

## Development and construction of the Private Wire connecting North Angle Solar Farm and Swaffham Prior Community Heat Network

To: Environment and Green Investment Committee

Meeting Date: 3 March 2022

From: Steve Cox, Executive Director Place and Economy

Electoral division(s): Soham South & Haddenham; Burwell; Woodditton

Key decision: Yes

Forward Plan ref: 2022/001

Outcome: Supply clean electricity from North Angle Solar Farm to Swaffham Prior Community Heat Project via a Private Wire to cut carbon emissions.

Recommendation: Committee is asked to:

- a) Note progress with the project,
- b) Approve the private wire business case and recommend to Strategy & Resources Committee to approve additional expenditure,
- c) Approve purchase of long lead equipment.
- d) Approve entering into a contract variation for the existing North Angle Solar Farm project, to cover the private wire,
- e) Delegate the implementation of the decisions on the Private Wire including the purchase of long lead equipment to the Executive Director of Place and Economy and Director of Resources, in consultation with the Chair and Vice-Chair of Environment & Green Investment Committee.

### Officer contact:

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### Member contacts:

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## 1. Background

- 1.1 In December 2020, the Commercial and Investment Committee approved the investment case for the North Angle solar farm (NASF) project, which included scoping options for a private wire connection to the Swaffham Prior Community Heat Network (SPCHN) project. Shortly after, in January 2021, the investment case for the Swaffham Prior Community Heat Network was approved by the Environment and Sustainability Committee.
- 1.2 In March 2021, the Commercial and Investment Committee approved the option to progress a private wire between North Angle Solar Farm and Swaffham Prior Community Heat Network. The other option was for UKPN to deliver a grid connection from Burwell sub-station to the North Angle Solar Farm and a grid connection from Burwell sub-station to the Swaffham Prior Community Heat Project. The rationale for choosing the private wire option was a £2m cost saving compared to separate connections to Burwell sub-station from both projects.
- 1.3 Construction of the North Angle Solar Farm began in September 2021. Despite difficult ground conditions, expected during a winter build, it is progressing well. The piling has been completed and works to mount the solar panels is underway. The project is on track to be constructed during 2022.
- 1.4 Construction of the Swaffham Prior Community Heat Network started in August 2021. The main components of this project include the energy centre, the heat network and the customer connections. The Energy Centre building is nearly complete. Inside the building, the mechanical and electrical installation works have started and the evaporators for the Air Source Heat Pump are now installed on the external slab. Whilst there were some early problems that delayed the energy centre superstructure, these have now been resolved. Thirty-four boreholes, 200m deep, have been completed to date in the field adjacent to the energy centre and 40% of the heat network is now complete throughout the village with a completion anticipated in Spring. 102 homes in the village have committed to join the scheme to date.
- 1.5 The Private Wire when complete, will run from North Angle Solar Farm (NASF) to Burwell sub-station and sell renewable electricity to the grid through wholesale markets and supply and sell to the Swaffham Prior Community Heat Project (SPCHN) to run its energy centre.
- 1.6 This paper is seeking approval for the capital cost increase on the Private Wire that connects the North Angle Solar Farm and the Swaffham Prior Community Heat Network project.

## 2. Main issues

- 2.1 **Increased Capital Costs.** The current budget for the Private Wire is £6m. This is made up of a £4.6m contribution from the NASF project and £1.4m from the SPCHN project.

2.2 Finalised capital costs have now been received. Similar to all capital projects during the pandemic, costs have increased since March 2021, triggering the need to return to Committee with a revised investment case. Whilst capital costs for the Private Wire have increased, the expected revenue from both the NASF and SPCHN have also increased greatly as a result of higher sale prices for electricity and heat. This means that the overall business cases from the two projects is better now, even with the increased capital costs for the private wire, than when agreed by Committee.

2.3 Table 1 below compares the costs for the Private Wire and direct connections for NASF and SPCHN to the grid.

	Private Wire Budget approved at committee March 2021	Cost for two direct connections March 2021	Private Wire Budget Updated budget Feb 2022	Updated costs for two direct connections February 2022
Total costs	£6m	£7.98m	£7.7m	£10.3m*

*\*This is based on UKPN costs for contestable works increasing by 20%. UKPN costs have increased between 13-20%. The higher percentage has been used for contestable works due to substantial cost increases in labour.*

2.4 The key point is that the capital cost increase for the Private Wire in February 2022 remains lower than the original (March 2021) cost for the two direct cost connections and considerably better value than the February 2022 costs for the two direct connections once inflation costs have been applied.

2.5 The increased budget for the Private Wire is unavoidable due to the following reasons:

- Significant inflation of raw material and product costs in the past year. For example, the base rate of copper has increased by over 10% in the last 12 months, aluminium by over 30% and shipping by over 600%.
- Since the original budget was provided in March 2021 an additional sub-station at North Angle Solar Farm has been included as a result of discussions with UKPN.
- Additional equipment to operate the private wire as a microgrid is now included which is additional to the original budget.
- The non-contestable works for the Private Wire being delivered by UKPN have increased by 13%.
- March 2021 costs were market estimates, but the final costs of the Private Wire are based on costs from an Independent Connections Provider (ICP), a preferred bidder, selected by Bouygues from four tender submissions for the delivery of the private wire.

**2.6** It is proposed that the contracting for the construction of the private wire sits under the North Angle Solar Farm Project. A contract variation is proposed and, by entering into contract with BYES, the price for the private wire will become fixed. The provisional sum for the project is not yet finalised so there remains a small cost exposure until these are confirmed and into contract. Taking the Private Wire option previously at Committee, has already helped manage some cost exposure to the project as employing UKPN to carry out the works would not provide any guarantee of costs; UKPN has the ability to increase costs at any time regardless of contracts.

### 3.0 Alignment with corporate priorities

#### 3.1 Communities at the heart of everything we do

The cable connects North Angle Solar Farm to the Swaffham Prior Community Heat Network which allows 100% renewable energy to power the energy centre, cuts carbon emissions and provides a price affordable to the project.

#### 3.2 A good quality of life for everyone

This project enables North Angle Solar Farm to be connected to the grid to supply renewable electricity and cut carbon emissions which is good for air quality and managing climate impacts.

#### 3.3 Helping our children learn, develop and live life to the full

There are no significant implications for this priority.

#### 3.4 Cambridgeshire: a well-connected, safe, clean, green environment

The project will enable both North Angle Solar Farm to energise and provide clean electricity to the grid and Swaffham Prior Community Heat Network.

#### 3.5 Protecting and caring for those who need us

There are no significant implications for this priority.

### 4.0 Significant Implications

#### 4.1 Resource Implications

The NASF and SPCHN are in construction and the private wire is essential works for both projects but particularly for the NASF. The additional costs were shared with Capital Programme Board members on 15<sup>th</sup> February 2022. Whilst costs have increased it should be noted that the Private Wire option remains less than the two grid connection option.

#### 4.3 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.

#### 4.4 Statutory, Legal and Risk Implications

The County Council has a priority outcome to deliver a well-connected, safe, clean, green environment and this project supports the Council to deliver this objective.

#### 4.5 Equality and Diversity Implications

There are no significant implications.

#### 4.6 Engagement and Communications Implications

Both NASF and SPCHN projects have had a significant level of engagement and communication and continue to have so. The private wire element will be communicated via the planning process.

#### 4.7 Localism and Local Member Involvement

Both NASF and SPCHN projects have had local and local member involvement. The private wire element has been raised at the Green Investment Advisory Group.

#### 4.8 Public Health Implications

The private wire will enable NASF and SPCHN to energise and start providing renewable energy to the local community.

#### 4.9 Environment and Climate Change Implications on Priority Areas:

Implication 1: Energy efficient, low carbon buildings.

Positive/neutral/negative Status: Positive

Explanation: The private wire will enable the SPCHN Energy centre to run on clean renewable energy from NASF. This energy centre will then provide renewable energy to warm homes within Swaffham Prior.

Implication 2: Low carbon transport.

Positive/neutral/negative Status: Neutral

Explanation: This project does not cause a positive or negative on low carbon transport.

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

Positive/neutral/negative Status: Positive

Explanation: Whilst this scheme will require the construction of a substation on current agricultural land, biodiversity net gain will be included as part of the planning application and it is anticipated that the habitat will improve as a result of the project through landscaping.

Implication 4: Waste Management and Tackling Plastic Pollution.

Positive/neutral/negative Status: Negative

Explanation: This project will likely cause waste which will need to be carted off site and disposed of. Plastic may be used as packaging. A waste management plan will be agreed as part of the project to reduce the negative impact of this project.

Implication 5: Water use, availability and management:

Positive/neutral/negative Status: Neutral

Explanation: A flood risk assessment will be carried out for this project, however, it not anticipated that this project would have any impact on water use, availability and management.

Implication 6: Air Pollution.

Positive/neutral/negative Status: Positive

Explanation: Reduction in carbon emissions from reduction in fossil fuels.

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

Positive/neutral/negative Status: Positive

Explanation: This project supports the SPCHN which is tackling fuel poverty in a local community to move off fossil fuels.

Have the resource implications been cleared by Finance?

Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes Name of Officer: Clare Ellis

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: Bethan Griffiths

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes Name of Officer: Sheryl French

Have any Public Health implications been cleared by Public Health? Yes Name of Officer: Iain Green

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer? Yes Name of Officer: Emily Bolton

## 5.0 Source documents

### 5.1 Source documents

- North Angle Solar Farm Investment Decision – 18<sup>th</sup> December 2020 C&I committee
- Swaffham Prior Community Heat Project – Investment Case – 14<sup>th</sup> January 2021 E&S committee
- Clean electricity supply for Swaffham Prior Community Heat Project via Private Wire from North Angle Solar Farm – 19<sup>th</sup> March 2021 C&I committee

### 5.2 Location

- [Document.ashx \(cmis.uk.com\)](#)
- [Document.ashx \(cmis.uk.com\)](#)
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