

MID SUFFOLK DISTRICT COUNCIL

TO:	CABINET	REPORT NUMBER:	MCa/20/41
FROM:	Councillor Jessica Fleming - Cabinet Member for Environment	DATE OF MEETING:	08/03/21
OFFICERS:	Fiona Duhamel – Assistant Director Economic Growth and Regeneration & Cassandra Clements – Assistant Director Environment and Commercial Partnerships	KEY DECISION REF NO.	CAB254

SOLAR MULTI-FUNCTION CARPORT MICROGENERATION

1. PURPOSE OF REPORT

- 1.1 To consider the base business case for investment and determine next steps in relation to installing a solar multi-function carport at the Mid Suffolk Leisure Centre site at Gainsborough Road, Stowmarket which is a council-owned surface car park site.
 - 1.2 The Council has successfully bid for up to 50% match funding from the MHCLG 'Getting Building Fund' (GBF) programme, capped at £400k per site, which is being administered by New Anglia Local Enterprise Partnership (NALEP). This report seeks a Cabinet decision on whether to make a capital investment so that an installation may be delivered by March 2022. That is the deadline for accessing external GBF funding. Other opportunities for match-funding, or otherwise reducing direct costs, will be exhausted but the delivery timeframe of the project now requires a direct commitment by Cabinet to be able to proceed and to allocate project resources.
 - 1.3 This report also seeks allowance for the final decision on scope of the scheme to be subject to officer delegation. This is due to the further consideration required in the light of new funding secured for the decarbonisation of the leisure centres - which is a linked project.
 - 1.4 For Cabinet to offer a view on their preferred design from the options scoped, and subject to planning.

2. OPTIONS CONSIDERED

- 2.1 (a) DO NOTHING (Not Recommended) – make no investment in microgeneration for the site or benefit from associated carbon reduction. Forego the opportunity for accessing guaranteed external funding. Brownfield land remaining under-utilised. Strategic Priorities including Carbon Reduction Management Plan are not delivered.

(b) DELAY CONSIDERATION PENDING HOLISTIC COUNCIL ASSET MANAGEMENT & ENERGY DECARBONISATION STRATEGY (Not

Recommended) – to delay making a decision at this point would add risks to the spend of external funding.

(c) ASSESS FEASIBILITY AND VIABILITY FOR MULTI-FUNCTION INSTALLATIONS (Recommended) – gain the evidence and site-specific technical appraisals and options necessary for the Council to consider a business case investment, and draw-down of external capital funding support.

3. RECOMMENDATIONS

- 3.1 Cabinet fully consider the base business case for delivering an installation of a multi-function solar carport with battery storage.
- 3.2 That Cabinet resolve, having considered the business case under 3.1 above, to proceed with investment in the installation of a multi-function solar carport with battery storage by March 2022.
- 3.3 That Cabinet endorse a preferred design option, subject to planning approval, based on the options attached as Appendix B.
- 3.4 That Cabinet resolve to use up to £350,000 (including a contingency allowance and battery project ringfenced funds) of the £600,000 included within the 2021/22 capital programme.
- 3.5 That Cabinet delegate to the Assistant Directors for Economy, Business and Regeneration and Environment and Commercial Partnerships the ability to widen the business case to incorporate and link new leisure centre decarbonisation measures, such as air-source heat pump and roof-mounted PV technologies, utilising additional grant funding recently obtained. No changes will be made to the base financial business case unless it is improved or else not adversely affected by any revisions.

REASONS FOR DECISION

1. The Council has declared a Climate Emergency and resolved measures to help achieve its ambition of becoming carbon neutral by 2030 so this significant project is a visible step forward.
2. Localised microgeneration of electricity utilising its own brownfield assets is a practical step the Council can take towards meeting its carbon ambitions.
3. The project not only provides local power to our leisure centre but also will offer a number of electric vehicle charging points in our town centre to encourage more sustainable forms of travel and support air quality.
4. An opportunity to match investment with external central government funding, already secured, is available to improve the viability and manage the risks of the proposed scheme.
5. An opportunity to integrate multi-function solar carport into a broader strategic solution for decarbonisation of public assets, without stalling progress or accessing external funds.

4. KEY INFORMATION

GENERAL

- 4.1 Babergh and Mid Suffolk District Councils have declared a climate emergency and are actively exploring how the councils can work towards their ambition to become carbon neutral by 2030.
- 4.2 The Council has a portfolio of surface car park assets across the district, which may (subject to case-by-case assessment) be suitable for microgeneration of electricity. The district is geographically well-suited to solar irradiance technologies. The UK as a whole averages 1493 hours of sun a year. By comparison Ipswich in the Eastern Region achieves 1682 sun hours per annum.
- 4.3 The basis of a Solar Carport is covering parking bays with solar PV canopies to supplement/meet energy demand on site. This can be applied wherever there is a requirement for an existing or new car park (for example a park and ride hub). By adding battery energy storage systems (BESS) and electric vehicle charging (EVC) to the solar carport, additional climate benefits can be realised.
- 4.4 Multi-function systems are more viable if the infrastructure is installed together rather than as separate or retrofit technologies. For example, 'passive' charging points for vehicles may be installed within the canopy frame for later (or phased) demand-led connection rather than as a day-one requirement of the system.
- 4.5 Solar photovoltaic (PV) is a mature technology with the technical specification, longevity and costs now more favourable than at any other time. Solar is likely to be a key and substantial component of environmental policy over the next decade. Battery storage options are a newer technology and still evolving at pace. Increased technical assessment and costs/risk exist with this element in terms of the most suitable option for a particular site or uses. Judging the right point at which to invest in terms of the benefit to whole-life costing analysis has generally limited local Councils from investing in such schemes. Funding or subsidies for energy and decarbonisation schemes have been limited, although Babergh and Mid Suffolk have recent success in some of the central government schemes emerging post-Covid.
- 4.6 A local building or asset can benefit from electricity produced on-site. This can offset operating costs, reduce reliance on grid, reduce carbon and improve energy resilience as power is stored and utilised at optimum periods for maximum efficiency. The biggest gains from solar car ports are from a system optimised to self-consumption, given feed-in to the grid offers less cost and return benefit, especially since the national feed-in-tariff ended. In this situation electricity generated on-site could be integrated into the Council's Leisure Centre electrical system to allow consumption 'behind the meter', with any surplus 'spilled' into the local distribution network. Local export limits impact on the amount of power that can be put into the grid, and there is also no business case benefit to installing an over-specified system generating or storing more power than can be used or sold.
- 4.7 The scheme base case proposes five 22kW 'fast charge' (3-4 hour charge) electric vehicle charging points and one 50kW 'rapid charge' (under 1 hour) point, under the optimal system modelling and capacity for microgeneration at the site. There is scope for this provision to increase should the wider decarbonisation work unlock additional site generation and storage capacity (for example from roof-mounted EV panels).

- 4.8 From both the higher level and the more detailed site assessment of opportunities including whole lifetime costs and potential IRR (return on investment), this is not a significant commercial income-generation or investment opportunity - particularly when battery storage is incorporated. Technological advancement will always bring inherent risk for a ‘point-in-time’ chosen solution to become obsolete or less-efficient within its own lifetime.
- 4.9 Simple payback on the solar installation is in the range of 11-13 years, on a life-cycle project of 25 years (and with battery renewal needed after year 10). The longevity of the system could reasonably extend past 25 years however due to the durability anticipated and produce addition return or receipt at the end of that period.
- 4.10 The availability of the external ‘Getting Building Fund’ capital grant match-funding clearly improves the overall business case by reducing the Council’s direct costs risk. Please refer to the confidential Appendix A for the full breakdown of the financial business case.
- 4.11 The Council objectives are wider than a financial return, given its local place leadership and strategic priorities. There are quantifiable and non-quantifiable social, economic and environmental benefits for the Council in relation to this project, and particularly towards its asset management and carbon neutral ambitions. It is also a potential gain to town vision priorities and range of other local initiatives – from parking strategy to wayfinding and active travel scheme support. Also supporting behavioural change in support of the environment.

RISKS AND OPPORTUNITIES

- 4.12 Reviewing what other schemes, projects or investments are or may be coming forward in the locality or for the site are not straightforward. It is not possible to anticipate some of the developments or changes which may occur, or the optimal point at which to invest in microgeneration. As far as is possible the feasibility work and layout accounts for known constraints and pipeline factors.
- 4.13 For example, the longevity of the Mid Suffolk Leisure Centre may be of less duration than the lifecycle of the solar multi-function system. The campus of education, sports and leisure facilities at the Gainsborough Road site may also evolve in future years. Other site users could either benefit or contribute to on-site generation, or else have more limited options due to existing installations.
- 4.14 The Council’s Strategic Asset Management Plan (2020-2025), including alignment with the Carbon Reduction Management Plan, is a key consideration for this project. Any decision to proceed with solar multifunction carport investment and installation will be pre-dating fuller review of the Leisure Centre decarbonisation / electrification of heat options including those being funded through external grant for Low Carbon Skills Fund (£24.5k) and Public Sector Decarbonisation Scheme (£1.4m 100% capital grant). Progressing with the solar car port scheme without a joined-up assessment would miss an opportunity and bring avoidable risk. This may be resolved satisfactorily via approval of recommendation 3.5 of this report by helping to improve the overall business case and energy strategy for the leisure centre.
- 4.15 In terms of linking localised electricity generation to a leisure centre, the Council will need to manage opportunities in partnership with the contracted leisure operator and within the context of the Strategic Asset Management Plan (2020-2025). The leisure

operator has onward contractual arrangements including for energy billing, repair and maintenance of the building and associated technology installations. The work needed may limit the benefits/IRR of the on-site solar generation in the shorter-term and as the right blend of opportunities emerge to move away from gas reliance towards electrification/storage. This position should be resolved by the time any installation becomes operational.

- 4.16 The solar carport proposal is very much a ‘pilot’ and learning opportunity which, if successful, could make a significant two district or wider regional impact, including Clean Growth priorities. That is the basis on which it has been supported for Getting Building Fund support. The MHCLG £900 million scheme is to deliver jobs, skills and infrastructure across the country. It is supporting the delivery of shovel-ready infrastructure projects, agreed with Local Enterprise Partnerships to boost economic growth, and fuel local recovery and jobs. Babergh and Mid Suffolk successfully bid into this scheme for the solar multi-function carport project in the summer of 2020.
- 4.17 Since the confirmation of grant, Babergh and Mid Suffolk have jointly commissioned an expert consultant (REN Energy) experienced in detailed feasibility and viability, design and implementation of multi-function solar canopy installations. They have surveyed and attended the sites in both Sudbury and Stowmarket and fully appraised the optimal system set-up to maximise the financial business case for the Councils.
- 4.18 In terms of the business case considerations, these can be summarised as:
 - Objectives for the scheme – commercial/carbon/social
 - Choosing technology to ensure it gives the best ratio of performance to Capex
 - Considering deployment timeframe (relevant to grant in this case as well as availability of technology, capacity and yield)
 - Consideration is needed for the type of structural mounting
 - Health & Safety - especially given the open/public nature of the sites
 - Maximising space
 - Cost of the car ports structures and related civils
 - Operation and Maintenance (OPEX) costs
 - Water drainage requirements
 - Linking to Electric Vehicle Charging Points (EVCP)
 - Procurement and any third-party joint venture or divestment (e.g. O&M or EVCP element)

5. LINKS TO CORPORATE PLAN

- 5.1 The Corporate Plan (2019-27) is designed to address the challenges and seize the opportunities facing the districts, and their organisations, for the foreseeable future. In relationship to the matters contained within this report, the Council’s strong local leadership role to build great communities for living, working, visiting and investing in is particularly relevant.
- 5.2 This project delivers against the Council’s Climate Reduction Management Plan and specifically action number 1.1 “*We will explore opportunities for low carbon energy generation, with a view to minimising our reliance on the grid e.g. solar farms, solar car ports, battery storage. This will include options for Council-owned land/buildings and other investment opportunities*”.

5.3 The Strategic Asset Management Plan (2020-2025) references that the Council will:

- Support the delivery of low energy projects through proactive asset review of the Council owned estates or other investment opportunities; and
- Review and revise the Council's letting agreements to incorporate reasonable 'green' clauses to improve management and environmental performance by both landlord and occupier.

5.4 Strategic priorities also linked to this matter include:

- (a) Rejuvenate our vibrant market towns
- (b) Thriving, attractive, sustainable and connected Communities
- (c) A robust financial strategy

6. FINANCIAL IMPLICATIONS

6.1 Please refer to confidential Appendix A for the full financial breakdown and data sheet for the project business case, including whole lifetime costs modelling, identified variables, cumulative income generation and savings and estimated costs of borrowing (if required).

6.2 The project is considered, based on the optimal layout and specification, to be viable in terms of achieving strategic and financial priorities. The project business case and projections have been reviewed by the Council's capital finance officers, and clearly benefits from access to match-funding of up to 50% of the capital works cost. There is a £600,000 allocation for a combined solar carport and battery project within the 2021/22 capital programme.

6.3 The base business case for the solar multifunction carport and storage project may improve further through integrating with other decarbonisation measures now potentially available to the Council from the external grant fund award for Low Carbon Skills Fund and Public Sector Decarbonisation Scheme.

7. LEGAL IMPLICATIONS

7.1 State Aid and subsidy control implications have been reviewed by shared legal services, and forms part of the reporting requirements to New Anglia LEP and Central Government for accessing the external funding. Should additional funding sources become available then this will be impact assessed accordingly as part of the project diligence and live business case.

7.2 The project will be confined within land wholly owned and controlled by the Council. Full diligence in terms of the impact of the project on the asset has been undertaken, including site surveys and optimisation of the intended installations around identified constraints. A planning process will also be necessary.

7.3 Contractual impacts and adjustments with the leisure operators, and in line with the Strategic Asset Management Plan, will be progressed as required.

7.4 All relevant technical work including certification and warranties will form part of the project plan.

8. RISK MANAGEMENT

- 8.1 This report is most closely linked with the Council's Corporate / Significant Business Risk No.6 (Lack of business growth and investment in the districts), Risk No.18 (The Councils fail to become carbon neutral by 2030) and Risk No.20 (Loss of support and investment in the Leisure Centres forcing them to close). Key risks are set out below:

Risk Description	Likelihood	Impact	Mitigation Measures
Deciding to install a system at a later point in time, missing external match-funding opportunities	2 – Unlikely	3 - Bad	Approve the installation of a system by March 2022 which is also factored in to wider decarbonisation measures for leisure centre
Installing a sub-optimal specification or design of system	3 – Probable	3 - Bad	Obtain a fully comprehensive site-specific technical analysis from a competent and experienced consultant
Not joining-up this project as part of a holistic asset strategy	2 – Unlikely	3 - Bad	Seek a delegation to progress/enhance this project alongside wider strategy development, timeframe and funding access
A system that is installed in a location that impedes other uses or developments	2 – Unlikely	3 - Bad	Utilise a cross-service technical group and interrogate vision programme/pipeline as far as viable
Failure to deliver required outcomes, or keep project within allocated budget	2 – Unlikely	3 - Bad	Corporate project management system deployed and with competent consultants and contractors used as necessary

9. CONSULTATIONS

- 9.1 The project is within the Stowmarket Vision programme, ensuring that all partners on that group, including Steering Group and Town Council, are generally familiar with

the project and its intended outcomes. The shared learning from this project will potentially enhance the Council's support of the local business community, not just its own asset interests.

- 9.2 The feasibility stage and development of the project has included a cross-cut technical team of internal and external officers – including from planning, highways, assets, environmental and building services.
- 9.3 A planning application and consultation will be necessary. The size of the system exceeds the threshold of 200m³ required to be considered under Permitted Development. A request for an EIA screening opinion is not required as the site falls under the threshold of 0.5 hectares and the output and size of the proposal also fall below the threshold associated with a 'Major Development'.
- 9.4 The Leisure Operator has been engaged about the respective scheme proposals at a high level, including potential impact on contracts and related agreements. This is also relevant to the Public Sector Asset Decarbonisation award of funding.
- 9.5 Other identified stakeholders will be engaged as progress is made.

10. EQUALITY ANALYSIS

- 10.1 Equality Impact Assessment (EIA) Initial Screening has been undertaken and identified no impact on one or more of the 9 protected characteristics as defined by the Equality Act 2010. No full assessment is required arising from the matters contained within this report. It should be noted that all disabled parking bays are excluded from the design, and the modular/phased nature of the build should minimise any disruption to the public using the carpark under normal circumstances.

11. ENVIRONMENTAL IMPLICATIONS

- 11.1 This project is a direct delivery against the Council's Carbon Reduction Management Plan as referenced in Section 5 of this report. A planning process will also be undertaken but is not at a scale to be considered 'major development'.

12. APPENDICES

Title	Location
A: Business case financial data / summary	CONFIDENTIAL Attached
B: Design options for canopy structure	CONFIDENTIAL Attached
C: Graphics and imagery	CONFIDENTIAL to follow