) runs four work programmes which focus on investment to deliver income or savings and a further three areas of work that focus on legislative compliance, strategy development and strategic influence to unlock future growth and project pipeline. The investment programmes are listed below:
- *The Council's Energy Efficiency Fund.* The EIU took on this fund in its second year of operation. It is a £1million, four year investment fund started in 16/17 to target energy efficiency measures into corporate buildings to deliver revenue savings.
 - *The Schools Energy Programme.* Working with schools to retrofit energy measures into school buildings to reduce carbon emissions, save energy and generate renewable energy. To date, £8.7m has been committed into 51 schools.
 - *The Energy Investment Programme (formerly known as special projects).* This programme is building on the success of the 12 MW solar farm. A pipeline of projects are in the development phase with an estimated capital investment of £56.9m.
 - *A Community Energy Programme.* Building new business models and ways of working that supports our communities to decarbonise and engage with the energy market. Currently two projects are in the development pipeline including St.Ives Smart Energy Grid and Swaffham Prior Community Heat Scheme. The estimated total capital investment by the Council for these projects will be £5m.
- 1.4 The three other areas of EIU work cover:
- *Strategic influence, shaping the energy market.* The energy system and market is going through significant change. To maximise opportunities for Cambridgeshire communities, the EIU is working to inform and shape the market as it changes. For example, a £37m application for grant to Innovate UK called 'Cambridge: Energised for Growth' submitted last year was looking at developing peer to peer trading models for energy and the integration of transport, heat and buildings into one system supported by battery storage. Another example is the collaboration with Greater Cambridge Partnership to identify the capacity requirements of the

electricity distribution network across Greater Cambridge to facilitate government policy on ambitions for growth.

- *Procurement of utilities and legislative compliance.* The EIU manages the procurement of energy and water for the Council to help manage costs. It also works to ensure that the Council is compliant with energy legislation for its buildings. For example; the implementation of Nearly Zero Energy Buildings regulation published recently.
- *Energy strategy development and policy support.* The EIU led the development of the Council's Energy Strategy and action plan and is now collaborating with Peterborough on updating this to create a new shared strategy and action plan. The EIU also inputs to national consultations and other strategy developments such as the Local Industrial Strategy.

1.5 This is the first quarterly progress report for the energy investment programmes detailed above in paragraph 1.3 and sets the objectives for future reporting. These include:

- Share progress on the four investment programmes;
- Track development budgets allocated to the Energy Investment Programme to understand timelines for capital investment and revenue generation;
- Identify market changes and how these impact the Energy Investment, other Programmes and forecast revenues;
- Suggest and agree mitigation actions on projects where progress has slowed, e.g. political intervention on State Aid discussions;
- Update Committee with new policy relating to the energy market and how these may impact future revenues positively or negatively; and
- Identify key opportunities for future investment and pipeline development.

2. MAIN ISSUES

2.1 To date (February 2019) the Council has delivered £19m investment into energy projects including a 12 MW solar farm, and energy efficiency improvements to schools and corporate buildings. The solar farm delivered £1.1m gross revenue in 2017/18, after costs (£400,000 revenue was provided for services). The schools programme is now benefitting 51 schools, delivering financial savings to schools of £704,000 p.a. and on average £155,000 net income p.a. to the Council. The Energy Efficiency Fund measures into corporate buildings are making forecast financial savings on revenue budgets of £110,000 p.a.

2.2 During 2018/19:

- £1.463m of investment (via delegated authority) was delivered into twelve schools;
- £224,800 invested into thirty LED lighting projects across the Council's building assets from the Energy Efficiency Fund;

- development budgets totalling £1.2m were approved to bring forward the Energy Investment Programme; and
- a total of £97,500 was approved to match fund Round 8 grant from government to support Swaffham Prior community heat scheme

2.3 Progress across the four Energy Investment programmes is summarised in Table 1 below. Further detail can be found in paragraphs 2.4, 2.10 and **Appendices A & B**.

Table 1. Progress across Energy Investment Unit work

Programme	Key Projects	Forecast /target Investment (£) Millions	Investment to date (£) Millions	Actual net profit/ Savings (£) million per annum	Expected or actual Carbon savings – first year (tonnes / year) ¹	Comments	Overall RAG status
Energy Efficiency Fund	38 LED Lighting Projects & 2 heating projects	1	0.495	0.11	215 ²	Behind profile, but a further 33 LED lighting projects are now scoped.	A
Schools Programme³	32 Primary & 19 Secondary	10	8.7	0.86	3,149	Schools pipeline to target £1million investment during 19/20	G
Energy Investment Programme	Triangle Solar Farm		10.2	1.1	3,570	PV performance greater in 17/18 than forecast. £400k	G
	North Angle Solar Farm	23.2	0.0045	0	8,240	Options for most cost effective grid connection scoped and costed. Pre-planning advice underway	G
	Babraham Park and Ride Solar + battery	11.4	0.025	0	470	Public outreach held during Jan/Feb 2019 and pre-planning discussion held.	G
	Trumpington P+R, Solar and battery	7	0.024	0	450	On hold until June 2019 pending outcome of GCP consultation on expanding Trumpington or creating a new P+R on the other side of junction 11 of the M11.	A
	Stanground solar and battery	9.7	0.0059	0	500	Public outreach events undertaken during January 2019, pre planning advice sought. Unconstrained grid connection costs very high – options under discussion.	A
	Woodston- Battery only	2.5	0.0053	0	N/A		A
Community Energy	St.Ives Smart Energy Grid	1.8975	0.23	0	210	Long delay agreeing state aid position. Awaiting award of funding agreement scheduled May 2019.	A
	Swaffham Prior Community Heat Scheme	TBC	0	0	831 estimated	£100,300 grant awarded March 2019 by the Department for Business, Energy & Industrial Strategy (BEIS) to manage key technical and community risks on the project.	G
TOTAL		£69.8M	£19.625M	£2.07M	17,635 t/yr		

¹ These emissions reduction figures are calculated using long-run marginal electricity emissions factors for generation published on gov.uk. As the national grid decarbonises, these avoided emissions will decrease over time.

² EEF carbon figures are based on 2018 UK Government carbon conversion factors applied to Imtech's forecast annual electricity savings.

³ The total net profit/savings is shared with schools. Schools receive £704,000 p.a. and the Council £155,000 p.a.

2.4 *The Energy Efficiency Fund* is completing year three of its four year programme. Investment to date totals £495,115 mainly comprising LED Lighting projects. The investment profile is behind the curve but has recovered considerably this year. Investment to date has delivered annual savings of around £110,000 which includes both reduced energy consumption and maintenance savings. The average payback period for each individual project delivered through the fund to date is 6.34 years. Please see table 2 below:

Table 2. *Energy Efficiency Fund summary*

Year	Number of projects completed / planned	Investment value	Annual savings
Year 1 total (2016-17)	5	£104,470	At least £10,377 (Prior to EIU taking over the fund)
Year 2 total (2017-18)	5	£165,805	£43,917
Year 3 total (2018-19)	30	£ 224,839.90	£56,420
All years to date	40	£ 495,115.53	£110,715

NB. The year that a project fits in to is determined by when a project is completed.

Annual savings are forecast savings including energy bill savings and maintenance savings, where known and applicable.

2.5 A pipeline of projects for year 4 of the Energy Efficiency Fund is currently being developed, with quotes currently being sought for LED lighting upgrades at a further 33 sites. There is still further scope for energy efficiency projects and options for extending the Fund from 2020/21 will be developed for Committee's consideration during 2019/20.

2.6 *The Schools Programme* is completing its fourth year of investment, 2018/19. Of the total number of existing schools in Cambridgeshire, 19% (51 of 265) of schools have taken up energy performance contracting of which 56% (19 of 34) of all secondary schools are included in the programme. The forecast investment for next year is £1m but thereafter it is envisaged the schools programme will slow significantly as the bulk of schools with economically viable energy conservation projects will already have been captured. However, income from the schools will continue for the Council for the next 15 years as schools pay for their energy services. Please see **Appendix A**.

2.7 A new pipeline of work is being explored for new build schools resulting from strategic growth sites and demographic pressures. Currently, new school buildings can lack renewable energy or efficiency measures installed as part of the build programme due to upfront cost restrictions. The problem is that retrofitting measures is much more expensive and eventually costs the public purse more money. A new model for investing upfront in energy measures on new schools and sharing the benefit of lower bills is being scoped.

2.8 Recent changes to the Building Regulations mean that all new public buildings built after 1 January 2019 are required to be 'Nearly Zero Energy Buildings'. This means

that all our new buildings must have a 'very high energy performance', and the very low amount of energy required should be covered 'to a very significant extent by energy from renewable sources'. This is likely to mean the total lifecycle costs of running our buildings will be lower, but could mean slightly higher upfront capital costs to achieve the required standards. A paper with more detail on the implications for compliance with this legislative change is planned to be presented to this committee in April.

- 2.9 *The Energy Investment Programme* during 2018/19 (formerly called special projects) focussed on scoping and assessing projects, developing outline business cases and securing development budgets. During 2019/20 all projects will be progressed through the planning process and full Investment Grade Proposals developed. If projects remain viable, construction is expected to be completed between 2020 and 2022. Please see **Appendix B** for a summary of the project finance if all projects proceed.
- 2.10 It is important to note that the energy market is going through rapid policy and market changes to accommodate expected changes in the electricity generation mix on the national and local grid. This means forecast revenues for large scale batteries is uncertain. Business cases just three months apart looking at the 'balancing mechanism' for battery revenues show very different revenue expectations. Also, the 'capacity market', a Department for Business, Energy & Industrial Strategy (BEIS) scheme that paid revenues for battery storage is currently suspended due to a State Aid challenge from the European Union. However, strategically, as a greater proportion of our energy is generated from renewables, continued investment into battery storage will be required. The challenge is managing projects to the point of becoming investment ready for the right time to access new revenue opportunities and capture the benefit.
- 2.11 Another factor creating financial uncertainty for larger scale projects is the cost of connecting to the grid which is a necessity for all decentralised energy projects selling onto the grid or providing grid services. Projects can be offered connections that are unconstrained or constrained. Unconstrained means you can export electricity at any time to the local network but constrained connections requires projects to curtail generation. These periods of curtailment often correspond with times of high solar generation. This is important as constrained grid connections can impact your business case unless your business case has planned for the level of constraint applied to the connection. Adding in battery storage to projects can help mitigate this risk by providing a means of storing electricity during the curtailment event. However, as indicated above, battery storage revenue itself is uncertain.
- 2.12 *Community energy* and local energy schemes are a potential future investment opportunity. Work is currently underway progressing two schemes: the St.Ives Smart Energy Grid Demonstrator project which is looking to demonstrate a new finance model selling energy locally to businesses and the Swaffham Prior Community Heat Scheme which is looking to sell heat to local residents from a district heat network. Both projects are experimental in that they are trying new ways of working and collaborating with the community to develop projects that are financially viable and replicable. Both projects are subject to receiving grant to progress to the next stage which brings risks both in terms of managing timescales but also complying with grant terms and conditions. For St.Ives, it is anticipated a grant agreement will be offered by

May 2019 and for Swaffham Prior a grant of £100,300 has been awarded to assess technical risks and develop community engagement. Please see table 3 below.

Table 3. Community Energy scheme investment and forecasted income

Project	Grant /Value	Council's Development Budget	Forecast Council Investment value	Forecast income over 25 years
St.Ives Smart Energy Grid	ERDF/£1.8million	*£247,000	£1.8million	£1.8million (IRR 4.2%)
Swaffham Prior Community Heat Scheme	BEIS HNDU/Round 8/£100,300	**To match BEIS Round 8 grant £29,700	£3.2million	TBA
TOTALS	£1,900,300	£276,700	£5 million	TBA

* Please note spend to date on the St.Ives Smart Energy Grid Demonstrator Project is £247,000 but the Council's budget was £180,000. The additional spend is the EIU's time negotiating the grant application process. The excess will be reduced once ERDF grant is secured.

** Initial grant from the Round 8 Funding for Swaffham Prior means that we only need to draw down £29,700 initially from the total of £97,500 agreed by Committee.

4. ALIGNMENT WITH CORPORATE PRIORITIES

4.1 Developing the local economy for the benefit of all

Investments into clean energy projects support the local economy through developing the local supply chain skills and knowledge, supports local energy generation providing local jobs for operations and maintenance of systems and helps the economy to move off fossil fuels and better manage future energy costs.

4.2 Helping people live healthy and independent lives

Utilising Council's assets to help the community to reduce greenhouse gas emissions and improve local air quality for residents.

4.3 Supporting and protecting vulnerable people

The Community Energy projects in particular will help prevent vulnerable households falling into fuel poverty by providing cheaper and cleaner alternatives.

5. SIGNIFICANT IMPLICATIONS

5.1 Resource Implications

All development projects carry risk which need careful management. Sometimes projects cannot progress as planned due to unforeseen changes or issues. The impact of this on the Council's budget and forecast revenue projections will need to be

monitored carefully but it is anticipated that overall benefits can be realised for the Council and its communities.

With the growth of the work undertaken by the Energy Investment Unit, a review of the EIU budget is underway to ensure staff resources, skills and capacity can match the ambitions of the Council. A separate report is under development to address this risk.

5.2 Procurement/Contractual/Council Contract Procedure Rules Implications

Exploring and testing new business models and schemes can bring procurement and contractual risk.

5.3 Statutory, Legal and Risk Implications

There are no statutory, legal or risk implications of this progress update.

5.4 Equality and Diversity Implications

There are no significant implications in this category.

5.5 Engagement and Communications Implications

All energy projects require engagement activities. For projects in close proximity or involved closely with the community require good communication and engagement strategies to ensure acceptance of schemes.

5.6 Localism and Local Member Involvement

Where projects are based in local areas Members are kept informed on progress with project development.

5.7 Public Health Implications

There are no negative public health implications.

Implications	Officer Clearance
Have the resource implications been cleared by Finance?	YES Name of Financial Officer: Tom Kelly
Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement?	YES Name of Officer: Paul White

Has the impact on statutory, legal and risk implications been cleared by LGSS Law?	YES Name of Legal Officer: Fiona McMillan
Have the equality and diversity implications been cleared by your Service Contact?	YES Name of Officer: Elsa Evans
Have any engagement and communication implications been cleared by Communications?	YES Name of Officer: Joanna Shilton
Have any localism and Local Member involvement issues been cleared by your Service Contact?	YES Name of Officer: Emma Fitch
Have any Public Health implications been cleared by Public Health	YES Name of Officer: Tess Campbell

Source Documents	Location
The Council's Corporate Energy Strategy	https://www.mlei.co.uk/section-1/ccc-energy-strategy/
Trumpington and Babraham Outline Business Cases – May 2018 C&I Committee	https://tinyurl.com/yaya9xqi
Woodston and Stanground Closed Landfill Outline Business Cases – Sept 2018 C&I Committee	https://tinyurl.com/yxpbhmh5
Outline Business Case for Solar Farm on Rural Estate Land at Mere Farm– Jan 2019 C&I Committee	https://tinyurl.com/y4nvgmlc

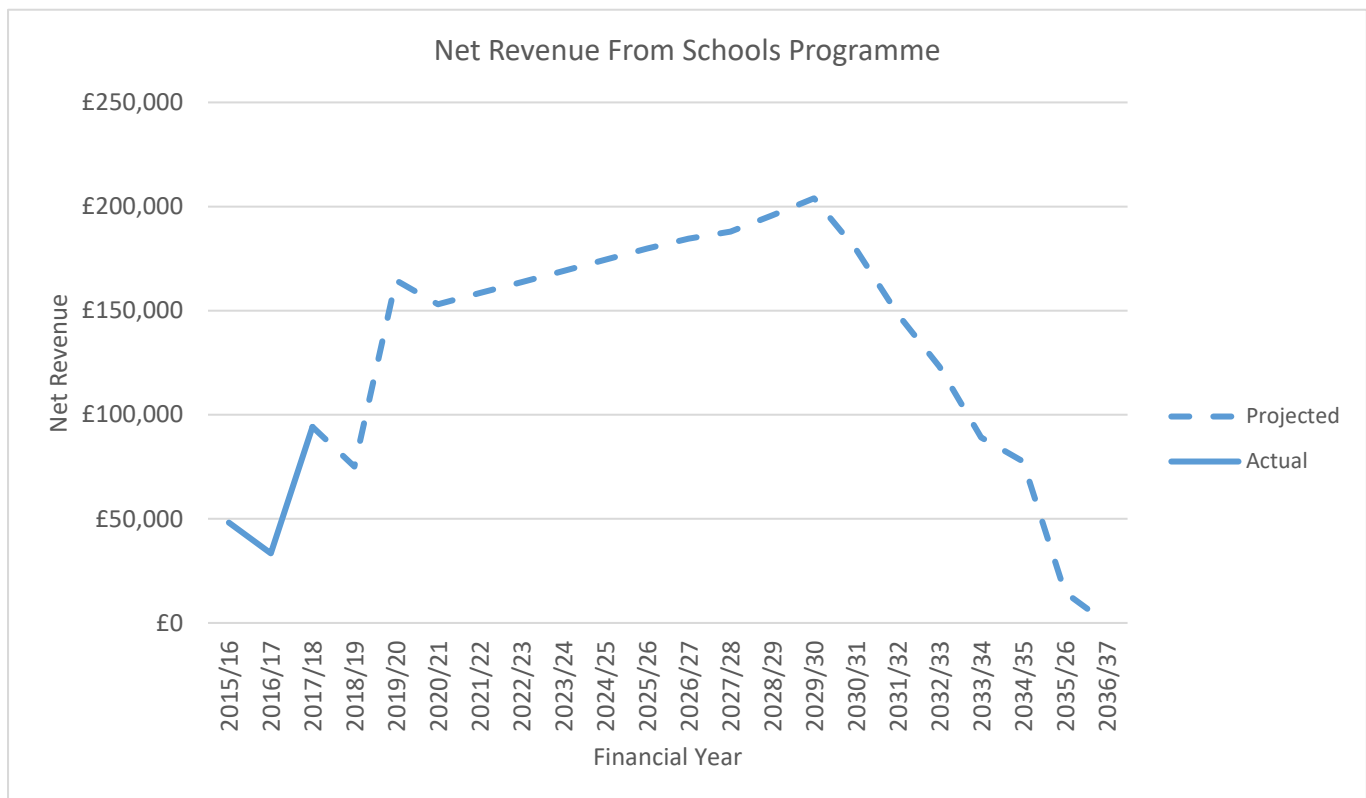
Appendix A: Schools Programme

	Number of schools	Total Value Loaned	Net Income over Loan/managed service Period*	Annual Savings to Schools		
				Cost Saving (£) ¹	Energy Saving (MWh)	Carbon saving (tonnes)
Maintained Schools	28	£2,391,223	£481,681	£177,622	2,081	763
Academies	23	£6,337,617	£1,315,356	£527,995	6,977	2,386
TOTAL	51	£8,728,840	£1,797,037	£705,617	9,058	3,149

* Loans are typically 15 years duration

¹ Gross saving prior to loan repayment, based on first year of operation

Figure 1. Net Revenue from Schools Programme



Appendix B: Energy Investment Programme

Table 4. Summary of financials for approved Energy Investment Projects

Summary of financials for approved Energy Investment Projects (formerly known as Special Projects)				
Last Updated 14/01/19				
Project	Development Budget	Expenditure through 31 Dec 2018	Total Expected Capital Investment	25 year net revenue
Babraham P+R	£150,000	£25,000	£11.4M	£24.5M
Trumpington P+R	£150,000	£24,000	£6.9M	£7.0M
Woodston Closed Landfill	£150,000	£5,300	£2.5M	£9.0M
Stanground Closed Landfill	£150,000	£5,900	£9.7M	£36.9M
North Angle Farm Solar Farm	£600,000	£4,500	£22.8M	£32.9M
TOTAL	£1,200,000	£64,700	£56.9M	£114.2M

Figure 2. Estimated Net Revenue for Energy Investment Programme

