

South Cambridgeshire Hall
Cambourne Business Park
Cambourne
Cambridge
CB23 6EA

t: 03450 450 500
f: 01954 713149
dx: DX 729500 Cambridge 15
minicom: 01480 376743



20 November 2018

To: Chairman - Councillor Pippa Heylings
Vice-Chairman – Councillor Dr. Martin Cahn

Members of the Climate and Environment Advisory Committee – Councillors
Sue Ellington, Peter Fane, Jose Hales, Peter McDonald and Nick Wright

Dear Sir / Madam

You are invited to attend the next meeting of **CLIMATE AND ENVIRONMENT ADVISORY COMMITTEE**, which will be held in **PUBLIC GALLERY, 1ST FLOOR (UNDER THE MEZZANINE) - SOUTH CAMBS HALL** at South Cambridgeshire Hall on **WEDNESDAY, 28 NOVEMBER 2018** at **4.00 p.m.**

Yours faithfully

Beverly Agass
Chief Executive

The Council is committed to improving, for all members of the community, access to its agendas and minutes. We try to take all circumstances into account but, if you have any specific needs, please let us know, and we will do what we can to help you

AGENDA

	PAGES
1. Apologies for Absence	
2. Declarations of Interest	
3. Minutes of Previous Meeting To confirm the Minutes of the Meeting held on 18 October 2018 as a correct record.	1 - 4
4. Chairman's Report Oral report.	
5. Community Energy Grants - Cabinet Decision An oral update for the Committee, regarding Cabinet's decision on the Community Energy Grants and agree next steps.	
6. Avoidable Single Use Plastics Progress Report (Phil Bird) To note progress and consider next steps.	5 - 8
7. Environment, Natural Capital and Biodiversity Net Gain in Design and Planning (Caroline Hunt) To consider the current situation as well as future actions.	9 - 14

- 8. Investment in Green Energy Progress Report (Phil Bird / Kevin Ledger)** **15 - 42**
To note progress.
- 9. Forward Plan: January 2019**
- Investment in Green Energy Progress Report
 - Schedule of Supplementary Planning Documents
 - SPEP Review and Draft Action Plan
 - Home Energy Conservation Act: Draft 2019 Update
- 10. Date of Next Meeting**
Members are asked to bring their diaries.

Agenda Item 3

SOUTH CAMBRIDGESHIRE DISTRICT COUNCIL

Minutes of the Climate and Environment Advisory Committee held on
Thursday, 18 October 2018 at 4.00 p.m.

Chairman: Pippa Heylings
Vice-Chairman: Dr. Martin Cahn

Committee Members in attendance:

Sue Ellington
Peter Fane
Jose Hales
Peter McDonald
Nick Wright

Councillors in attendance:

Neil Gough

Officers:

Patrick Adams
Gemma Barron
Mike Hill
Andrew Winter

Senior Democratic Services Officer
Head of Sustainable Communities and Wellbeing
Director of Housing and Environmental Services
Senior Planning Officer

1. APOLOGIES FOR ABSENCE

None.

2. DECLARATIONS OF INTERESTS

None.

3. MINUTES OF PREVIOUS MEETING

The minutes of the meeting held on 20 September 2018 were agreed as a correct record, subject to the following amendment:

In minute 6, point E) was removed and the final sentence before the recommendations was amended to read: "All Members indicated their willingness to participate in a Working Group, which would investigate further options for direct investment in renewables."

4. WATERBEACH NEW TOWN

The Principal Planning Officer gave a presentation on the climate and environmental issues regarding the proposed Supplementary Planning Document (SPD), which was currently out to consultation.

Electric cars

The Principal Planning Officer assured the Committee that each dwelling would be able to have a charging point for electric cars. Concerns were expressed at the suggestion that residents' cars would be parked in locations some distance from their properties.

Cycling

It was noted that to encourage residents to cycle, there needed to be secure points for them to secure their bicycles. It was understood that the plan included cycleways and a perimeter path. Members were assured that the proposals from the Waterbeach Cycling

Campaign would be taken into consideration.

Sustainable homes

It was noted that sustainable show homes were currently not part of the SPD, but there were plans to have renewable energy projects on site.

Employment

It was suggested that 15,000 square metres was insufficient for local businesses if the new town was to be sustainable.

Air quality and schools

Significant concern was expressed at the re-location of the Primary School in close proximity to the A10 in the Phase One development plans. It was reported that the Waterbeach SPD section on Air Quality explicitly stated that there should be no construction of schools close to the A10; recent national studies have revealed the deadly health impacts of air pollution from traffic on children, especially in roadside developments; and air pollution affects both brain and lung development, as well as the obvious respiratory problems. The Principal Planning Officer explained that the location had been chosen to satisfy concerns of the County Council about road safety and noise. The proposed location was about 60 metres from the A10. Given that there are plans for dualling of the A10, Members expressed concern that this could mean that the Primary School will finally be only 40-60 metres from a busy, main A-road. It was noted that a bund with young trees had already been constructed between the A10 and the site of the proposed settlement. The Principal Planning Officer explained that the green separation in the proposed SPD could not be decreased and formed part of the Section 106 Agreement.

The Principal Planning Officer explained that, in terms of air quality, the location satisfied current Government guidance. In response, the Chair of the CCEAC highlighted the fact that national thresholds will very soon change due to the new knowledge that was emerging about the particulate pollution especially from pm2.5 caused by road traffic. The Chair insisted that it was highly questionable that in a new development of such a size, a long-term decision was being taken that will knowingly put children's lives and development at risk.

The Committee agreed that it wanted further expert assurances that the level of PM 2.5, requested that the location of the school be reconsidered. Calls were made for the buffer zone between the A10 and the school to be extended.

Wildlife

It was noted that 5% of the area would be set aside for wildlife, surpassing Natural England's recommended figure of 3.5%.

Design and Multi-story buildings

It was suggested that the new town should have more multi-story buildings in the centre to make a bold design and landscaping statement for a new town and to make best use of the available space.

5. INTERNATIONAL PANEL ON CLIMATE CHANGE (IPCC) SPECIAL REPORT BRIEFING

Dr Anne Miller gave a presentation to the Committee on the implications of the recent International Panel on Climate Change Special Report. It was agreed that the presentation should be distributed to Committee members.

It was suggested that the implications for the District included:

- Changes in land use that result in release of emissions.
- Mass planting of trees to absorb carbon and especially on major new roads to make them carbon-neutral (A14, A10, A428)
- Raising ambition on energy efficiency and renewable energy in new builds.
- Preparing for increased frequency and severity of flooding.
- Building houses that are flood proof.

John Ranken from Girton, on the invitation of the Chairman, made the following points:

- We needed to be free from dependency on fossil fuels by 2020.
- Traffic needed to be reduced and the A14 upgrades should be stopped.
- New homes needed to be sustainable and old homes should be retro-fitted.
- Homes should be built with solar panels on their south facing roofs.

6. FORWARD PLAN TO NOVEMBER

This was noted.

7. DATE OF NEXT MEETING

It was agreed that the next meeting should be held on Wednesday 28 November at 4pm.

The Meeting ended at 5.55 p.m.

This page is left blank intentionally.

Agenda Item 6



South
Cambridgeshire
District Council

REPORT TO: Climate and Environment Advisory
Committee

28 Nov 2018

LEAD OFFICER: Alex Colyer – Executive Director, Corporate Services

Review of Waste and Recycling collections at South Cambridgeshire Hall and the use of single use plastics

Purpose

1. This report provides a briefing for the Climate and Environment Advisory Committee on the Review of Waste and Recycling at South Cambridgeshire Hall and the use of single use plastics.

Recommendations

2. It is recommended that the Climate and Environment Advisory Committee note the actions outlined below.

Background

3. It has been noted by both Single Shared Waste Service and Facilities staff that the collection arrangements for waste and recycling at the Cambourne office were not up to date and could be improved to reflect current practice at Waterbeach office and also the service we deliver for residents and businesses at the kerbside. The need for change was also highlighted in the motion that Cllr Heylings brought to Council, which outlined a number of measures that could be taken to reduce single-use plastics and recycle more plastic where ever possible.
4. The current system of waste and recycling collection in South Cambs Hall is:
 - Numerous standard “bucket” style bins for general waste. These are currently placed beside desks within the office environment.
 - Numerous tall green bins for the collection of paper. These are currently scattered beside desks and by printers.
 - A recycling station in the canteen, for the separate collection of general waste, cans, paper and plastic.
5. These bins are emptied daily by the cleaning contractors into the bins in the storage compound. The bins in the compound are emptied by the commercial waste service and consist of:
 - 4 x 1100 litre mixed recycling bins. These are emptied once a week
 - 4 x 1100 litre general rubbish bins. These are emptied twice a week

Options

6. Facilities and waste management have worked together to conduct a review of the building and identify locations and suitable style of bins to be used. It is proposed that all of the current bins are removed and new waste and mixed recycling points are

established at logical and convenient locations around the building. The existing rubbish bins can be sent for recycling along with old wheeled bins from the depot. The green bins for the collection of paper are made from cardboard and so can be flattened and recycled.

5. The benefits of this are:
 - Consistent approach across the main council buildings of Cambourne and Waterbeach. Waterbeach already has specific disposal points and mixed recycling collections
 - The style of bins are tried and tested at Waterbeach and are similar to the ones in the canteen and so will be familiar to staff
 - A mixed recycling collection will replicate what most staff are familiar with at home.
 - It will allow staff to recycle a full range of materials and therefore decrease the amount of rubbish that goes for general disposal. In addition to paper, staff should be recycling cans; plastic bottles, tubs, pots and trays; cardboard; glass and cartons.
 - It ensures the council is following the same recycling principles that we expect of residents.
 - It has political support and directly follows the motion that was taken to council to review the use and recycling of plastics
6. Once the new collection arrangements are established inside the building it will allow for review of the number and frequency of the external collections, with a view to cutting costs.
7. The emptying of waste and recycling bins can be done in a more efficient manner as it will reduce the number of bins that cleaning staff need to empty allowing their time to be spent on other cleaning options.
8. In addition to the above, we aim to reduce the use of single use plastics within the office to zero. The common plastic items currently at South Cambs Hall are typically:
 - Packaging from food and drink staff have purchased at work e.g from vending machines
 - Plastic cups at water coolers and meeting rooms.
 - Packaging from food that staff have brought with them
9. Introducing a mixed recycling system will mean that all of the above types of items can be effectively recycled by staff at work and the communications described above will encourage them to do this.
10. However, best waste management practice places an emphasis on prevention and reduction practices before recycling and therefore steps are being taken to reduce the use of single use disposable plastic within the building, including;
 - Review of what drinks are provided as part of the catering and vending machine service to ensure that drinks are sold in cans only and not plastic bottles.
 - Although water is not usually sold in cans, the provision of bottled water via vending machines should not be necessary as water coolers are available in the building.
 - Plastic cups at vending machines can be removed and staff reminded to use glasses or the refillable bottles they have already been issued with.
 - The use of plastic cups for water in meetings should be replaced with glasses.

- The provision of re-usable cups for hot drinks from the main bean to cup coffee machine
 - The removal of cups from the instant coffee machines.
 - The provision of mugs for drinks in the meeting rooms.
11. If a stock of disposable cups needs to remain for use within the building then it is recommended that these are made of plastic as they currently are. Replacing plastic cups with paper style cups would be counter productive as they are not recyclable, due to them being a composite of plastic and paper. We recommend the use of plastic cups is to be eliminated over the next few months.

Implications

12. In the writing of this report, taking into account financial, legal, staffing, risk management, equality and diversity, climate change, community safety and any other key issues, the following implications have been considered: -

Financial

13. The most significant expenditure will be for the new bins but this will be a one-off cost to introducing the scheme. This will require the purchase of waste and recycling bins of two different sizes to suit locations. This will be 55 bins in total at a cost of £4,200. This can be done from the existing Facilities Management budget.

The current cost of emptying all the bins from the bins store on site is £8,440 a year. The commercial waste team have advised that as part of this change the provision of bins and frequency of the external bins can be rationalised and general rubbish collection can drop from twice a week to once a week. This will bring a saving of £3,000 to the authority in collection costs.

Climate Change

14. The recycling collected from the office will be sent for recycling in the same way as all the domestic household recycling as part of the MRF contract with our contractors Amey. An increase of good clean recycling is beneficial to the income that can be made as part of this contract.

Background Papers

Where [the Local Authorities \(Executive Arrangements\) \(Meetings and Access to Information\) \(England\) Regulations 2012](#) require documents to be open to inspection by members of the public, they must be available for inspection: -

- (a) at all reasonable hours at the offices of South Cambridgeshire District Council;
- (b) on the Council's website; and
- (c) in the case of documents to be available for inspection pursuant to regulation 15, on payment of a reasonable fee required by the Council by the person seeking to inspect the documents at the offices of South Cambridgeshire District Council.

Report Author: Phil Bird – Head of Facilities Management
Telephone: (01954) 713309

This page is left blank intentionally.

Agenda Item 7

REPORT TO: Climate and Environment Advisory Committee 28 November 2018
LEAD OFFICER: Stephen Kelly, Joint Director for Planning and Economic Development
Cambridge and South Cambridgeshire

Natural Capital and Biodiversity Net Gain in Design in Planning

Purpose

1. The purpose of this report is to set out progress to date with securing biodiversity net gain in new developments in Cambridgeshire and to seek support for the development of further guidance on biodiversity in light of changes to national policy.

Recommendations

2. That Committee recommends that the following approach to biodiversity and natural capital be taken:
 - (a) The inclusion of high level guidance on biodiversity, including links to the Developing Nature Toolkit in the proposed new Greater Cambridge Sustainable Design and Construction SPD;
 - (b) The production of a Greater Cambridge Biodiversity SPD to provide more detailed guidance; and
 - (c) The development of a mandatory net gain policy as part of the Greater Cambridge Local Plan.

Reasons for Recommendations

3. Recent changes to national planning policy have placed increasing importance on the role of new development in securing net gains in biodiversity. More widely, government has included this within the 25 Year Environment Plan, with the potential to change national planning policy to make these gains mandatory. In light of these changes to national policy, it is considered that further guidance is needed to ensure that development in South Cambridgeshire, and indeed Cambridge, maximises the potential for biodiversity and wider environmental net gain.

Introduction: national policy context

4. Greater Cambridge (Cambridge and South Cambridgeshire) is one of the fastest growing areas within England, with plans for significant additional development and major infrastructure to provide tens of thousands of new homes and significant new employment opportunities over the coming decades. It is important that, in planning for this growth, steps are taken to ensure the conservation and enhancement of the natural environment, which plays a pivotal role in our economy and well-being, providing wide-ranging benefits such as clean water and air, food, timber, carbon capture, flood protection and recreation.

5. This role is recognised, in DEFRA's [25 Year Environment Plan](#), published in January 2018, which sets out Government's long term approach to protecting and enhancing landscapes and habitats for the next generation. Its aims are to achieve:
- Clean air;
 - Clean and plentiful water;
 - Thriving plants and wildlife;
 - A reduce risk of harm from environmental hazards such as flooding and drought;
 - Using resources from nature more sustainably and efficiently;
 - Enhanced beauty, heritage and engagement with the natural environment.

In addition, the plan seeks to manage pressures on the environment by:

- Mitigating and adapting to climate change;
 - Minimising waste;
 - Managing exposure to chemicals;
 - Enhancing biosecurity.
6. The 25 Year Environment Plan recognises the role that the planning system has to play in achieving these aims through embedding the 'environmental net gain' principle into development, including housing and infrastructure to deliver environmental improvements locally and nationally. It is suggested that this approach should be a mandatory requirement for new developments. This is an evolution of the concept of biodiversity net gains principle, focussing on the role that new development has to play in providing cleaner air and water; plants and animals that are thriving; and a cleaner, greener country for us all. This committee report focuses on the biodiversity element of the net gain principle.
7. In terms of national planning policy, the revised 2018 National Planning Policy Framework (NPPF), while not specifically referencing 'environmental net gain', recognises the role that the planning system has to play in enhancing the natural and local environment, including:
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures (paragraph 170);
 - promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity (paragraph 174).
 - development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity (paragraph 175).
8. While the NPPF has moved from no net loss to net gain, the language used is not explicit in terms of mandatory net gains, as is suggested in the 25 Year Environment Plan. It is understood that Government intends to consult on the matter of mandatory net gain, although there is no indication as to when this consultation will take place. As such, at present, it is left to local planning authorities to make the final leap to mandatory net gain principles and to make the case for this through the local plan making process, including independent examination.

Considerations

Progress to date in South Cambridgeshire

9. To date, guidance on biodiversity and wider environmental net gain for South Cambridgeshire included policies within the Local Development Framework with additional guidance contained in the District Design Guide Supplementary Planning Document (SPD) for both biodiversity and environmental health considerations, and the Biodiversity SPD. The guidance in the District Design Guide is high level, providing examples of how biodiversity protection and enhancement can be integrated into the design of new developments. The Biodiversity SPD provides more detailed guidance including the preparation of relevant surveys and information on local biodiversity priorities, both in terms of species and habitats.
10. In practice, biodiversity net gains have been pursued through both on-site measures and through the use of planning contributions to deliver off-site improvements. As part of phase 2 of Northstowe, we have secured a Biodiversity Offset brokered through the Environment Bank, which will deliver a 10% net gain in biodiversity for that phase. All other growth sites at the outline planning application stage (Waterbeach New Town and Bourn Airfield) are all providing Biodiversity Net Gain calculations as part of their Environment Statements. These are in the process of being independently verified by the Wildlife Trust, and officers are looking to include biodiversity net gain requirements as part of recommended planning conditions for these sites.
11. Where it is currently more challenging to secure net gain is within smaller development sites, such as Housing 5 Year Land Supply sites and sites of less than 10 dwellings. The Council's Ecology Officer provides advice on a case by case basis, but it is often harder to find sufficient space on such sites to make a meaningful contribution to habitat creation. As such further guidance on approaches to such sites would be helpful.

Options

The 2018 South Cambridgeshire Local Plan and further guidance

12. Policy NH/4 of the 2018 Local Plan requires all new development to:

“to maintain, enhance, restore or add to biodiversity. Opportunities should be taken to achieve positive gain through the form and design of development. Measures may include creating, enhancing and managing wildlife habitats and networks, and natural landscape. The built environment should be viewed as an opportunity to fully integrate biodiversity within new development through innovation. Priority for habitat creation should be given to sites which assist in the achievement of targets in the Biodiversity Action Plans (BAPs) and aid delivery of the Cambridgeshire Green Infrastructure Strategy.”

Policy NH/6 also seeks to ensure the protection and enhancement of Green Infrastructure. Policy CC/8 on sustainable drainage systems encourages the development of drainage systems that offer multiple benefits, not just in terms of reducing flood risk, but also enhancing water quality and biodiversity in line with the environmental net gain principle.
13. The 2018 Local Plan was prepared under a previous version of the NPPF. However, the general principles behind policy NH/4 are considered in conformity with the revised NPPF in that it promotes the role that new developments have to lay in achieving positive gain through the form and design of development, although the Local Plan does not set a mandatory requirement for net gains. The production of further guidance could explore the role that new development has to play in

'maintaining, enhancing, restoring and adding to biodiversity' in line with recent changes in national policy.

14. The guidance contained in the District Design Guide and Biodiversity SPDs is tied to policies contained in the previous Local Plan. As such, when the 2018 Local Plan was adopted, these existing SPDs lost some of the weight that they had in determining planning applications, although they will remain material consideration until replaced. It is clear that further guidance is therefore needed to ensure that the implementation of policies NH/4 and NH/6 contributes to the overarching aims of environmental net gain as set out in the 25 Year Environment Plan and NPPF.
15. This further guidance could also direct developers to toolkits to assist them in demonstrating a net gain in biodiversity. The Natural Cambridgeshire Local Nature Partnership (LNP) has developed such a toolkit. Launched in October 2018, the [Developing with Nature Toolkit](#) comprises a simple list of 10 Things to do for Nature, a scoring matrix, guidance notes and links to background information, including a summary map of Greater Cambridgeshire strategic GI and ecological network priorities, plus links to reference materials and publications.
16. Primarily aimed at major developments requiring an EIA, the toolkit is intended for use from the very outset of planning new developments, and ideally at the time of selecting sites to acquire for development. The toolkit provides a basis for a proposed Charter Mark to ensure that it becomes adopted standard across Greater Cambridge. An assessment process will be developed by the LNP in partnership with the LEP/Combined Authority and local authorities. This will involve design stage, construction and post construction evaluation to ensure on-going compliance and demonstrable biodiversity net gain. The LNP are also considering the development of a partner guide for smaller scales of development.
17. The bringing together of South Cambridgeshire and Cambridge City's planning departments, presents an opportunity to take a Greater Cambridge approach to planning for biodiversity and environment net gain. There are already proposals for a Greater Cambridge Sustainable Design and Construction SPD. This document will replace elements of the South Cambridgeshire District Design Guide SPD and Cambridge City Council's existing Sustainable Design and Construction SPD. The following topics are proposed for inclusion in the SPD:
 - a) Energy and carbon reduction;
 - b) Sustainable Drainage (pointing to guidance in the Cambridgeshire Flood and Water SPD, with some more specific guidance for Cambridge in light of policy in the Cambridge Local Plan);
 - c) Climate change adaptation (including links to trees, biodiversity and green infrastructure);
 - d) Water conservation;
 - e) Consequential improvements (energy efficiency improvements to existing dwellings in line with policy in the Cambridge Local Plan);
 - f) Pollution/Environmental Health including electric vehicle charging;
 - g) Works to heritage assets to address climate change;
 - h) Sustainable Show Homes.
18. Given the breadth of topics to be included in the Greater Cambridge Sustainable Design and Construction SPD, it is recommended that guidance related to biodiversity remain quite high level, as is the case in the current Design Guide SPD and Cambridge Sustainable Design and Construction SPD, focussed on providing guidance on how planning for biodiversity should be integrated into new development, through for example building integrated approaches and the role of

green infrastructure and sustainable drainage systems in enhancing biodiversity. This SPD also presents an opportunity to provide links to the guidance contained within the Developing with Nature Toolkit.

19. For more detailed guidance, including the preparation of relevant surveys, possible approaches to deliver net gain at different scales of development, consideration of approaches to long term management and maintenance and information on local biodiversity priorities, it is recommended that the existing Biodiversity SPD be updated to cover the whole of the Greater Cambridge area. This would provide developers with clarity as to what is expected in terms of biodiversity net gain and how it can be delivered in practice.
20. The development of the new Greater Cambridge Local Plan also presents an opportunity to develop new policy related to mandatory biodiversity and indeed wider environmental net gain. The development of this policy could give consideration to the approaches being taken by other local planning authorities. For example, Lichfield (Staffordshire) requires a mandatory 20% net gain in biodiversity, while the Ribble Valley has initiated a 'habitat bank' principle, which involves funding the restoration of a large area of land (over 50 ha) through contributions made by developers, although this approach does require an initial investment of approximately £2 million. The Environment Bank offer biodiversity offset brokering whereby they will calculate the loss, design an offset scheme, and find a willing land owner to host it for 25 years. This can be done by a developer independently and can be included in S106 agreements with the LPA if necessary. Evidence will be needed to support such a policy. This would include an update to the Green Infrastructure Strategy.
21. In addition, the Cambridgeshire Biodiversity Partnership are in the process of developing Biodiversity Opportunity Mapping for Cambridgeshire and Peterborough. Biodiversity Opportunity mapping involves selecting a small set of broad habitats present in the county and for each habitat mapping the existing network and analysing its ecological connectivity. Potential to improve this connectivity by creation of new habitat areas can then be explored, taking a practical approach which considers constraints present on areas of land to provide an opportunity map of land parcels which could realistically be used for habitat creation. This Opportunity Mapping will prove useful when selecting sites for allocation and also for identifying priority areas for enhancement in order to maximise biodiversity net gains.

Implications

22. In the writing of this report, taking into account financial, legal, staffing, risk management, equality and diversity, climate change, community safety and any other key issues, the following implications have been considered: -

Financial

23. The preparation of the additional Supplementary Planning Documents and work on the Joint Local Plan have been included in planned budgets.

Legal

24. The legal implications of preparing these documents has been considered in the writing of this report.

Staffing

25. Currently anticipated to be within current budgets. This will be kept under review alongside other work priorities and as part of the Greater Cambridge Shared Planning Service Phase 2.

Risk Management

26. These SPDs are key documents in assisting with implementation of the South Cambridgeshire Local Plan and will be monitored using the Planning Policy teams internal project management systems and through the Annual Monitoring Report.

Equality and Diversity

27. These SPDs will each require an Equalities Assessment to be undertaken as part of their preparation.

Climate Change

28. These plans will play an important role in planning for climate compatible development.

Consultation responses

29. None.

Effect on Strategic Aims

A. LIVING WELL Support our communities to remain in good health whilst continuing to protect the natural and built environment

30. The commitment by the Council to prepare plans for the district, including Supplementary Planning Documents, is a good means of ensuring that the quality of life of its residents and their environs is protected and enhanced into future years.

B. HOMES FOR OUR FUTURE

Secure the delivery of a wide range of housing to meet the needs of existing and future communities

31. Not applicable.

C. CONNECTED COMMUNITIES

Work with partners to ensure new transport and digital infrastructure supports and strengthens communities and that our approach to growth sustains prosperity

32. Not applicable.

D. AN INNOVATIVE AND DYNAMIC ORGANISATION

Adopt a more commercial and business-like approach to ensure we can continue to deliver the best possible services at the lowest possible cost

32. Development of joint SPDs will enable resource efficiencies to be met in terms of reducing the need for separate consultations and will also enable the development of shared guidance where local policies across South Cambridgeshire and Cambridge correlate with one another

Report Author: Caroline Hunt – Planning Policy Manager
Telephone: (01954) 713196

Agenda Item 8

REPORT TO: Climate and Environment Advisory Committee

28 November 2018

LEAD OFFICER: Alex Colyer – Executive Director, Corporate Services

South Cambridgeshire District Council Investment in Green Energy

Purpose

1. This report provides the Climate and Environment Advisory Committee with an update on progress towards South Cambridgeshire District Council (SCDC) investment in Green Energy, specifically at the Waterbeach Depot and South Cambridgeshire Hall sites. This includes the briefing that has been provided to Bouygues in order to shape High Level Assessments at these sites (**Appendix A**), and the first High Level Assessment that has been delivered for the Waterbeach Depot (**Appendix B**).

Recommendations

2. The Climate and Environment Advisory Committee is invited to:
 - (a) Note and comment on the progress that is being made towards SCDC green energy investment at Waterbeach Depot and South Cambridgeshire Hall sites, as detailed within the contents of this report and its appendices.

Reasons for Recommendations

3. The above recommendations have been made to inform the Climate and Environment Advisory Committee of progress towards SCDC green energy investment at Waterbeach Depot and South Cambridgeshire Hall sites. It also provides an opportunity for the Climate and Environment Advisory Committee to comment on progress and shape future activity in this area.

Background

A Briefing for Waterbeach Depot and South Cambridgeshire Hall High Level Assessments

4. At the meeting of 20th September, Climate and Environment Advisory Committee noted that a project brief would be prepared to inform a High Level Assessment (HLA) for the South Cambridgeshire Hall site (to be delivered by Bouygues under the Re:fit framework, which seeks to reduce barriers to the retrofit of non-domestic public sector buildings or estate with green energy measures). The briefing document at **Appendix A** has subsequently been produced with input from Facilities Management, Executive Director and Chair and Vice-Chair of the Climate and Environment Advisory Committee.
5. A subsequent meeting was held on 25th October to agree the briefing with representatives from Facilities Management, Climate and Environment Advisory Committee and Bouygues Energies and Services. During this meeting an opportunity was raised and discussed around the opportunity to install solar panels on the roof of the Waterbeach Depot in time to benefit from feed-in-tariffs (FiT) prior to the cessation of the FiT scheme from 1st April 2019. As such, it was agreed that the

briefing scope would be broadened to include a second HLA, setting out this opportunity in greater detail. It was also agreed that Bouygues would deliver this as a matter of urgency to enable presentation to the Informal Cabinet meeting on 7th November and to allow the necessary approvals to be granted to allow FiT deadlines to be met.

Waterbeach Depot High Level Assessment

6. **Appendix B** contains the resulting HLA for the Waterbeach Depot. Some key points to note have been set out below:

- This document focuses solely on the installation of solar panels on the roof of the Waterbeach Depot offices, to ensure that feed-in-tariff deadlines can be met. Subsequent HLAs for the South Cambridgeshire Hall site and other SCDC assets will provide a more holistic view of opportunities. It could also be possible for a future project to be set up to consider additional measures at the Waterbeach Depot during a later phase of the SCDC Re:fit programme.
- Although SCDC lease the Waterbeach Depot, it is not foreseen that this will present any issues, with the landlord having provided approval in principle for installation of a PV array on the roof, albeit with formal agreement of installation specifics still required. The remaining term on the lease is for 15 years and it was therefore identified within the HLA brief that the installation would need to be financially viable within this period.
- The HLA outlines the **minimum expectations** for ensuing stages of the project and outlines a project capital cost of £45,494 and total payback period of 8.75 years.
- The viability of this project is dependent on securing a grid connection, thus allowing receipt of FiT income. Bouygues have indicated that a grid connection is likely to be available given the relatively small size of the proposed installation. An application for grid connection was submitted to UK Power Networks (UKPN) on 1st November. Bouygues have indicated that UKPN will typically respond to such applications within six weeks.
- The HLA contains two options: 'Option 1 (Base Proposal) – 30 kWp Solar PV Array'; and 'Option 2 – (Enhanced Proposal) – 37kWp Solar PV Array'. At the Informal Cabinet meeting of 7th November, it was requested that we progress to the next stage of the project on the basis of option 1, so as to maximise income received from feed-in-tariffs and reduce potential for complications and delays (as set out within the High Level Proposal).
- The next phase of the project is the production by Bouygues of an Investment Grade Proposal (IGP), scheduled for completion by mid-December. This will contain a greater level of detail (e.g. energy analysis, firm costings, specifications and designs). The savings set out within the IGP will form the basis for the Savings Guarantee which exists under the Re:fit framework. The payback and energy generation figures included in the IGP will be no less favourable than those already included within the HLA.

South Cambridgeshire Hall Site High Level Assessment

7. In addition to Waterbeach Depot, Bouygues have also commenced research for the South Cambridgeshire Hall site HLA, having conducted their first site survey on 9th November. As detailed above and within the project brief document (**Appendix A**) this will provide a comprehensive view of options at the South Cambridgeshire Hall site and within its locality, and is not restricted by a reliance on meeting feed-in-tariff deadlines. Please see point 2.2 'Project Scope and Exclusions' of Appendix A for full details of the South Cambridgeshire Hall site scope.

Street Lighting High Level Assessment

8. During the Climate and Environment Advisory Committee meeting of 20th September it was agreed that an HLA would also be commissioned in relation to SCDC's stock of footway lighting, and how added environmental value could be achieved for this set of assets (e.g. hosting of Electric Vehicle Charging Points and/or Air Quality Monitoring Stations etc.). A separate briefing will be drafted and submitted to Bouygues to shape the expectations for this HLA during the coming months.

Implications

9. In the writing of this report, taking into account financial, legal, staffing, risk management, equality and diversity, climate change, community safety and any other key issues, the following implications have been considered:-

Financial

10. This report is part of a wider piece of work to explore and implement options for the investment of funds from SCDC's Renewables Reserve. This reserve is fed from business rates that are retained in relation to renewables sites located within the district. To date approximately £2.6 million has been paid into the reserve with only a relatively small amount of this committed for spend. As things stand the Renewables Reserve will continue to be added to as we retain business rates relating to renewable energy sites for the current and future years.

Legal

11. SCDC have signed an agreement with Local Partnerships to gain access to and ensure compliance with the Re:fit framework terms. We are now in the process of agreeing call-off terms with Bouygues in order to progress to the Investment Grade Proposal and Implementation phases of the Waterbeach Depot solar project. Although this work is on-going with 3C legal acting on SCDC's behalf, Bouygues have commenced work on the IGP in good faith that the call-off terms will be finalised in the coming weeks. It will not be possible to proceed to the implementation phase of the project without call-off terms having been finalised. Call-off terms will also need to be agreed for future projects, including the implementation of any measures for the South Cambridgeshire Hall site.

Staffing

12. It has been agreed that a new Energy Investment Officer post will be created and recruited to in order to progress the Green Energy investment agenda, including work under Re:fit and further options for direct investment in renewables.

Risk Management

13. Risk registers will be completed for each Renewables Reserve investment project taken on.

Equality and Diversity

14. Equality Impact Assessment screening documents will be undertaken for each Renewables Reserve investment project so as to ascertain instances where a full Equality Impact Assessment is warranted.

Climate Change

15. This report has been developed to assess the options available to SCDC for the investment of Renewables Reserve funds in projects that will seek to deliver or contribute towards climate change reduction measures.

Report Authors:

Kevin Ledger – Policy and Performance Officer
Telephone: (01954) 713018

PROJECT BRIEF v.1.0

Reference Number:	<i>SCDC – PB01</i>
Project Title:	<i>SCDC REFIT PHASE 1 – South Cambridgeshire Hall Site and Waterbeach Depot High Level Assessments</i>
Date of Issue:	<i>24th October 2018</i>
Responsible Board:	<i>Climate Change and Environment Committee</i>
Portfolio Manager/s:	<i>South Cambridgeshire Hall – Phil Bird</i>
Project Executive/Sponsor:	<i>Alex Colyer (Executive Director – Corporate Services)</i>
Project Manager:	<i>Kevin Ledger</i>

1. Background

Political leaders and senior management at South Cambridgeshire District Council have identified Climate and Environment as one of the top priorities for the administration. Part of this agenda is to showcase investment in green energy generation and energy efficiency.

The Council's recently formed Climate Change and Environment Advisory Committee (CCE Committee) has agreed that Green Energy Investment will be one of the priorities within its work plan 2018-2020.

The Local Government Finance Bill provides for the retention of business rates income from new renewable energy projects in the district. This is an opportunity for the Council to reinvest funds retained from renewable energy business rates into green energy investment projects. This project brief signals the first steps of this plan to invest in green energy.

2. Project Definition

The project seeks to undertake work to ensure that the South Cambridgeshire Hall site becomes an example of best practice in the field of energy efficiency and green energy generation/storage/sharing. It aims to minimise emissions through low carbon generation and energy efficiency measures, increase energy self-sufficiency and generate income and savings for SCDC.

It will also explore opportunities for the rapid implementation of roof mounted solar panels at the Waterbeach depot site, to take advantage of Feed-in-Tariff prior to the cessation of these subsidies from April 2019.

PROJECT BRIEF v.1.0

2.1. Project Objectives

Lower emissions through energy efficiency/renewable energy generation
Savings on energy bills
Long-term revenue stream and Return on Investment
Increased energy self-sufficiency for the organisation

2.2. Project Scope and Exclusions

In scope

- The South Cambridgeshire Hall building and the surrounding carpark and site.
- Consideration of additional opportunities that may be available as a result of site locality, including location on Cambourne Business Park and in close proximity to the Cambourne Village College site.
- Identification of any additional financing options that may be available to the Council in relation to any of the approaches outlined.
- Consideration of all technologies and approaches that may offer a reduction in environmental impact as well as savings and income generation opportunities.*
- Provision of a separate HLA identifying the opportunities for the rapid implementation of roof-mounted solar panels at the Waterbeach depot site, to take advantage of Feed-in-Tariff prior to the cessation of these subsidies from April 2019.

* Whilst remaining open to technologies and approaches, it has been requested that any investigation at the South Cambridgeshire Hall site should include an examination of the viability of solar canopies located with carpark. This should also include any complimentary approaches that may be offered through battery storage and EV charging point technologies.

Out of scope

- Examination of opportunities that may exist within any other SCDC assets, or beyond the South Cambridgeshire Hall locality.

2.3. Investment Criteria

Whilst there is a minimum requirement for any financial investment to be recovered within system lifetime, we are open-minded as to the period of time over which this takes place. The lease at the Waterbeach depot site has 15 years remaining and this will be a consideration when reviewing the financial viability of any investment on this site.

PROJECT BRIEF v.1.0

It has initially been indicated that we may seek to achieve 7% IRR over period of 20 years (and within system lifespan). This is the average existing risk threshold although no formally-agreed threshold exists; however a decision to proceed to the IGP phase will also take into account the environmental benefits.

SCDC will fund projects from the SCDC Renewables Reserve Fund (and potentially from the Public Works Loan Board and Salix finance, depending on scale of investment needed).

2.4. Minimum Targets

There is an expectation that any projects will assist SCDC in reducing energy consumption levels and reliance on fossil-fuelled grid-supplied electricity. Specific expectations in terms of energy demand reduction, generation, carbon emissions abatement are currently unknown due to a lack of previous comparative SCDC projects. The HLA will help to shape the Council's expectations for this and future projects, and will be used to identify the most effective set of measures for the achievement of project objectives identified under section 2.1.

As referred to within the scope section, it is expected that the HLA will include exploration of additional opportunities that may be available as a result of site locality (e.g. supply to local demand centres, partnering with local building/site owners to install generation measures on neighbouring sites etc.), including location on Cambourne Business Park and in close proximity to the Cambourne Village College site.

Expectation that lack of FiT and grid connection issues are addressed through the exploration of options for local consumption of generated energy (e.g. EV charging points, LED lighting and sale of energy to neighbouring demand centres).

HLAs should consider future proofing, in terms of outlining opportunities for the potential addition of future green energy measures.

2.5. Base Parameters

Anticipated annual consumption figures at South Cambs Hall:

<u>Electricity</u>	Unit rate 1: 562,892 kwh @15.235 per kwh Unit rate 2: 114,018 kwh @ 10.591 per kwh Current service provider E-ON contract from 01:10:18 – 30:09:19
<u>Gas</u>	To be provided by Michael Turner (Facilities Manager) at a later date.

Anticipated annual consumption figures at Waterbeach depot:

<u>Electricity</u>	To be provided by Michael Turner (Facilities Manager) at a later date.
--------------------	--

Annual inflationary increase to be taken account at 4%.

PROJECT BRIEF v.1.0

2.6. Constraints

A previous exploration, undertaken in 2015, found that insufficient grid capacity existed for electricity generated at the South Cambridgeshire Hall site to be connected to the network. At the time it was anticipated that this situation could change once work is undertaken to upgrade grid capacity to account for development at the Cambourne West site. Whilst planning permission has been granted for this development, no work has started on site to date. It is also unknown whether new approaches for connecting to the grid have been developed in the interim (e.g. flexible connection).

Any work would need to ensure that appropriate planning consent is granted for the commencement of work on site.

Car parking is currently at a premium at South Cambridgeshire Hall. Any significant reduction in parking spaces occurring as a result of proposed measures would need to be included as a consideration within the review of the HLA.

Any measures at South Cambs Hall will not be completed within parameters for FiT eligibility.

2.7. Interdependencies

Phase 1 of the South Cambridgeshire Re:fit Programme will also include an HLA to investigate opportunities for adding value to the Council's stock of 1800 footway lights, which are already undergoing a programmed upgrade to LED.

Climate and Environment has been identified as a key area of focus, and within this investment in green energy as a key action for inclusion within the Council's emerging Corporate Plan. As such it is possible that identification of additional SCDC Re:fit phases and subsequent commissioning of HLAs could take place depending on the success of projects within Phase 1.

'South Cambridgeshire District Council: Open to Opportunity' (currently in development) identifies investment in environmental income generation opportunities as a key area of focus.

At present a Server Consolidation Project is underway, which will have the effect of reducing our baseline electricity consumption. However other activities (e.g. if we identify any additional building tenants for the building) could have the effect of increasing consumption.

PROJECT BRIEF v.1.0

The Council are planning to build a new external storage unit on site within the car park during the current financial year, and to resurface the car park in the next financial year.

2.8. Assumptions

At this stage we do not wish to restrict investigations based on cost.

3. Customer Expectations

3.1. Electrical Specifications

All electrical installation works must comply with the following:

- IEE Wiring regulations
- Electrical regulations 18th edition
- Electricity at work regulations 1989
- Management regulations
- Consideration should be given to the BREEAM regulations to ensure any alterations do not adversely affect our rating

3.2. Mechanical Specifications

All mechanical works must conform to the PUWER regulations 1998

3.3. Health & Safety Standards and Procedures

Health and Safety at work act 1974

3.4. Management regulations

None.

3.5. Specific Materials and Contractors

None.

4. Approvals Process

Each decision will need to pass through a governance procedure to gain senior management approval through our Executive Management Team (EMT) and Member approval.

PROJECT BRIEF v.1.0

4.1. High Level Assessment

Cabinet provided approval for the commissioning of an HLA in relation to the South Cambridgeshire Hall site in February 2018. Support for this has been reiterated by the Climate and Environment Advisory Committee at its first meeting in September 2018.

This HLA briefing has been developed in consultation with representatives from EMT and the Climate and Environment Advisory Committee.

Once completed HLA will be presented to senior management and Members.

4.2. Investment Grade Proposal

The HLA will be used by key project personnel to identify, present and seek EMT, and Climate and Environment Committee recommendations, Scrutiny and Cabinet approval for measures to progress to the IGP stage.

4.3. Delivery

Key points from the IGP will be presented to Climate Change and Environment Committee and EMT, Scrutiny and Cabinet Lead Member approval sought to progress to the delivery stage.

5. Outline Development Programme

Waterbeach Depot HLA to be provided by end of 5th November 2018 to allow circulation for informal Cabinet meeting on 7th November 2018. Review at this meeting is key to ensuring that implementation can take place in time to benefit from FiTs.

6. Key Project Personnel

Kevin Ledger (initial Project Manager)
01954 713018
kevin.ledger@scambs.gov.uk

Energy Investment Officer (to be appointed)

Phil Bird (Portfolio Manager)
01954 713309
phil.bird@scambs.gov.uk

PROJECT BRIEF v.1.0

Michael Turner (Facilities Manager)
01954 713367
michael.turner@scambs.gov.uk

Alex Colyer (initial Project Executive / Sponsor)
alex.colyer@scambs.gov.uk

Cllr Pippa Heylings (Climate and Environment Advisory Committee Chairperson)
Cllr.heylings@scambs.gov.uk

This page is left blank intentionally.

South Cambridgeshire District Council

High Level Proposal

WATERBEACH DEPOT PV SOLAR PROJECT RE:FIT 3 ENERGY PERFORMANCE CONTRACTING FRAMEWORK

Negros, Philippines, our Group's largest solar PV project at 132.5MWp



Page 27



WELCOME!

Firstly, thank you for registering your interest in the Cambridgeshire RE:FIT Programme! We hope that this High Level Assessment meets your expectations from joining the programme.

This document provides an overview of the sites we have surveyed, highlighting specific challenges at individual sites. You can also find generic description of the generic measures that we have proposed and the rationale behind the technology.

If you have any queries
please feel free to call us
01223 781 380



CONTENTS

- Project Brief
- The Development Process
- The High Level Assessment
- High Level Proposal Headlines
- Energy Conservation Measures
- Further Reading
 - HLA Key Parameters*
 - The Savings Guarantee*
 - Measurement & Verification*
 - Key Assumptions & Clarifications*

Document Control

Version	01 (first issue)
Author	Miles Messenger
Issued	2 nd November 2018
Changes	N/A

PROJECT BRIEF

South Cambridgeshire District Council (SCDC) has instructed Bouygues E&S to undertake a High Level Assessment on their Waterbeach Depot, Dickerson Industrial Estate, Ely Road, Waterbeach, CB25 9PG. It is understood that this is a civic amenity site, used partially for storage of materials and partially for office accommodation.

Scope: The scope of the High Level Assessment is to evaluate the outline feasibility for the installation of a solar PV array. The decision was made to focus on this particular project due to timescales associated with subsidies available for solar PV installations, as detailed in the below High Level Proposal.

Payback Period: There has been no specific limitation on payback period imposed. However, it is acknowledged that the project should payback within the maximum term set out in the original Invitation to Tender, which was 15 years. Should this maximum level be exceeded, SCDC will consider the broader merits to the project, such as carbon emissions reductions, lifecycle cost savings, back-log maintenance reduction, environmental improvements etc.

Financing & Investment Criteria: It is our understanding that the project will be financed from SCDC's capital reserves. Hence, no loans or leasing arrangements are required for the project. There are no specific investment criteria, such as internal rates of return (IRR), return on investment (ROI) or net present value (NPV), although SCDC has set a notional target of 7% IRR over a 20yr period. Projects that demonstrate a good ROI will be looked upon favourably and priority may be given to those measures that reinforce the economic business case.

Energy Tariff Rates: SCDC has provided base year tariff rates for use in the HLA business case and we have agreed notional annual inflation indices to be used in the payback model. The carbon emissions conversion factors shall be that set by the UK Government:

(<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018>). The agreed values are summarised out below:

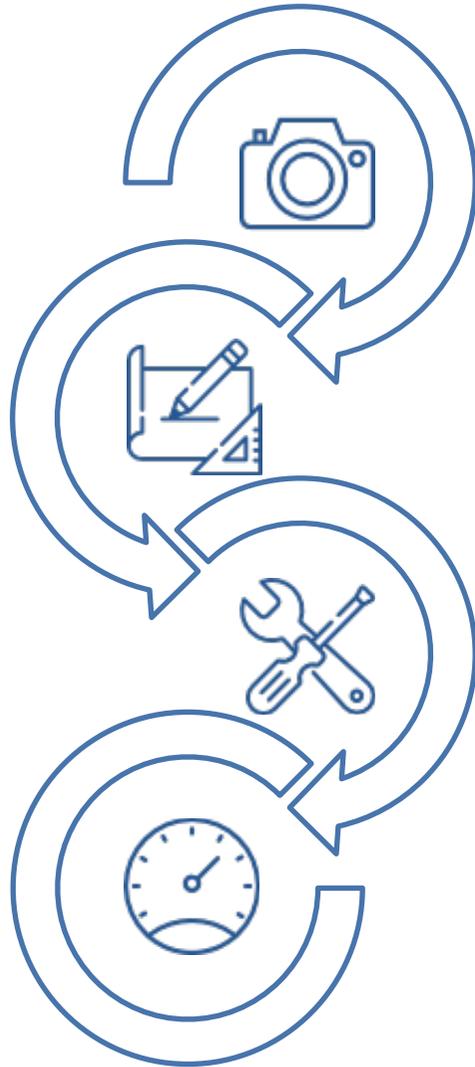
Utility	Tariff Rate	Inflationary Factor	Carbon Factor
Grid-supplied Electricity (day)	£0.15235 / kWh	4% per annum	0.3072 kgCO ₂ e / kWh
Grid-supplied Electricity (night)	£0.10591 / kWh	4% per annum	0.3072kgCO ₂ e / kWh
Natural Gas	N/A	N/A	N/A
Water	N/A	N/A	N/A

With regard to Feed In Tariffs, Renewable Heat Incentives and other renewables subsidies, this High Level Proposal has been formed on the basis of installation being completed in Quarter 4 of 2018 and is, to the best of our knowledge, applicable at the time of publication. This aligns with SCDC's desire to complete the installation ahead of the end of the Feed In Tariff, in April 2019.

Client Specifications: SCDC has specified adherence with a number of regulations and legislation, which Bouygues E&S shall adopt and comply in full as part of the proposal. We have also incorporated our company standards, which are in many cases of a more stringent criteria than that of our clients'. Should SCDC wish for us to incorporate any additional technical requirements, this may be evaluated prior to the IGP.

VAT: All business cases shall exclude VAT from all utilities, goods and services.

THE DEVELOPMENT PROCESS



01. HIGH LEVEL ASSESSMENT (HLA)

We undertake initial site surveys to assess the energy performance of the asset(s), identify energy conservation measures and prepare an initial business case

02. INVESTMENT GRADE PROPOSAL (IGP)

We undertake detailed and targeted energy analysis of the asset(s), develop scopes, specifications and outline designs for energy conservation measures, obtain firm prices for the works and create a robust and comprehensive business case

03. IMPLEMENTATION

We finalise design and obtain approvals, mobilise, procure and coordinate the installation and commissioning of the project. This includes H&S management and associated statutory obligations

04. MEASUREMENT & VERIFICATION (M&V)

Bouygues E&S has a duty to monitor and report on the performance of the measures, with formal 'annual reconciliations' each year to demonstrate achievement of the Savings Guarantees.

DELIVERABLES

The outcomes of the business case (namely, the savings and payback period) form requirements of the contract agreement that must be improved upon at the Investment Grade Proposal stage

The IGP forms part of the contract agreement, committing us to deliver the project scope for the agreed capital cost and within the agreed timescales. The savings set out in the business case are bound into a Savings Guarantee, which exists for the payback period.

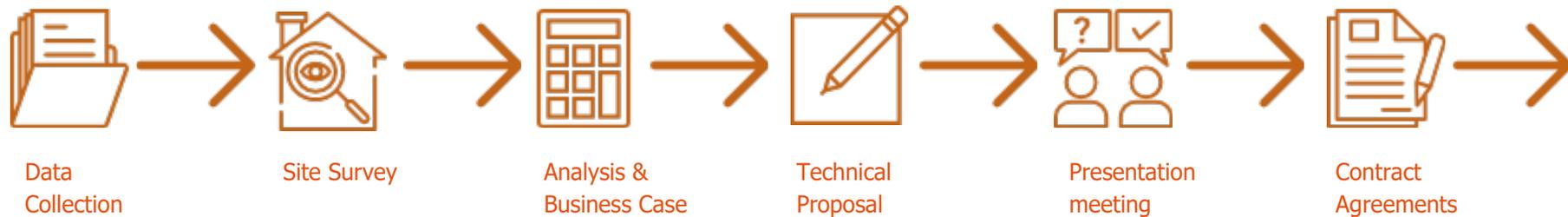
The 'works completion' is a formal milestone that marks the completion of our responsibilities in practical delivery, the start of the warranty period and commencement of the Savings Guarantee period.

THE HIGH LEVEL ASSESSMENT

As briefly mentioned above, the overarching purpose of the HLA is to 'set the goalposts' of minimum expectations that Bouygues E&S must meet at IGP stage. Whilst this is the main output deliverable, the HLA involves engineering investigations, options appraisals and feasibility studies, the development of a business case and supporting technical proposals. Bouygues E&S puts significant effort into this early stage, as we recognise the importance of having a firm footing and strong foundations the build the project on. We endeavour to establish a 'best value' technical proposition for each client that meets both programme requirements and local objectives. We seek to identify and account for technical and commercial risks wherever possible, or at least ensure that these are clearly communicated.

Due to the timescales, Our Energy Engineers have been unable to undertake physical surveys of the Waterbeach Depot. However, we have been able to access sufficient information about the site in order to prepare an outline High Level Proposal and have recorded assumptions that will require clarification at the next stage of the development process.

Using our bespoke modelling tools, we have established potential energy savings, revenues, capital and operational costs associated with the proposed solar PV array. We utilise our business case model to evaluate various sizes and specifications to arrive at the optimum solution. This business case model provides various financial appraisals, carbon emissions reduction, the minimum Savings Guarantees and maximum payback period.



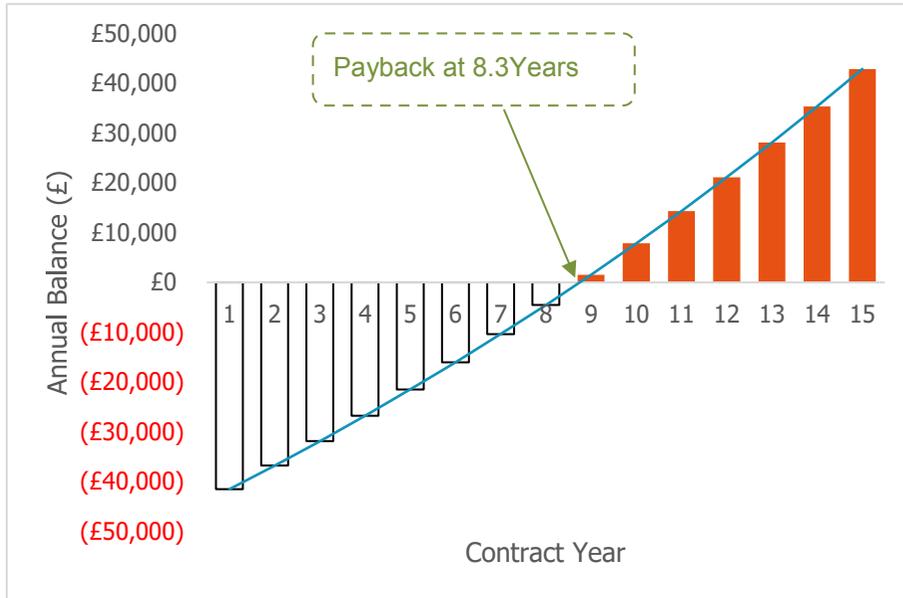
WHAT HAPPENS NEXT

Presentation Meeting: To meet with SCDC to present this HLA, discuss our technical rationales and answer any queries regarding the programme and proposal. This, coupled with the HLA documentation should empower the Council to make an informed decision on how best to proceed with the programme.

Decision to Proceed: SCDC will confirm a decision to proceed to IGP stage via email to Bouygues E&S representatives. It should be noted that this decision is only to move to IGP stage and does not commit the Council to go forward to installation.

Contract Agreement: Our Contracts Manager will work with SCDC's representatives to prepare the contracts for the IGP. This contract will commit Bouygues E&S to deliver a compliant IGP and, on the proviso that this is achieved, commit the Council for remunerating the IGP fees, should the Council choose not to proceed to installation.

HIGH LEVEL PROPOSAL HEADLINES



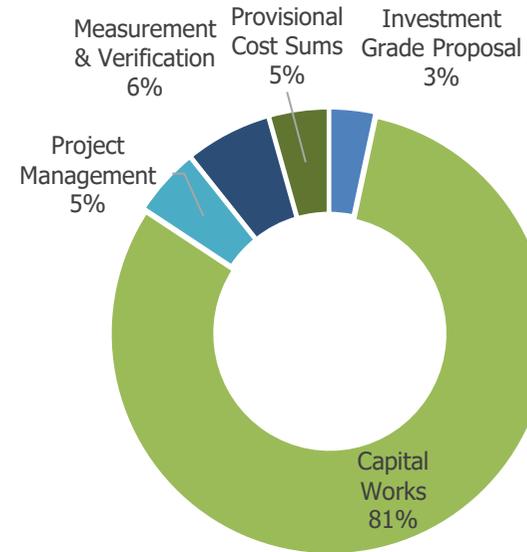
PROJECT CAPITAL COST	£45,494
PAYBACK PERIOD	8.75 years
OPERATING COST INCREASE*	£150/annum
RENEWABLE ENERGY	24,947kWh/yr
CARBON EMISSIONS SAVING	6.414TCO ₂
MAINS ELECTRICITY SAVING	19,121kWh/yr

Page 32

* It is noted that the operating cost increase does not account for maintenance savings as these do not form part of our guarantee.

The business case is modelled with no VAT addition to either goods and services or energy.

The High Level Proposal sets the minimum expectations for ensuing stages of the project.



ENERGY CONSERVATION MEASURES

Solar Photovoltaics

Rationale

Photovoltaic (PV) Cells convert solar radiation to electricity through a process known as the photoelectric effect. The electricity generated by the PV cells is Direct Current (DC). An inverter (or series of inverters) is connected to the PV array to convert DC power to Alternating Current (AC) electricity, allowing the PV array to be integrated with the site's mains electricity infrastructure.

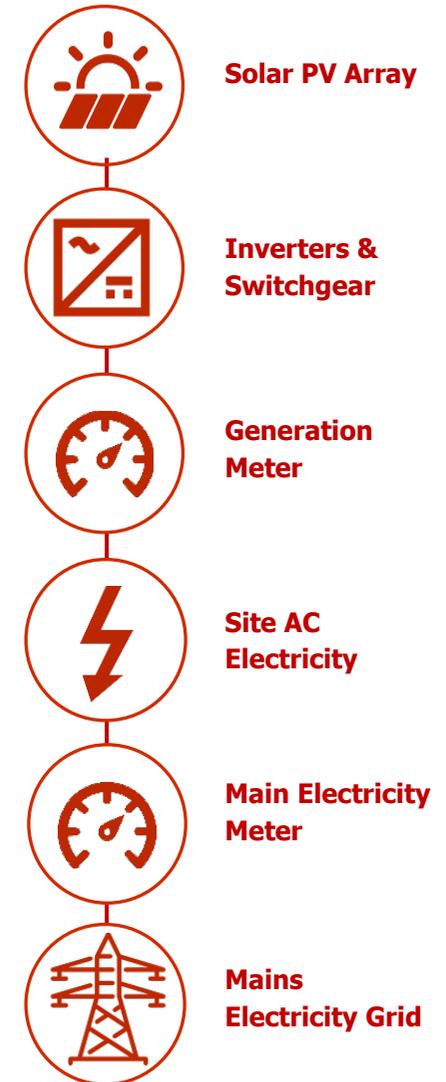
The renewable energy generated by a 'grid tied' PV array can therefore feed into the mains electricity system and be consumed on site, offsetting power demands from the grid. Any surplus electricity may be exported to the mains grid, subject to the agreement of the Distribution Network Operator and the systems' arrangement. The 'offset' in electricity imported from the grid shall generate a direct cost saving (the renewable power generated by the solar PV is free).

In addition, PV systems owners also receive revenues via the Feed In Tariff (FIT) Scheme. The FIT Scheme is an incentive instigated by the UK Government that rewards registered PV solar installations by way of quarterly payments, which are calculated from the quantity of electricity generated by the PV system. The 'Feed In Tariff rate' (the tariff that is applied to the power generated) varies depending on the capacity of system installed. In general, the larger the system, the lower the tariff. Consequently, an economic appraisal must be conducted to determine the optimum size. Once registered, the Feed in Tariff remains in place for 20 years, adjusting only for inflation.

It is noted that the UK Government proposes to close the Feed In Tariff Scheme in 2019. This means that any installation registered (installed and commissioned) after the 1st April 2019 will not be eligible for Feed In Tariff subsidies. There is no plan to replace the existing subsidies with a new scheme and hence, the only financial benefits associated with PV installations installed beyond April 2019 will be that of the mains electricity savings. Export tariffs will be subject to negotiation with licensed electricity suppliers.

The quantity of solar PV installations that are eligible to receive Feed In Tariff in any given quarterly period is subject to a 'deployment cap'. This is a queuing system approach, such that if an installation is registered after the deployment cap is reached, it is automatically registered to the following quarter's Feed In Tariff. Should this occur in Quarter 1 of 2019, these installations would not be rolled over to the following quarter's tariff (as it no longer exists).

Hence, a primary drive for implementing solar PV in this first phase of works is to obtain the benefits of Feed In Tariff subsidies whilst it still exists. SCDC has asked Bouygues E&S to explore opportunities to implement solar PV at Waterbeach Depot, with a view to installation and registration in Q4 of 2018 (or early Q1 2019).



Outline Scope of Works

We have undertaken a review of the roof space at Waterbeach Depot to establish the outline feasibility for installing solar PV. Our study comprised of analysis of the following attributes:

- Roof size, pitch and orientation
- Roof construction, structure and condition (visual indicators only)
- Shading from surrounding structures (trees and buildings)
- Risk of glare or other nuisance caused by solar PV

Outstanding work to be undertaken is a review of the existing building design information, to identify the following aspects:

- Site incoming electrical capacity
- Site electricity demand profile
- Mains electrical distribution, points of connection and cable routes
- Accessibility and feasibility for installation, temporary works requirements etc.

In addition, a basic analysis is normally performed on the site's the electricity demand profile, to enable us to match the size of the array to the site loads. Whilst export of surplus electricity generated does yield revenue, this is less economically beneficial than consuming on site. Thus, we have generally aimed to size the system to moderate export quantities. This is based on the annual data that has been provided only and further, more detailed work must be undertaken at Investment Grade Proposal stage with more granular data to confirm the system sizing.

We have conducted a high level survey of the Waterbeach Depot site and reviewed existing building design documentation to confirm feasibility, identify points of connection and siting of key equipment items. This also enabled a review of potential hazards and risks associated with installation and the need for temporary works.

From the information available, it appears that the building is a steel portal construction. The roof construction of this type of building is typically a composite steel trapezoidal panel with insulation and internal boarding. The building has a single ridge and symmetrical pitch, with the pitch / side elevations being orientated to approximately due North West and South East. The dimensions of each pitch is approximately 37.5m in length by 9.5m in width (to be confirmed).

With reference to satellite images, the pitch of the roof appears to be between 10-15 degrees from horizontal. This conforms to that typically seen on steel portal structures. The building is largely unshaded, with the exception of mature trees to the south-east of the building. These trees will cause a small amount of shading to the lower edge of the pitched roof during low sun. However, this will have a marginal impact on overall annual yield.

A single 3-phase 415V incomer serves the building, which is fed from the main incomer to the recycling centre. The main incomer is metered upon entry and hence, this building is sub-metered along with several other buildings across the site. A 125A 3-phase electrical supply enters at the North Easterly side of the building and feeds into DB01, which is located in the server room on the North Easterly façade. This will be sufficient to accommodate for a moderately sized solar PV. The fact that this building is submetered is very important, as the feed in tariff registration (and point of measurement for exported power) is assigned to the main incoming meter (MPAN) and not the individual building's submeter.

OPTION 1 (Base Proposal) – 30kWp Solar PV Array

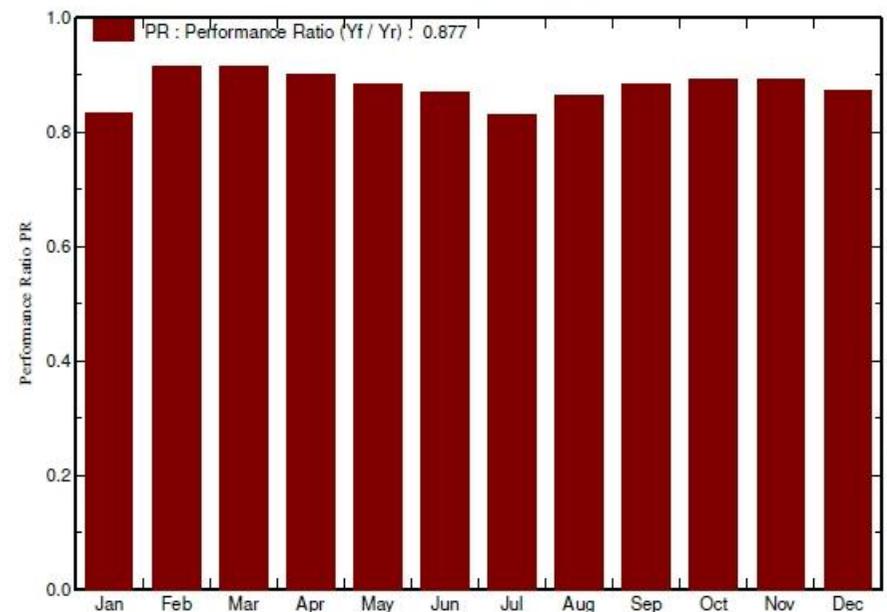
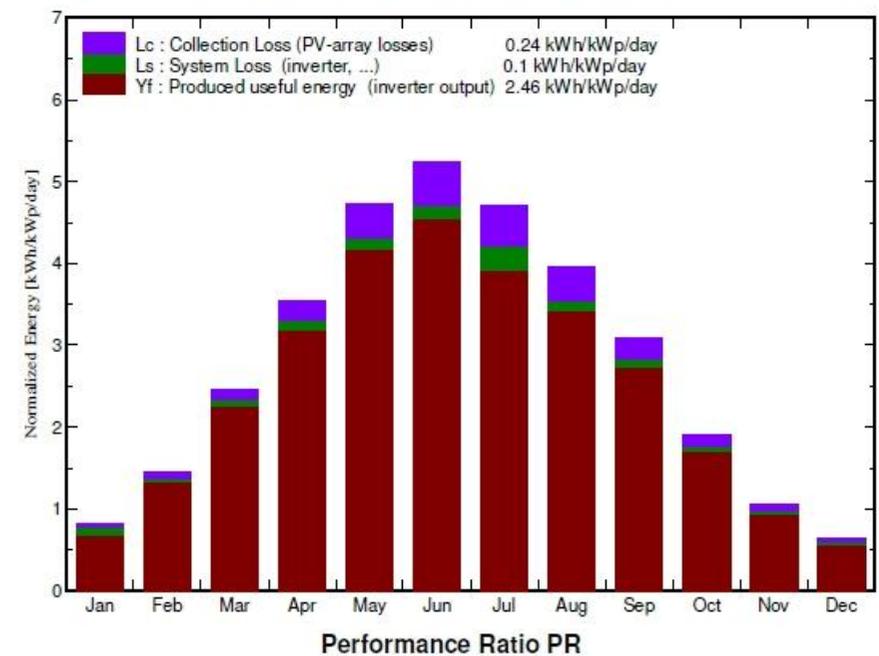
We propose a 30kWp solar PV array be installed to the South-Easterly pitch of the trapezoidal roof only. The array shall be a single rectangular design, formed of 109 x 275W polycrystalline standard sized tier 1 solar modules, which shall be securely fastened to the trapezoidal ridges via a proprietary mounting system.

The inverters shall be positioned near the incoming supply distribution board, along with metering, DC and AC switchgear and a 415V AC connection shall be made to an existing 3-phase distribution panel. The inverters shall be SolarEdge type, with power optimisers fitted to each of the modules to improve annual yield.

As the building does not sit within a conservation area and has no heritage status, the Permitted Development Regulations may apply. Hence, full planning approvals may not be sought for this installation, so long as we observe the Permitted Development regulatory requirements on the design of the system. We can confirm that this design will comply with such regulations.

Our rationale for specifying a capacity of 30kWp is that this is the uppermost threshold for the 'MCS accreditation route'. This allows the 'deemed export' rule to apply, which means that no meter is required to be installed in order to claim export tariff revenues. This very important in the case of Waterbeach Depot, as fitting an export meter to the main incomer to the site would be complex, owing to the fact that this equipment is under third party ownership and management. Moreover, there is likely to be little export of surplus power generated by the system from the

Normalized productions (per installed kWp): Nominal power 30.3 kWp



entire site, given the nature of the activities and demands of other buildings served by the metered supply. The 'deemed export' volume is 50% of the electricity generated and recorded by the generation meter, meaning that even though there is unlikely to be any export from the site SCDC will obtain the associated revenue. Above the 30kWp threshold, a meter must be fitted in order to measure export volumes and recover the associated revenues.

In addition, by limiting the system to 30kWp, we can be assured that the observed existing available roof space is sufficient to house the installation and, that the capacity of the existing incoming supply to the building is most likely to be adequate.

Due to the capacity of the system exceeding 16A/phase, a G59/2 connection agreement must be in place with the local Distribution Network Operator. We have lodged a G59 application on 1st November 2018 and await approval. The statutory period for response is 90 days, although our experience is that UK Power Networks often provides a response within 6 weeks of application.

OPTION 2 (Enhanced Proposal) – 37kWp Solar PV Array

This proposal is equal to that of the above, only that the use of observed available roof capacity is maximised for accommodating the solar PV array. It is noted that the use of the North-Westerly pitch is not recommended under any circumstances, due to the lack of annual solar irradiance.

The potential for renewable energy generation is maximised under this proposed. However, as opposed to the above, the 'deemed export' rule no longer applies, meaning that SCDC may not be able to claim the associated export volumes. However, as qualified above, the vast majority (if not all) of the electricity generated by the solar PV array is likely to be consumed on site, hence resulting in a reduction in mains electricity demand placed on the main site meter. This means that the 'bill payer' will reap the benefit of such savings. Depending on the relationship and commercial agreements in place with the bill payer, it may be possible to enter into an agreement to sell the surplus power exported from the building to the bill payer, at a marginally lower rate than that currently paid for mains electricity. However, it is acknowledged that such an arrangement may take time to agree and thus cause



delays to progressing with the project. Accordingly, we suggest that SCDC considers the benefits and risks associated with this option and advises accordingly.

Specification Notes

- We have specified high-efficiency tier 1 (Bloomberg rating) solar PV modules, which will be supplied with a minimum 20 year performance guarantee and 10yr product warranty.
- The SolarEdge inverters are premium quality and high-efficiency. The 'Power Optimisers' essentially act to optimise the output of each PV module, ensuring that the annual yield of the entire array is maximised. This 'individual panel' control provides a host of additional benefits, including the ability to isolate each individual panel. This significantly reduces the risk of electric shock to emergency personnel in the event of a fire on site.
- The meters shall be MID Class 1 grade, with GPRS data transmission capabilities to allow us to remotely monitor the performance of the system at 30min intervals. These are 'fiscal grade' and are highly accurate.
- The installation contractor shall be MCS registered, thus enabling registration via the FIT scheme. The contractor shall carry Chas accreditation, NICEIC certification, Constructionline, ISO accreditations and appropriate Temporary Works certification.
- A structural survey shall be conducted ahead of any installation to confirm the structural integrity of the roof. An EPC certificate of grade D or higher is required in order to obtain the higher rate of Feed In Tariff. We have assumed that this is either already in place, or may be procured and obtained ahead of registration.

Key Assumptions & Risks

- It is assumed that the existing electrical infrastructure at each of the buildings is fit for purpose and meets current regulations
- There is a risk that the Distribution Network Operator will impose reinforcement charges or export limitations in response to the G59 application. Whilst relatively unlikely at this modest scale, any reinforcements would almost certainly make the installation unviable, thus meaning that the system capacity may need to be reduced.
- No allowances have been made for reinforcement to the structure of the roofs. Should this be necessary, it would probably make the project unviable.
- A separate allowance has been made for asbestos management. However, it is generally assumed that no removal or disturbance will be necessary at the site, due to its age and construction.

FURTHER READING

THE HLA KEY PARAMETERS

As set out above, the overarching purpose of the High Level Assessment is to set the 'goalposts' or 'Key Parameters' upon which Bouygues E&S commits to improve at the Investment Grade Proposal stage. For the avoidance of doubt, these parameters are set out on the table to the right. Should Bouygues E&S be unable to improve upon these Key Parameters, SCDC may elect not to proceed to the subsequent delivery stages and not to pay the Investment Grade Proposal fee. Should Bouygues E&S fail to meet these key parameters and yet SCDC still decides to proceed to implementation, Bouygues E&S remains eligible to collect the IGP fees.

KEY PARAMETERS

Key Parameters	Value	Criteria
Payback Period	8.75 Years	No greater than
Energy Generation	24,974 kWh/year	No less than

These Key Parameters have been carefully selected on the proviso that they bind Bouygues E&S to improve the business case, without inhibiting our freedom to identify better opportunities, or enhance those which have already been selected.



Should SCDC wish to vary the scope of works to include other measures that might impact Bouygues E&S' ability to meet the key parameters (such as the inclusion of long-term lifecycle projects), Bouygues E&S will seek to agree a reasonable and proportionate variation to these key parameters with SCDC, so as to afford the necessary freedom and flexibility of the programme, without assuming undue commercial risk.

If SCDC wishes to include other key parameters, Bouygues E&S would be delighted to discuss these requirements and include if agreeable to both parties.

THE SAVINGS GUARANTEE

As aforementioned, the energy savings and renewable energy generation set out in the Investment Grade Proposal business case will be guaranteed by Bouygues E&S under the RE:FIT Energy Performance Contract. These 'Savings Guarantees' are based on the energy volume (kWh) and exist for the duration of the Payback Period.

In accordance with the framework, Bouygues E&S will be required to remunerate SCDC for any shortfalls between the actual savings and the Savings Guarantee in any 'Contract Year'. The remuneration is calculated by multiplying the shortfall by the relevant energy tariff, as set out in the IGP business case. Conversely, Bouygues E&S will not be entitled to claim payment for any surpluses, unless we have previously paid a penalty for a shortfall in a previous Contract Year (this surplus claim is capped at the value of the shortfall payments).

Accordingly, Bouygues E&S is incentivised to be reasonably conservative and cautious in our savings calculations and thus, we expect the savings expectations to be exceeded. The process for evaluating savings and accommodating for changes that inevitably occur during the lifetime of the project is referred to as Measurement & Verification, as described below.

We utilise energy management software to monitor the performance of the project. This software is made available to our clients to help them to manage their energy use.



MEASUREMENT & VERIFICATION

Measurement & Verification (M&V) shall be undertaken by Bouygues E&S to evaluate the savings and make reasonable adjustments to account for change. It is essential that this process is transparent, impartial, accurate and repeatable, so as to ensure that all parties can have absolute confidence in the reported performance. Bouygues E&S' M&V approach follows the International Performance Measurement & Verification Protocol (IPMVP), a leading global standard for M&V. The IPMVP sets out protocols for planning measurement techniques, application of routine and non-routine adjustments and reporting performance. Our senior engineers are certified to the IPMVP and have a duty to ensure that Bouygues E&S maintains compliance.

Routine and non-routine adjustments may be made to the savings guarantees to accommodate for changes that occur during the monitoring period. For example, a routine adjustment may be applied to thermal energy savings calculations to accommodate for seasonal variations – in the event of an extremely mild winter, it may be expected that less thermal energy is required for heating, whereas, in an extremely cold winter, more thermal energy will be required. The routine adjustment essentially 'keeps us on the hook'. A non-routine adjustment may be applied to the savings guarantee when an unpredictable or unexpected change occurs that has an impact in energy performance. Examples might include a change in occupancy hours, change in building structure or utilities failure.



The security of a public procurement framework and Local Authority Backing

In adhering to the IPMVP, we are able to offer any plans or reports to independent specialists for ratification, should this ever be required. As part of the governance and review processes, Local Partnerships reviews our M&V plans and reports, to ensure adherence with the framework and protocol.

We acknowledge that our clients are often unfamiliar with this industry-specific practice and are able to provide specific training sessions or workshops to empower clients. This is typically provided during the IGP phase.

CLARIFICATIONS & ASSUMPTIONS

There are several assumptions that drive the business case. In the spirit of maintaining transparency, we would like to share these assumptions to ensure that all parties are absolutely clear. Whilst the RE:FIT Energy Performance Contracting model provides effective risk transferral, in terms of energy performance, design, installation and commissioning risks, it is acknowledged that there are certain limitations. We have prepared a risk register that identifies the technical risks associated with the specific project at SCDC.

IGP Benchmarking: Bouygues are required as part of the framework to achieve the key performance parameters set out in the business case of the HLA (HLA Business case 'Project Outcomes' tab). These are the minimum energy savings (kWh) and the maximum payback period (yrs). This means that for 'like-for-like' scope of works we cannot reduce the associated savings or increase the stated payback for the same ECM's.

Energy Tariffs & Inflationary Factors: We have used those set out in the original framework tender procurement. These tariffs drive the cost savings and hence, the payback and cash flow calculations. It is therefore important that they are at least reflective of what is actually paid, even though they will inevitably differ in the years to come.

Carbon Taxes: Aside from those levies incorporated into the above energy tariffs, we have made no allowances for any savings associated with carbon taxes, such as Carbon Reduction Commitment. Should SCDC wish to incorporate any additional savings, Bouygues E&S is able to incorporate them into the business case for illustration purposes.

Renewable Energy Incentives: any renewable energy subsidy tariffs, such as Feed In Tariffs, Renewable Heat Incentives or export tariffs are estimated based on that applicable at expected time of registration and are to the best of our knowledge at the time of creating the business case. Where available, these rates are based on projections published by UK Government or reputable industry experts. However, the rates are subject to change, due to change in UK Government policy.

Maintenance Savings & Costs: As a rule, Bouygues E&S incorporates budgets for any additional maintenance duties born by our projects into our business cases, so as to provide a robust commercial model. However, we do not account



Improved thermal comfort



Measured & Reported Savings



Renewable Energy



Improved Image



Reduced Maintenance Costs

for any maintenance or lifecycle savings, which, in many cases may be considerable (as any asset replacements may often result in a replenished lifecycle or elongated maintenance intervals), as they cannot be guaranteed. Should SCDC wish to account for such savings, Bouygues E&S is able to incorporate them into the business case for illustration purposes.

Existing Maintenance Provision: It is assumed that appropriate maintenance provisions are in place for all existing assets and that maintenance is undertaken in line with statutory requirements and manufacturer's instructions.

Maintenance of new equipment: It is assumed that SCDC will undertake maintenance of the new equipment in line with manufacturer's requirements. Although Bouygues E&S is a leading Facilities Management services provider, we do not typically take on maintenance responsibilities for this type of energy performance contract. Notwithstanding, Bouygues E&S will provide full support in setting up any new or modified maintenance services for the energy conservation measures as part of our 'soft landings' and handover process.

Value Added Tax (VAT): VAT is omitted from our business case, as it is assumed that SCDC is able to recover any VAT charges.

Access to Site for Installation: We assume that installation may be undertaken during normal working hours, accepting that this is subject to coordination with site activities. We have assume that installation will be relatively uninterrupted and that any clearing of spaces (such as removal of furniture) will be undertaken by SCDC.

Information provided by SCDC: It is assumed that SCDC's management team will provide all relevant and available information to Bouygues E&S to enable the preparation of a robust proposal.

Pre-existing Technical Issues: It is recognised that this project will require the adaptation of / modification to / co-reliance with existing assets. As engineering professionals, Bouygues E&S recognises our general duty of care to endeavour to identify any issues with extant assets that might jeopardise the success of the project, or failure to comply with legislative, regulatory or best practice requirements. Notwithstanding, Bouygues E&S cannot take responsibility for any pre-existing issues with the site or assets that do not form part of our scope of works, unless our proposal specifically identifies that resolution of the issue forms part of the scope of works. It is advised that SCDC makes Bouygues E&S aware of any known issues, so as to ensure that we can take appropriate actions to accommodate for them as part of the IGP development.



**Green
technology**



**Reduced
Carbon
Emissions**



Shared **innovation**

Bouygues E&S UK
Future Business Centre
Cambridge
CB4 2HY