

Babraham Road Park and Ride Smart Energy Grid Investment Decision

To: Environment and Sustainability Committee

Meeting Date: 11 March 2021

From: Steve Cox, Executive Director, Place and Economy

Electoral division(s): Great Shelford

Forward Plan ref: 2021/009

Key decision: Yes

Outcome: 7300 tonnes of carbon emissions reductions up to 2050 plus the generation of local renewable energy to supply EV charging infrastructure at the park and ride and the excess to local consumers.

Recommendation: The Environment and Sustainability Committee is asked to:

- a) Note progress with the project;
- b) Approve the investment case for the Babraham Rd Park and Ride Smart Energy Grid project as set out in section 3 of the report; and
- c) Delegate a final decision as set out in paragraph 7.3 of the report, to enter into a construction contract with Bouygues E&S Solutions to Executive Director of Place and Economy and Chief Finance Officer, in consultation with the Chairman of Environment and Sustainability Committee and the Green Investment Advisory Group.

Officer contact:

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Member contacts:

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1. Background

- 1.1 In May 2019, Cambridgeshire County Council declared a Climate and Environment Emergency. During 2020 the Council set a corporate objective to deliver net zero carbon emissions for Cambridgeshire by 2050 and published its Climate Change and Environment Strategy (CCES) approved at Full Council in May 2020. The strategy includes measures to mitigate climate change and puts the use of the Council's assets to generate clean energy at its core.
- 1.2 The Council adopted its Commercial Strategy in March 2019, with a vision to use its assets, skills and position to develop a range of commercial activities to generate significant levels of new income to deliver financial and social returns. Together, the CCES and Commercial Strategy can support the development of a green economic recovery.
- 1.3 The Council's current energy investment portfolio generates a minimum of £350,000 net income each year via a 12 MW solar park at Triangle Farm, Soham. This has been generating clean energy since 2017. Building on this success, the Council committed to develop a pipeline of larger clean energy projects for commercial and place making benefits. For example, in December 2020, Commercial and Investment (C&I) Committee approved the construction of the North Angle Solar Farm, which is expected to deliver benefit of around a further £300,000 per annum.
- 1.5 The Babraham Smart Energy Grid is to be located at the Babraham Road Park and Ride (BRPR) (see Appendix 1). Phase 1 of the project comprises 5,210 solar modules mounted on solar carports which will generate the equivalent electricity as used by 740 households annually and prevent 7,300 tonnes of CO₂ emissions over the 30 year lifetime of the project. It also includes EV charging infrastructure and a private wire to supply electricity to a local customer.
- 1.6 The intention is to move to a phase 2 commercialisation for the site over time when market conditions shift to encourage more battery storage and the park and ride site can be developed to cater for a wider range of transport services including e-scooters, electrified light freight which will drive requirements for other facilities on site. For the moment, this report focuses on phase 1. Computer generated images are included in Appendix 2.
- 1.7 The project development budget for BRPR totalled £615,000. The budget has covered all project development costs including the requirement for an Environmental Impact Assessment, planning permission, development of Power Purchase Agreement, and the investment grade proposal. To date, £454,000 of the £615,000 approved development budget has been committed.
- 1.9 The outcome of phase 1 Babraham Park and Ride Smart Energy Grid is 7,300 tonnes of carbon emissions reduction through renewable energy generated from solar panels, up to 80 EV chargers installed at the park and ride and a private wire installation to sell excess electricity. The report is seeking approval of the phase 1 investment case and delegated approval to agree works contracts for the project including the cable route, finalise the Power Purchase Agreement and start construction in Spring/Summer 2021.

2. Update on Major Work Areas

- 2.1 Power Purchase Agreement. Discussions have been ongoing with a Power Purchase Agreement (PPA) customer to purchase excess power not used by the EV charging on site. The customer is able to accept all electricity generated and has assured us of a long tenancy. They have signed a Memorandum of Understanding and provided a Letter of Authority which allowed the Project Team to apply for a grid connection via their site.
- 2.2 Subsequently, the two parties have negotiated draft Heads of Terms and Power Purchase Agreement. The terms of the agreement mean that the customer is not obligated to accept the energy nor is the Council obligated to provide it. However, the terms of agreement are such that there is little reason, irrespective of the future of energy prices, that the customer would not accept all the energy on offer.
- 2.3 In addition to purchasing electricity from the park and ride smart energy grid, the agreement also allows the smart energy grid to import electricity from the customer at times of insufficient solar generation or when necessary maintenance is needed to keep the site operating. Discussions have been held between technical teams to ensure the connection of the private wire on the customer site can be delivered safely and with the least disruption. This two-way supply of electricity is necessary as the park and ride will have to sever its connection to the national grid once the smart energy grid is active.
- 2.4 To supply electricity to the customer, a private wire needs to be laid to physically connect the Babraham park and ride to the customer site. The cabling will be buried on the north side of Babraham Rd (A1307) coinciding with cycleway improvement works planned by Greater Cambridge Partnership (GCP). The location was subject to lengthy negotiations. As the cable will be laid primarily on the Council's Highways land, LGSS Legal advises that it will fall under Prior Approval and planning approval is not required. See Appendix 3 for the preferred path of the private wire.
- 2.5 Planning application.
- 2.6 Planning permission for phase 1 at the park and ride was granted in September 2020. The planning permission also covers phase 2 of the project, to build a 10MW battery storage facility when the market picks up. One objection from the County Ecologist, concerning biodiversity net gain, was resolved.
- 2.7 Construction contract and Operations and Maintenance.
- 2.8 LGSS Law have started drafting the Works Optimisation Services (WOS) contract to support the eventual construction of the scheme. The WOS is based on JCT Design and Build 2016.
- 2.9 Three documents comprise the WOS contract including the JCT contract, the Schedule of Amendments and the Contract Particulars. These will need to be finalised along with the Works Special Conditions once the Investment Grade Proposal is finalised.
- 2.10 An Operations and Maintenance contract will also be drafted and negotiated prior to construction.

- 2.11 Supportive works.
- 2.12 Additional car parking. Pre-COVID 19, the park and ride was nearing capacity. Areas of the site will need to be closed off during construction of the smart energy grid to assure car park user safety. Therefore, the need for additional car parking spaces was identified early in project development.
- 2.13 Greater Cambridge Partnership are leading on a project to add 160 more car parking spaces to the area to the north of the bus entrance. The planning application for those works was expected to be submitted in December 2020, however it was delayed pending a discussion at the March 2021 GCP Executive Board. Their design incorporates enabling works to allow for a future phase when solar carports are added to this new area of car parking.
- 2.14 At present, during Covid-19, the car park is significantly underutilised with about 250 cars using the site per day. Therefore, the current scheme does not rely on the additional car parking spaces being constructed prior to work starting on the smart energy grid. Car park usage is expected to increase as COVID 19 restrictions are lifted.
- 2.15 Intrusive works to inform the design of the carports were conducted in September 2020, this consisted of digging boreholes to determine ground conditions and its ability to support the weight of the carports. Separately, investigations were conducted for on-site drainage to inform the siting of carport foundations.
- 2.16 In addition, a ground penetrating radar study of the path of the private wire was performed to identify hazards from buried services. Additional investigations are required due to a shift in the location of the cable route.

3. Investment Proposal

- 3.1 Changes since the last approach to Committee.
- 3.2 Previously, a budget of £11.4M was requested in order to allow for up to 10 MW of battery energy storage to be installed alongside the solar carport scheme. At that time, the expected revenues were significantly higher and more certain. Through discussions on the business case, the battery storage element has been shifted into a phase 2 for the project, due to the present instability of revenues in the battery storage market. Therefore current costs of the phase 1 element of the project is £6.2M, including all development cost. The values in Table 1 exclude sunk costs.
- 3.3 The PPA customer has agreed to provide the minimum amount of electricity required to keep the site operating during times of low solar generation.
- 3.4 The Project Team have worked hard to reduce costs on phase1. There are still some potential savings being investigating in the lead up to Committee around the costs of the cabling to connect the site to the PPA customer.
- 3.5 One of the largest savings is from reducing the number of carports on the section closest to the car park user entrance. This is the least productive section due to the orientation of the modules. The availability of higher efficiency solar modules allows for the retention of much

of the capacity on a smaller footprint. This both directly reduces the costs of construction and could shorten the programme, allowing the full site to reopen sooner.

- 3.6 To maximise savings on the cost of solar modules, the same modules¹ are intended to be purchased for the North Angle Solar Farm, Babraham and St Ives Park and Rides and the Alconbury solar carports projects which are all anticipated to enter into construction in the first half of 2021.
- 3.7 Accounting for the cost of carbon.
- 3.8 In October 2020, the Environment and Sustainability Committee approved a paper on Valuing Carbon. This proposed that all Council business cases include the notional value of carbon to sit alongside and inform investment decisions. A summary of the base business case is set out in Table 1. The carbon value of the savings is taken from the government Green Book, which sets out recommended price assumptions for project appraisal.

Table 1: Base business case, February 2021 (based on expected generation)

| Excl. carbon | Incl. carbon | |
|--------------|--------------|-------------------------------------|
| £5,795,386 | £5,795,386 | Capital Cost to complete project |
| £6,249,790 | £6,249,790 | Total Capital Cost |
| £14,326,370 | £14,996,779 | Net Operating Revenue over 30 years |
| £6,796,317 | £7,466,726 | Net Cash Flow after loan costs |
| 4.70% | 5.23% | 30yr Internal Rate of Return |
| 18.98 | 17.88 | Payback Period (years) |
| £104,286 | £544,082 | Net Present Value @ 30th Year |
| 7,293 | 7,293 | Tonnes Avoided Over 30 Year Life |
| 291.70 | 291.70 | Average Annual Carbon Saving |
| ~36 | ~36 | Total Household Carbon Footprint |
| 70GWh | 70GWh | Generated over 30 years |
| ~743 | ~743 | Households equivalent |
| ~936 | ~936 | Electric Vehicle trips around earth |

- 3.9 The above financial returns are not as favourable as the North Angle Solar Farm due to the much smaller size of this scheme and the additional fixed costs of building carports over ground-mounted solar modules. Operations and maintenance costs over the 30 year life are accounted for in the above table.
- 3.10 The above financial figures are after excluding £454,000 of development costs already incurred. The reason for excluding these 'sunk costs' is that stopping the scheme at this point would not allow costs already incurred to be recovered. The business case shows the expected level of return from this point if the project were continued.

¹ At the time of writing, the preferred module is 500W 72-cell mono-PERC.

- 3.11 The value of carbon in the business case uses government projections of future carbon prices. There are a range of methods that have historically been used to value carbon, as set out in the report to E&S Committee in October 2020. The value shown in this business case is the non-traded price for carbon, as it is not currently intended to sell carbon savings. Note however that, irrespective of the assumptions used in the business case now, the future price for carbon will depend on future political actions by the UK and other governments. This could lead to the carbon savings created through this project having real cash value. For example, should a local carbon offset scheme be developed, the County Council could consider selling this benefit rather than retain it as part of its own progress towards net-zero carbon.
- 3.12 A sensitivity analysis on the assumptions has been performed on the base business case. Some of the more significant risks and opportunities associated with this are highlighted below.

4. Material Risks and opportunities to the Business Case

A risk register for the project is included in Appendix 5

- 4.1 Wider commercial risks – outside our control
- 4.2 The BRPR project will be connected to the customer and the default position will be to sell electricity at a small discount to their commercial tariff for electricity. The ability to predict the tariff over the project lifetime has been a recurrent issue for investment projects in the renewable energy sector and there has been considerable variation in prices over the last few years.
- 4.3 The business case uses actual tariffs paid by the PPA customer for the price paid to supply the smart energy grid, electricity purchased by the PPA customer will be at a small discount. Electricity prices have traditionally increased over time, however the energy market is going through significant change as it decarbonises which may cause fluctuations. Table 2 shows the impact should there be a 5% decrease in the PPA customer's commercial tariff.

Table 2 – Sensitivity to 5% lower commercial energy price

| | Base Case | Sensitivity Case |
|-------------------------|------------------|-------------------------|
| IRR | 5.23% | 4.92% |
| Average Annual Cashflow | £499,893 | £483,723 |
| NPV | £544,082 | £280,413 |
| Payback (years) | 17.9 | 18.5 |

- 4.4 Table 3 demonstrates the impact on the business case should the actual energy production just meet the guaranteed level and not the predicted generation level.

Table 3 – Sensitivity to lower energy production at just the guaranteed level (97%)

| | Base Case | Sensitivity Case |
|-------------------------|------------------|-------------------------|
| IRR | 5.23% | 4.95% |
| Average Annual Cashflow | £499,893 | £484,068 |
| NPV | £544,082 | £305,521 |

| | | |
|-----------------|------|------|
| Payback (years) | 17.9 | 18.4 |
|-----------------|------|------|

- 4.5 The business case assumes an interest rate of 1.78%. This takes account of the availability of the Local Infrastructure Rate available for this project, which provides a discount from the normal PWLB rate of 0.2%. PWLB interest rates have risen sharply since the start of January 2021, when the equivalent rate was 1.12%. This has had a major impact on the expected profitability of the project, reducing the expected NPV by about £1.1m. The table below shows the impact if there were a further 0.2% increase in the rate.

Table 4 – Sensitivity to 0.2% increase in interest rate

| | Base Case | Sensitivity Case |
|-------------------------|-----------|------------------|
| IRR | 5.23% | 5.07% |
| Average Annual Cashflow | £499,893 | £499,893 |
| NPV | £544,082 | £232,290 |
| Payback (years) | 17.9 | 18.2 |

- 4.6 The solar modules are the single largest cost for the project, as was the case with the North Angle Solar Farm project. In late 2020, China (a major manufacturer of solar modules) announced an increase in glass production tariffs which has a material impact on the cost of modules. In addition, China has recently been subject to flooding, which has delayed production and subsequent increased cost due to shortages.
- 4.7 The cost increase was compensated for by an increase in generation capacity per module through the specification of the newer, more productive module.
- 4.8 The project includes not just supplying electricity to the PPA customer, but also supplying Electric Vehicle (EV) charges located on the site. The rate charged for these is expected to be slightly higher than the rate charged to the PPA customer and hence the business case improves with higher take-up of EV charging.
- 4.9 There are currently 4 EV chargers on site at present and pre-pandemic data shows they were well-used. To support the decarbonisation of transport and the expected phase-out of diesel and petrol vehicles, this scheme will add 20 new EV chargers at the start and ramp up to a maximum of 80 should demand support the expansion.
- 4.10 While the global pandemic has caused a major shift in working and schooling from home, a return to some level of normality is expected. In addition, the park and ride is heavily used by staff at the biomedical campus which have jobs that are not easily done remotely. The table below shows the impact if take-up were at 80% of the expected level.

Table 5 – Sensitivity to 20% decrease in expected take-up of electric vehicle chargers

| | Base Case | Sensitivity Case |
|-------------------------|------------------|-------------------------|
| IRR | 5.23% | 4.97% |
| Average Annual Cashflow | £499,893 | £482,088 |
| NPV | £544,082 | £324,202 |
| Payback (years) | 17.9 | 18.2 |

4.11 Project delivery risks

4.12 The path of the private wire to supply electricity to the PPA is as described in Appendix 3. The proposed cable route is beneath the existing cycleway which is identified for widening works in May or June. Discussions are still occurring between Greater Cambridge Partnership, the Project Team and an Independent Connection Provider (ICP) and therefore the final costs for the route are not fully costed, however costs are expected to decrease.

4.13 The Council remains exposed until we contract with Bouygues to changes in some of the capital costs, for instance the solar modules. Current experience suggests there are some supply problems in China and it is possible that module prices may rise in future. There is also an additional exchange rate risk. Table 6 below shows the impact on the project financials from an increase of £300,000 or a 60% increase in the estimated cost of laying the private wire.

Table 6 – Sensitivity to an increase in capital costs of £300,000

| | Base Case | Sensitivity Case |
|-------------------------|------------------|-------------------------|
| IRR | 5.23% | 4.80% |
| Average Annual Cashflow | £499,893 | £499,893 |
| NPV | £544,082 | £186,666 |
| Payback (years) | 17.9 | 18.6 |

5. Community Engagement and benefits to the local community

5.1 Community Engagement –Starting in 2018, a number of public engagement events were held at the park and ride, Great Shelford Memorial Hall and for the Great Shelford Parish Council to inform and answer questions.

5.2 In 2020, Peterborough Environment City Trust (PECT) were appointed to provide community engagement support for the project. Their objective was to seek the views of local residents, commuters, nearby businesses and other stakeholders.

5.3 PECT were contracted to hold various types of consultation events and community events across the local area. However due to the arrival of the COVID-19 pandemic in Spring 2020 these events were cancelled and alternative digital communication methods were used to reach a wide audience instead.

5.4 Two webinars were held during April and May 2020. The sessions were hosted by members of the project team - MLEI, Bouygues and PECT - and included a background and overview of the proposed project, its benefits, and proposed timelines. Participants were encouraged to ask questions during a Q&A session, which were then answered live

by members of the team. Recordings of the presentations were shared on social media, for anyone who was unable to attend the event.

- 5.5 The online events were promoted as part of a wider social media campaign by project partners, and the key geographic area was targeted through paid advertising. Posts were kept engaging with a mixture of informative messages, animated videos, recordings of online events, photographs and digital posters, images are shown in Appendix 4. During a one-month period (April-May 2020) PECT's Facebook page had an overall post reach of 79,958 and a post engagement of 6,164.

6. Impact of not proceeding with the project

- 6.1 The Council could decide to delay investment or not to invest in the project. If a delay is proposed, there could be problems identifying the cable route as the option to integrate with the GCP cycle way widening will be missed and there is a risk that the cost of the solar modules will increase, as the project is currently included in a bulk purchase of the solar modules to keep costs low.
- 6.2 Securing the planning permissions has already added value to the site. However, if the project is cancelled the development costs will need to be funded from revenues and offset against the added value of the site. These costs amount to approximately £304,000 of external costs and £150,000 of internal staff costs. Any additional residual costs would need to be offset against the energy investment programme revenues.
- 6.3 If the choice is to delay, by virtue of having secured planning permission and having laid the private wire, the project could be ready to proceed quickly should the economics change or incentives be offered. However, any decision to delay could result in an increase in the cost to combat climate change as overall climate liabilities build.
- 6.3 Should the decision be to proceed, there is the possibility of future revenue streams from adding battery energy storage back into the scheme as a phase 2, as well as electric bus and cycle charging as part of the sites wider commercialisation.

7. Proposed delegation arrangements

- 7.1 To align with the existing construction programme, which is targeting a summer build (during 2021), it will be necessary to sign a works contract with Bouygues during April 2021 to enable the purchase of materials and equipment This is set out in the recommendations.
- 7.2 The overall final costs for the project, including those of the solar panels, will be given by Bouygues immediately ahead of signing the contract. The decision to proceed to contract would be subject to the Net Present Value of the final business case remaining positive including the value of carbon but excluding sunk costs. Signing the contract will then allow Bouygues to buy the panels and key components of the scheme at a known price.

8. Alignment with corporate priorities

8.1 A good quality of life for everyone

Any revenues derived from the scheme would be used to support key Council services, supporting a good quality of life for residents.

8.2 Thriving places for people to live

There are no significant implications for this priority.

8.3 The best start for Cambridgeshire's children

There are no significant implications for this priority.

8.4 Net-zero carbon emissions for Cambridgeshire by 2050

It is estimated that the project would prevent the emission of more than 7,300 tonnes of CO₂ over the lifetime of the project through offsetting fossil-fuel electricity generation.

9. Significant Implications

9.1 Resource Implications

The committed funds to date on the development budget is £450,000. The costs for County Council staff involvement to deliver the project are included in the project development budget. Future costs for staff to manage the ongoing project are included in the business case.

9.2 Procurement/Contractual/Council Contract Procedure Rules Implications

Bouygues Energies & Services were procured under a mini-competition run under the Refit 3 Framework. There are no significant implications arising from this procurement or the proposed contractual arrangements.

9.3 Statutory, Legal and Risk Implications

9.3.1 The County Council has a corporate objective to deliver net zero carbon emissions for Cambridgeshire by 2050 and this project supports the Council to deliver this objective.

9.3.2 Planning permission has been obtained from the County Council under Regulation 3 of the Town and Country Planning Act (General Regulations) 1992 as a project it intends to develop itself and legal advice confirms that the Council is able to implement this without the need to set up a company.

9.4 Equality and Diversity Implications

There are no significant implications.

9.5 Engagement and Communications Implications

There are no significant implications. See section 5 for activities to date.

9.6 Localism and Local Member Involvement

The site sits within both Cambridge City and South Cambridgeshire jurisdictions. Both authorities' Local Plans support decarbonising electricity generation.

Several presentations were given to the Local Parish Councils surrounding the site starting in 2018 and into late 2019. In person presentations were replaced with webinars once lockdown restrictions were imposed.

9.7 Public Health Implications

There are only positive implications. This renewable energy project will generate electricity from the sun, preventing the emission of over 7,300 tonnes of CO₂ over the lifetime of the project, as well as providing zero-carbon electricity to power electric vehicles offsetting petrol or diesel.

9.8 Environment and Climate Change Implications on Priority Areas:

9.8.1 Implication 1: Energy efficient, low carbon buildings.

Positive Status

Explanation: The project is replacing most of the grid-supplied energy powering the site with clean energy and helping to decarbonise a portion of the electricity provided to the PPA customer.

9.8.2 Implication 2: Low carbon transport.

Positive Status

Explanation: As part of the project, additional electric vehicle chargers will be installed and powered by local clean electricity generated on site, supporting low carbon transport.

9.8.3 Implication 3: Green spaces, peatland, afforestation, habitats and land management.

Positive Status

Explanation: As a condition of receiving planning permission, the project will demonstrate biodiversity net gain.

9.8.4 Implication 4: Waste Management and Tackling Plastic Pollution.

Neutral Status

Explanation: A waste management plan is developed to manage the impact of waste.

9.8.5 Implication 5: Water use, availability and management:

Neutral Status

Explanation: No impact on water use, availability or management.

9.8.6 Implication 6: Air Pollution.

Positive Status

Explanation: The project will be generating clean energy which offsets grid-supplied electricity which the majority is produced by burning fossil fuels. A component of the project will be to install additional electric vehicle chargers which will offset petrol-fueled miles.

9.8.7 Implication 7: Resilience of our services and infrastructure, and supporting vulnerable people to cope with climate change.

Positive Status

Explanation: Locally generated electricity and infrastructure builds resilience in the local energy system.

Officer Clearance

Have the resource implications been cleared by Finance?

Yes

Name of Financial Officer: Justine Hartley

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement?

Yes

Name of Officer: Gus de Silva

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or 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: Simon Cobby

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?

Due to COVID 19 response, Public Health is unable to review Committee papers at the moment.

Name of Officer:

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer?

Yes

Name of Officer: Emily Bolton

Source documents

[Trumpington and Babraham Outline Business Cases – May 2018 C&I Committee](#)

[Babraham Smart Energy Grid -- Investment Grade Proposal Stage 1 Update, 21 June 2019
Commercial and Investment Committee meeting](#)

[Approval for Grid Connection down payments for energy Investment Projects, 18 October 2019
Commercial and Investment Committee meeting](#)

[Babraham Smart Energy Grid – Options Appraisal, 22 November 2019, Commercial and
Investment Committee meeting](#)

[Carbon Valuation, 15 October 2020, Environment and Sustainability Committee meeting](#)

Appendix 1 – Site location

A map showing the proposed area for the development of a smart energy grid on the County owned Babraham Rd park and ride.

Site Location Plan
Park & Ride Site, Babraham Road, Cambridge



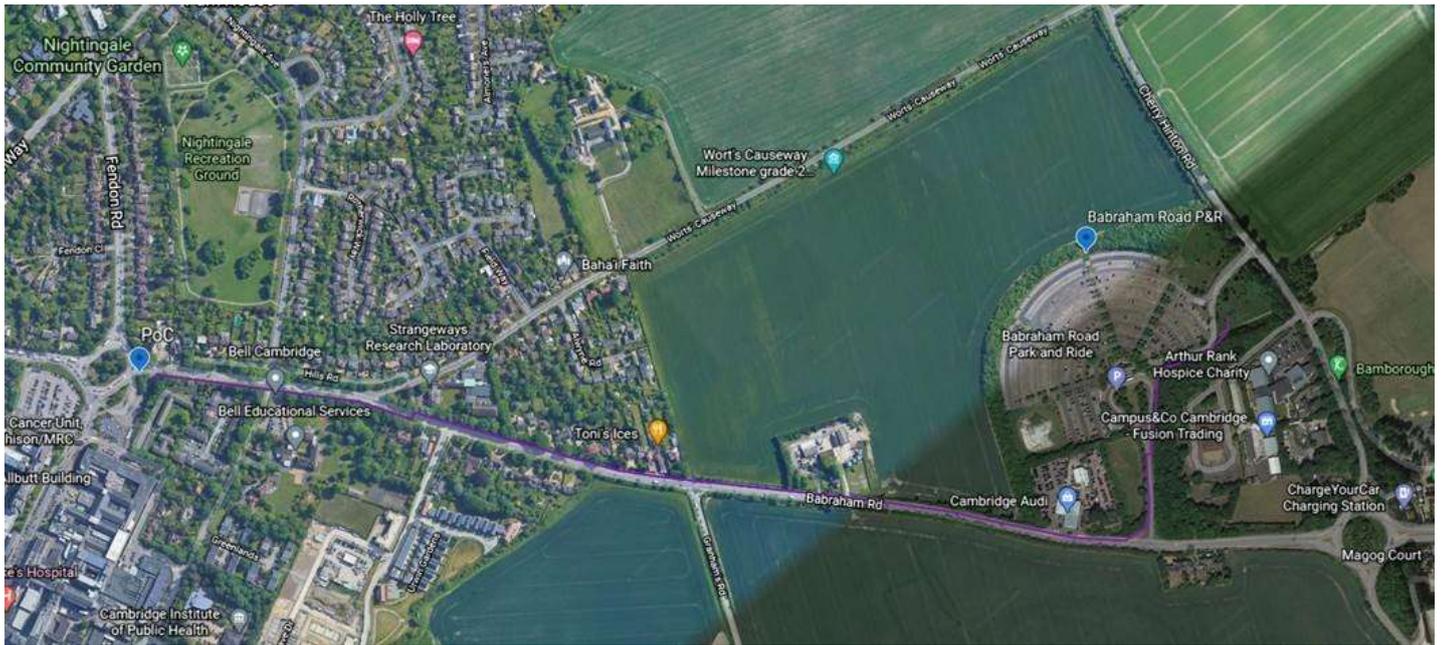
Scale 1:2,500 @ A3 Site Boundary ———

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Appendix 2 – Computer Generated Images of the finished project



Appendix 3: Path of the private wire



Appendix 4: Community Engagement

Example Facebook and LinkedIn posts:

The image shows a LinkedIn post from the official page of Cambridgeshire County Council. The post is titled "BABRAHAM PARK AND RIDE SMART ENERGY GRID: PUBLIC PRESENTATION". It provides details about a public presentation on Tuesday, 19 November, from 7.30pm to 9pm at Great Shelford Memorial Hall. The post describes the project: installing carports with solar panels to generate renewable electricity for site power, electric vehicle charging, and local businesses. It also mentions that a planning application will be submitted in late 2019 and construction is expected to start in early 2021. The post includes a photograph of the proposed carport structure and logos for Cambridgeshire County Council and Bouygues Energies & Services. At the bottom, there is contact information for MLEI (Mobilising Local Energy Investment) and a list of reactions from 16 users.

Cambridgeshire County Council
6,067 followers
1w

Have you heard about the Babraham Park & Ride Smart Energy Grid? Come along to find out more on Tuesday 19 November to Great Shelford Memorial Hall from 7.30pm-9pm. Meet the team behind the project who will be available along with [Bouygues Energies & Services \(UK\)](#) to discuss the project and answer questions: <https://lnkd.in/dSAvxc>.

BABRAHAM PARK AND RIDE SMART ENERGY GRID: PUBLIC PRESENTATION

The project will install carports above the car parking sections, to which solar panels will be fitted. These panels will generate renewable electricity - powering not only the site, but also electric vehicle charging points and local businesses in the years to come. The clean energy will also generate revenue for crucial frontline services. A planning application will be submitted in late 2019.

Construction is expected to start in early 2021 and will take up to one year to complete. The carpark will remain open, with construction work being carefully coordinated to minimise the impact on users of the site.

The team behind the Babraham Park & Ride Smart Energy Grid will be in Great Shelford to discuss the project and answer questions.



Image courtesy of Bouygues Energies & Services

Cambridgeshire County Council
Developed with **BOUYGUES ENERGIES & SERVICES**

WHEN
Tuesday 19 November
7.30pm-9pm

WHERE
Great Shelford Memorial Hall
Woolards Lane
Great Shelford
CB22 5LZ

MLEI
MOBILISING LOCAL ENERGY INVESTMENT

For more information:
mlei@cambridgeshire.gov.uk
www.mlei.co.uk

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Reactions





Cambridgeshire County Council

February 5 · 🌐



Do you use Babraham Road Park & Ride? Our Energy Investment Team will be in Great Shelford this evening at the Great Shelford Memorial Hall (Tuesday 5 Feb) from 6.30pm to talk about a new clean energy project being considered for the site. Pop along to hear more and give them your thoughts.

<https://www.mlei.co.uk/.../a-bright-future-for-babraham-road.../>

Great Shelford Online



Cambridgeshire County Council

April 1 at 4:37 PM · 🌐



Our vision is to deliver net zero carbon emissions for the region by 2050. As part of this, we're looking at using some of our assets to produce and store electricity, which will also generate revenue for the delivery of frontline services, such as adult social care. To find out more, visit socsi.in/1MOuz #CambridgeshireEnergy #RenewablePower



👍 1

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Appendix 5 – Babraham Rd park and ride smart energy grid Risk Register

| <u>Trigger</u> | <u>Impact</u> | <u>Probability</u> | <u>Impact</u> | <u>Risk Score</u> | <u>Risk Score Increasing or decreasing?</u> | <u>Action to be taken (to minimise/reduce risk)</u> | <u>Update</u> |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL PHASES | | | | | | | |
| Critical staff leave | Potential delays in implementation | 4 - High | 2 - Marginal | 8 | Increasing | Succession planning in place, additional project management and engineering resources recruited. | Delivery Manager leaving in March 2021, Claire Julian Smith appointed and starting in role on 8 th March 2021. |
| CONSTRUCTION PHASE | | | | | | | |
| Changes to immigration policy effective Jan 2021 limit low-paid workers from Europe entering the country. | Labour costs increase due to need to secure work visas | 4 - High | 2 - Marginal | 8 | same | | Feb 2021 - costed into business case |
| DEVELOPMENT PHASE | | | | | | | |
| Changes in policy, specification or design standards after approving development of the Investment Grade Proposal | Costs increase or the project is no longer feasible | 4 - High | 3 - Significant | 12 | Increasing | Depending on the extent of the additional costs, further delegated decision-making power may have to be sought | March 2021 - the current business case is showing a small positive NPV when the social cost of carbon is not included. |
| Failure to secure political support | CCC is unwilling to supply funding | 2 - Low | 4 - Critical | 8 | Increasing | Development budget secured and approval to proceed to IGP approved by committee in May 2018. In June 2019 results of phase 1 shared with committee, risks and opportunities of battery storage investment and progression to stage 2 approved. In November 2019, options appraisal presented to committee gaining approval for the preferred option - A1 and B2. | Investment case impacted by Covid/BRexit/supply chain and other costs ahead of decision in March 2021. |
| Bouygues' design may require trees to be removed to prevent shading. | Tree removal is an emotive issue, it may also result in mitigation to plant trees elsewhere, generating a cost. | 4 - High | 2 - Marginal | 8 | Same | Some mature trees may require trimming to avoid shading the panels. | Planning guidance instructs a net gain in biodiversity to be delivered and which is deliverable by the project. |
| Revenue streams are insufficient to offset costs | The Investment Grade Proposal is not financially viable | 2 - Low | 3 - Significant | 6 | Increasing | Multiple avenues are being explored. Discussions have been held with Greater Cambridge Partnership about supplying electricity to electric buses. | Feb 2021 - Commercial team to investigate sponsorships. EVC rate agreed across CCC and communicated to Byes. Electricity purchased from CUHT sold as a 'pass through', electricity supplied to CUH sold at a discount for CUH to make some savings. |

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| Changes in Inflation / Regional/Global demands / Brexit / Corona Virus impacts on cost and availability of kit and labour | Cost to implement increases | 4 - High | 3 - Significant | 12 | Increasing | Build in market monitoring into project, however there will be a Maximum Charge included. Increases in steel prices impact project. | Feb 2021 – there are increases in the cost of solar modules, steel and labour as a result of COVID, HS2 and tariffs imposed by China. The PWLB interest rate has increased over the past few weeks as a result of increased Government borrowing to cope with the effect of COVID 19. The exchange rate for imported goods including solar modules is becoming less supportive. |
| IMPLEMENTATION PHASE | | | | | | | |
| Construction on an active park + ride presents risks to customers | Potential for injury | 2 - Low | 3 - Significant | 6 | Decreasing | Sections of the site will have to be closed off to complete the installation in phases. This has the potential to cause disruption, however we can work with the P+R team to attempt to schedule works during slower periods. | Feb 2021 - new proposal is to close the majority of the site, leaving the right hand side of the park and ride open and uncovered during construction. This will shorten the build (estimated to save 10 weeks off a 30 week programme). Able to do this thanks to higher performing modules (72 cell mono PERC) |
| There is not enough provision in the budget for the tolerances which have been set | Depending on source of cost, a variation may be enacted lengthening the payback period and threatening the underlying support | 3 - Moderate | 2 - Marginal | 6 | Decreasing | Depending on the extent of the additional costs, further delegated decision-making power may have to be sought. | Feb 2021 - Contingency budgets are included in the draft IGP. |
| OPERATIONAL PHASE | | | | | | | |
| There have been numerous issues with inverters in the schools and public buildings portfolio resulting in several lapses in generation and many requiring replacement | Reduction in generation, revenue, ability to serve customers, damage to reputation | 3 - Moderate | 2 - Marginal | 6 | same | We have asked Bouygues to keep a list of unsuitable inverters to avoid in the future. As per St Ives' IGP, the inverters shall have a standard 10 year warranty, which may be extended by a further 5 years at additional cost. | Warranty requirements will be drafted into the WOS |
| Damage / vandalism of panels, supports, inverters or other equipment | damage to revenue, replacement costs | 3 - Moderate | 2 - Marginal | 6 | same | New kit will be covered by insurance policy and costed in the outline business case | CCTV on site monitoring. |
| Operating cost is more than is currently planned | Revenue is harmed, payback lengthened | 3 - Moderate | 2 - Marginal | 6 | same | Depending on the extent of the additional costs, further delegated decision-making power may have to be sought, or if it is a guaranteed cost element, then the risk is Bouygues'. | |