Rooftop Solar PV Feasibility Assessment

Report prepared by Ramboll on behalf of the South West Net Zero Hub.

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ROOFTOP SOLAR PV FEASIBILITY STUDY

1. Executive Summary

Dorset Council owns a leased property portfolio of approximately 700 buildings, from which 122 have been shortlisted as candidates for rooftop solar PV deployment. This study, undertaken by Ramboll on behalf of the South-West Net Zero Hub, provides a structured portfolio-level feasibility screening to help the Council identify the most promising sites and make informed decisions on where to focus future investment.

Each building is evaluated across four dimensions, technical, commercial, legal, and ESG independently scored and combined into a single Overall Rank. Technical suitability carries the greatest weight in the ranking, reflecting a strategy that prioritises deliverability and energy performance. The report uses this rank to divide the portfolio into three groups and examines how each stands across all four dimensions. To complement the quantitative model, two representative lease agreements were reviewed to surface the practical legal considerations likely to apply broadly across the estate.

To support this assessment, an Excel-based screening tool was developed alongside this report. The tool is designed to be transparent and flexible, allowing weightings across the four dimensions to be adjusted at any time to reflect evolving priorities.

The results reveal a portfolio with a clear hierarchy of opportunity. The top 25–30 buildings present a strong, actionable core programme with robust technical and commercial profiles and manageable legal and ESG considerations. The middle 35–45 buildings are conditionally viable and may become attractive through bundling or alignment with planned refurbishment works. The bottom 45–55 buildings offer limited strategic value and are unlikely to merit near-term investment under current parameters. It is important to note that this hierarchy is not fixed, a shift in weighting towards commercial returns or ESG outcomes would alter the ranking, and the tool has been designed to allow this recalibration as priorities evolve.

The recommended next step is to select approximately 10–20 of the highest-ranking sites for detailed feasibility assessment, covering structural surveys, full lease reviews, and grid connection analysis, before any investment decisions are made.

2. Project Background and Introduction

The South-West Net Zero Hub (SWNZH) is supporting Dorset Council (DC) in delivering its climate objectives, including achieving a carbon-neutral Council by 2035 and enabling the wider county to reach net zero by 2045. Dorset Council has already made strong progress in renewable energy deployment across its directly owned estate, including an £18.2 million retrofit programme delivering over 13,000 rooftop solar panels with an installed capacity of approximately 4.5 MW. This has established a solid foundation for further solar PV rollout.

The next phase focuses on the Council's leased property portfolio, where opportunities for rooftop solar PV exist but with additional complexity due to tenant arrangements and delivery constraints. From an initial longlist of approximately 700 properties, 122 buildings were shortlisted for detailed assessment, covering a range of building types across Dorchester, Weymouth, Swanage, and Shaftesbury.

To support this phase, Ramboll was appointed to undertake a feasibility study of the leased-out estate, aiming to assess solar PV potential, identify key constraints, and prioritise sites for future deployment.

The primary objective of the project is to provide a structured, portfolio-level assessment that enables informed decision-making on where solar investment is most feasible, practical, and impactful. This report accompanies the screening tool (Excel-based model), which has been designed to evaluate and rank sites based on a consistent set of technical, financial, legal, and ESG criteria. As this is a screening-level exercise, the results are intended to guide early decision-making rather than confirm final feasibility. The outputs help identify which sites are more straightforward to progress and which may require further investigation before moving to the next stage.

3. Data Received

The primary dataset for this study was provided by Dorset Council through Dorset Explorer outputs. This included an Excel dataset containing key information for each site, such as site location, site description, site code, building type, and tenure classification. In addition, supporting information on active buildings was provided, including site counts and mapping data with associated building areas.

This data formed the basis of the assessment and was further checked using mapping tools to better understand site layouts and building characteristics. As this is a portfolio-level study, some data limitations were present. Where detailed information was not available, reasonable assumptions were applied to ensure consistency and avoid overestimating potential. The outputs are therefore suitable for screening purposes, with further detail required at the next stage.

4. Methodology

A structured and consistent methodology was developed to assess the feasibility of rooftop solar PV across Dorset Council's owned estate. The approach was designed to support portfolio-level decision-making while maintaining transparency, consistency, and flexibility.

The study evaluates each site across four key dimensions: technical suitability, commercial viability, legal feasibility, and environmental and social value (ESG). The technical assessment considers whether rooftops are suitable for solar PV installation, taking into account factors such as roof area, orientation, shading and access. The commercial assessment evaluates the financial performance of each site using indicators such as payback period, cost of electricity and expected savings. The legal assessment focuses on ownership and lease arrangements to determine the level of control over each site and identify any constraints that may affect delivery. The ESG assessment considers wider benefits, including carbon savings, community value, and visual impact.

A consistent scoring and ranking approach are applied across all assessment stages to enable direct comparison between sites. Indicators are standardised and, where required, normalised to a common scale to ensure comparability. Weighting is applied to reflect the relative importance of each factor, and these weightings can be adjusted to align with different project priorities. The weights are defined to sum to one, ensuring that increasing the importance of one factor automatically reduces the influence of others.

The methodology is implemented in an Excel-based model developed for this study. The tool is designed to be transparent and flexible, with all inputs, assumptions, and calculations clearly defined. Users can adjust inputs and weightings as needed, and results update automatically, allowing the model to evolve as more detailed information becomes available.

5. Technical Assessment

5.1 Purpose of the Technical Assessment

The technical assessment was undertaken to identify rooftops within Dorset Council's owned estate that are suitable for solar PV deployment and to estimate their indicative capacity and energy generation potential.

The assessment was informed by a combination of publicly available spatial data and standardised analytical tools. Dorset Council's Dorset Explorer platform was used as the primary source to identify the buildings included in the assessment and to confirm building locations, footprints, and boundaries. This ensured that the scope of buildings assessed aligned precisely with the Council's shortlisted leased estate.

5.2 Technical Assessment Methodology

Rooftop Identification and Area Measurement

Once buildings were identified through Dorset Explorer, each rooftop was reviewed individually using Google Earth and Dorset explorer to obtain accurate and up-to-date measurements of roof geometry and surface area. Google Earth imagery was used to assess rooftop layout, orientation, and configuration, allowing roof areas to be delineated with greater accuracy than reliance on footprint data alone.

Roof areas were measured manually within Google Earth to capture variations in roof shape, segmentation, and pitch. Where buildings comprised multiple roof sections, each section was measured separately to reflect differences in orientation and suitability for solar PV installation. To ensure that only realistically usable rooftop areas were included, we excluded local obstacles (e.g., chimneys, vents, and skylights) and applied a buffer by keeping approximately a 2-meter distance from the roof edge when measuring in Google Earth. This approach enabled a more accurate representation of usable PV area and avoided over-reliance on simplified building footprints or assumptions that 100% of the roof surface is available for solar installation.

Rooftop Suitability and Screening

Each rooftop was assessed to determine its suitability for solar PV installation based on orientation, size, and configuration. Roof sections were classified by typology, including flat roofs, east–west facing pitched roofs, and south-facing pitched roofs. North-facing roof sections were identified but excluded from energy generation estimates due to their limited expected solar yield and lower likelihood of delivering sufficient technical or commercial value.

Very small roof areas were also screened out where the resulting PV system size would be unlikely to justify development effort or investment. This ensured that the assessment focused on rooftops capable of supporting meaningful and deliverable solar PV installations.

5.3 Core Technical Indicators

Four inputs underpin the assessment. The first is an estimate of annual energy yield, derived from roof orientation, tilt, regional irradiance and a simple orientation-loss factor; it represents the raw production potential of the site. The orientation-loss factor adjusts the energy yield based on how far the roof's direction and tilt deviate from the ideal south-facing, 35-degree slope. It ranges from 0.6 to 1.0, where 1.0 means optimal orientation and lower values reflect reduced solar performance. The second input is a shading rating on a one-to-five scale: a value of five is awarded to roofs that enjoy an unobstructed horizon, while a one is reserved for roofs that suffer severe, persistent shading from nearby structures or vegetation. Third, an access rating (also one to five) captures how easily cranes, materials and personnel can reach and work on the roof; the metric blends external logistics—road width, parking, crane set-down—with internal factors such as roof pitch and permanent walkways. The fourth indicator, the roof-clutter rating, reflects how much of the surface is obstructed by HVAC units, skylights or complex geometry: clean, open roofs score five; densely packed roofs score one. The table below includes the criteria used in the technical screening of all sites.

Table 1

Criterion	5 Excellent	4 Good	3 Fair	2 Poor	1 Very poor
Shading (annual impact)	Roof enjoys an open horizon: no noticeable shading at any time of year; free from nearby obstructions.	Only minor early-morning or late-afternoon shading from distant objects, negligible effect on yearly yield.	Intermittent shading from nearby trees, parapets or plant causes moderate energy loss at certain times or seasons.	Regular shading from adjacent buildings/structures leads to production loss.	Severe, persistent shading during much of the day; PV generation marginal.
Access (lorry + crane logistics, personnel entry, on-roof workability)	Wide, obstacle-free access roads; on-site hard standing lets mobile crane park ‹10 m from roof; permanent stair or large roof hatch; flat or nearly flat roof with safe walkways—work is straightforward.	Good vehicular access via estate roads; crane can set up on site without road closure; fixed ladder or guarded walkway; low-slope roof (≤ 15 °) offering safe work areas.	Moderate constraints: narrow road or tight turning; crane setup feasible but requires traffic planning; portable ladder with anchor points; moderate roof pitch still workable.	Constrained streets or load limits; crane must stand on public highway with permits; routine access via MEWP or scaffold; steep roof hampers safe working.	Crane/lorry cannot approach building (e.g. pedestrian zone, weight limits); roof access unsafe or prohibited; very steep or fragile roof makes work impracticable.
Roof clutter (HVAC, vents, skylights, obstructions)	Roof surface virtually clear; negligible equipment—almost full area available for PV.	Few isolated obstructions; vast majority of roof can take modules with minimal layout compromises.	Noticeable number of vents, skylights or plant; requires careful array planning but still feasible.	Large zones blocked by plant rooms, numerous skylights or complex geometry; PV coverage heavily restricted.	Roof densely packed with equipment or heritage elements; contiguous PV area is negligible.

5.4 Normalisation Across a Common Scale

Because annual yield is a continuous value while the three ratings are categorical, each indicator is first mapped to a common dimensionless scale. The ratings are divided by their maximum possible value of five, yielding a number between zero and one. Annual yield is rescaled by comparing it with the best-performing roof in the current portfolio, ensuring that production potential carries equal mathematical weight. Normalisation guarantees that no single indicator dominates solely due to its original units.

5.5 Weighting and Flexibility

Project objectives differ, some programmes prize ease of installation, others prioritise energy output or shading resilience. To reflect this, each indicator is linked to a weight factor stored in under "Assumptions" in the Excel worksheet. Typical defaults might assign the greatest influence to shading, followed by access, then clutter and annual yield, but the weights can be edited at any time. The spreadsheet is designed so that the weights always sum to one; changing any single value automatically rebalances the rest, allowing rapid sensitivity tests without structural edits.

5.6 Constructing the Technical Score

Once normalised and weighted, the indicators are combined into a single Technical Score. The score is bounded between zero and one, where one signifies a roof that is simultaneously shade-free, easily accessible, largely unobstructed and capable of high energy production relative to its peers. Rows missing any of the four inputs are left blank to prevent incomplete data from skewing the portfolio view. This offers a higher level of granularity if needed in at a later stage.

5.7 Generating the Technical Rank

After scoring, each roof can be ordered or sorted from highest to lowest, producing a Technical Rank. Because all calculations sit within an Excel Table, sorting by rank moves complete rows and keeps every associated value intact. This ordering enables the user to focus site visits, structural checks and permitting effort on the most promising roofs first.

6. Commercial Assessment

6.1 Purpose of the Commercial Assessment

The commercial assessment evaluates the financial attractiveness of rooftop PV projects by applying a set of selected economic metrics rather than condensing all information into a single predefined indicator. The tool is designed to incorporate multiple quantitative and qualitative inputs—such as production estimates and cost-related metrics—and allows users to choose which metrics to include in the assessment. Metrics that are not selected are assigned a value of zero, meaning they do not influence the result.

In addition, users can define the relative importance (weighting) of each metric, provided that the total weighting sums to 1. This allows users to adjust the distribution of weights among the included metrics to reflect their priorities. This approach enables transparent comparison across rooftops while ensuring that the evaluation reflects the financial perspectives most relevant to the user.

6.2 Commercial Assessment Methodology

Four headline indicators are reported as outputs to describe the economic performance of each candidate site. These indicators are derived from a set of underlying inputs, including assumed cost per installed kWp, expected revenue from electricity generation, and an estimated self-consumption profile based on building type. Using these inputs, the tool calculates: first, the simple payback period (excluding inflation and interest rate), indicating how long the investment takes to recover its upfront cost through energy savings; second, the levelized cost of electricity (LCOE), expressing the lifetime cost of producing one unit of electricity; and third, the carbon value of capital, which relates the initial investment to the cost per tonne of carbon dioxide avoided. In addition, a self-consumption rating on a one-to-five scale reflects how effectively on-site generation can be utilised, with higher scores assigned to buildings that displace a larger share of grid imports. While default input values are assigned automatically based on site or building type, all inputs can be reviewed and adjusted by the project team to reflect site-specific knowledge.

6.3 Normalisation Approach

Because the indicators are reported in different units and magnitudes, they are each rescaled to a common dimensionless range from zero to one. Indicators that are favourable when large, such as self-consumption, are converted by comparing them with the best value found across all roofs. Indicators where low numbers are preferable, such as pay-back, LCOE and carbon cost, are inverted so that a lower raw value is expressed as a higher scaled score. Normalisation in this way ensures that every indicator contributes on an equal numerical footing, and that the relative performance of any roof is measured only against its peers in the current portfolio.

6.4 Weighting to Reflect Strategic Priorities

The assessment applies a set of adjustable weights, stored in the "weighting table" in the spread sheet, which describe the relative emphasis given to pay-back, LCOE, carbon value and self-consumption. By editing these weights stakeholders can examine how different strategic priorities, such as a stronger focus on rapid returns or on carbon efficiency, alter the standing of each site.

6.5 Generating the Commercial Rank

With scores in place, each roof is ordered from highest to lowest to create the Commercial Rank. Rank one is assigned to the roof with the greatest score, indicating the strongest commercial case under the current assumptions. Because the analysis is embedded in an Excel Table, any re-ordering automatically carries the full row of data, preserving internal consistency.

The commercial assessment evaluates rooftop PV projects using multiple financial and qualitative indicators that users can weight according to their priorities. Four key outputs are calculated: simple payback period, LCOE, carbon value of capital, and a self-consumption rating. These are derived from inputs such as installation cost per kWp, expected generation, and building-specific consumption. Because the indicators use different units, each is normalised to a 0–1 scale, with favourable values scored higher. Adjustable weights allow the assessment to reflect strategic goals. The final commercial rank orders rooftops by their weighted scores, highlighting the strongest investment cases.

7. Legal Assessment

7.1 Purpose of the Legal Assessment

The legal assessment considers the feasibility of deploying rooftop solar PV systems across Dorset Council's estate, with a focus on tenure and regulatory constraints. Although all buildings are owned by the Council, and properties are leased to third parties. As a result, factors such as tenant rights, lease obligations, consent requirements, and other restrictions need to be considered when assessing delivery feasibility. The legal information available within the Excel dataset was limited, particularly in relation to detailed lease terms. To strengthen the assessment, a selection of lease agreements and contracts provided by the client were reviewed to better understand the practical legal constraints and considerations.
Overall, this stage aims to ensure that legal and tenure-related factors are appropriately reflected in the feasibility assessment and support informed decision-making.

7.2 Legal Assessment Inputs

The legal assessment draws on a combination of available lease and tenure information, site type classifications, and relevant planning and regulatory considerations. Given the portfolio-level nature of the study and the limited availability of detailed legal documentation for each site, the approach relies on a set of informed assumptions grounded in industry experience and standard legal practices.

This ensures that the analysis remains proportionate while still providing meaningful insight into legal feasibility. Where data gaps exist, conservative assumptions have been applied to avoid overstating the ease of delivery and to maintain consistency across the portfolio.

7.3 Legal Assessment Methodology

The legal assessment was carried out using a structured Excel-based model designed to provide a clear and consistent way of assessing legal feasibility across the portfolio. As this is a high-level feasibility study, the model does not rely on detailed legal review for every site. Instead, it uses a set of defined assumptions and inputs that act as indicators of likely legal complexity and delivery risk.

The model assesses each site using two main factors: site type and site tenure.

- Site Type (C1) – representing inherent operational and regulatory complexity
- Site Tenure (C2) – reflecting ownership structure and degree of legal control

In addition to these core dimensions, a penalty factor is applied to account for specific conditions that introduce additional complexity, such as multi-tenant arrangements.

7.4 Legal Complexity Indicators

Site Type (C1)

The first dimension captures the influence of site type on legal and operational complexity.

Each site is assigned a complexity coefficient (C1) based on its classification, including-

- Academy Schools
- Commercial Economic Development
- Residential Care
- Community & Town/Parish Council
- Commercial Retail, Leisure & Offices

These categories are used to reflect general differences between sites. Some types of buildings may involve more people, approvals, or coordination, while others may be more straightforward to work with.

By grouping sites in this way, the model provides a simple and consistent way to capture these differences across the portfolio, without needing detailed review for each site.

Site Tenure (C2)

The second dimension reflects legal control over the asset, which is a key determinant of the feasibility. Each site is assigned a tenure-based complexity coefficient (C2) based on its ownership structure, including-

- Freehold
- Freehold with underlease
- Partially freehold and leasehold/licence
- Partially freehold (non–Dorset Council owned)

These tenure types influence how much control is available over the building. For example, freehold properties are generally easier to work with, while leasehold or partially owned sites may require approvals from other parties and introduce legal complexities. This can affect how quickly a project can move forward and how much coordination is required or even stop the project all together.

Scoring Approach

Both site type (C1) and site tenure (C2) are scored using a consistent scale. The scoring is structured such that:

- Lower values (e.g., 1) represent higher complexity
- Higher values (e.g., 4–5) represent lower complexity

This leads to sites that are more difficult to deliver receive lower scores, while simpler sites receive higher scores.

Multi-Tenant Penalty

In addition to site type and tenure, a penalty factor is applied where sites involve multi-tenant arrangements. Multi-tenant sites are generally more complex because they may involve more people and require additional coordination. There may also be extra approvals needed before work can begin. To reflect this, the model applies:

Penalty = 0.4 (if multi-tenant = YES)

Penalty = 0 (if NO)

This penalty is deducted from the final score so that the added complexity of these sites is clearly reflected.

7.5 Weighting Structure

Each of the two primary dimensions is assigned a weighting factor:

- W1 – Weight assigned to Site Type (C1)
- W2 – Weight assigned to Site Tenure (C2)

The weightings are defined such that:

W1 + W2 = 1

Adjustments automatically rebalance the model

This allows stakeholders to-Prioritise tenure-related risks where ownership is critical

Emphasise site-type complexity where operational factors dominate. The flexible structure ensures the model can be adapted to different strategic priorities.

7.6 Composite Legal Score Calculation

The final legal score is calculated using the following formula-

RAG Score = (C1 × W1) + (C2 × W2) − Penalty

Where-

C1 = Site Type coefficient

C2 = Site Tenure coefficient

W1, W2 = Weightings

Penalty = multi-tenant adjustment

This produces a single composite score, reflecting the overall legal feasibility of each site.

7.7 RAG Classification Framework

To support decision-making, the composite score is mapped to a RAG classification system-

- Green (Low Risk): Score > 4
- Amber (Medium Risk): Score between 2.51 and 3.99
- Red (High Risk): Score ≤ 2.5

This classification enables-

- Rapid identification of low-risk, high-priority sites
- Clear visibility of sites requiring further investigation
- Early flagging of potentially unviable sites

In practice, legal feasibility may also be influenced by additional factors such as roof ownership and demise arrangements, restrictions on landlord works or structural alterations, access limitations, cable routing constraints, layered lease structures, reinstatement obligations, insurance requirements, and third-party ownership considerations. In some cases, electricity supply arrangements, export constraints, or Distribution Network Operator (DNO) requirements may also influence overall project viability and delivery complexity.

7.8 Practical lease Review Observations

As part of the legal screening, two representative lease agreements, Allendale Community Centre and Moonfleet Bowls Club, were reviewed to assess practical delivery considerations for rooftop solar PV on leased assets. The review highlights that feasibility is influenced not only by the presence of legal rights, but also by how clearly responsibilities for access, structure, insurance, and ongoing operations are defined.

1. **Allendale Community Centre**

- Reserved rights in the contract cover entry and works:
    - The council has the right to enter the Property for purposes connected with the lease/landlord's interest, subject to reasonable notice and fix any damage when exercising the right.
    - The council has right to install, use, maintain, re-route and replace Service Media at the Property; "Service Media" includes media for the supply of Utilities, and Utilities include electricity/energy. This covers PV arrays, cabling, inverters, etc.
    - Exercise of Reservations may reduce light/amenity provided it does not materially adversely affect the tenant's use and enjoyment for the Permitted Use.
    - Quiet enjoyment applies "except as otherwise permitted by this lease," so the council must use the reserved rights properly and reasonably.
    - Temporary disruptions are often tolerated and covered under the lease agreement if proper notice is given and the work is carried out reasonably. Continuous disturbances, such as persistent hum from the inverters (particularly if they are

installed inside the dwelling), leaks and structural issues, could be a breach to the quite enjoyment clause.

- Access to Property:
    - The council should give reasonable notice to the tenant, coordinate timing, minimise inconvenience, and fix any damage from access/works.
    - Tenant must allow entry for those entitled to exercise rights, including with contractors and advisers, on reasonable notice (emergencies excepted).
    - Keep fire escapes, services and day-to-day operations for the "community purposes" use functioning; ensure no material adverse effect on that use.
- Roof/structure and waterproofing:
    - The council is responsible for the roof structure, weatherproof coverings, roof lights, gutters and rainwater goods.
    - The council must prepare the structural design and waterproofing details; It is recommended to use non-penetrative solutions and retain clear access to roof lights/gutters for maintenance and repairs.
- Health & safety:
    - The council and its Principal Contractor are responsible to manage site safety. The solar installation should not compromise the safety of the building and the tenant.
- Insurance and risk allocation:
    - The Council insures the Property; "Excluded Insurance Items" are the tenant's fixtures. PV installed by the Landlord is not a tenant's fixture, so the Council should ensure it is included in the Property insurance and update the Reinstatement Cost accordingly.
- Energy performance and metering:
    - You may obtain EPCs; the tenant must co-operate and allow assessor access and provide copies of any EPCs it commissions.
    - The Council shall decide how PV integrates electrically: behind the main meter to reduce the centre's bill, or on a separate landlord meter. If you intend to recharge or share benefits/revenues, document this in a side letter/variation (the lease has no service charge/utilities recovery mechanism shown).

2. Moonfleet Bowls Club

- Access to Property: The lease agreement doesn't expressly give a standalone right to install PV arrays on the Tenant's roof for the Council's benefit. Practically, The Council should secure the Tenant's consent by licence or vary the lease to authorise the PV and future access.
- The Tenant must permit Council entry at reasonable times (emergencies excepted) to exercise reserved rights, to rebuild/repair adjoining buildings, and for other proper purposes, with damage made good.
- Insurance responsibilities: The Tenant, not the Council, is obliged to keep the Premises insured. As the PV is Council-owned but fixed to the premises, both parties must agree who insures what:

    - Either have the Tenant's property policy include the PV (with the Council's interest noted), or
    - The Council insures the PV separately and warrants it won't prejudice the Tenant's policy.
    - Include no-vitiation undertakings and a clear process for any water ingress or damage during/after works.
- H&S: The works must comply with planning, building regs, and CDM 2015.
- Quiet enjoyment and disruption: Works and temporary shutdowns must be planned to avoid undue interference with bowling operations and permitted hours.
- Permitted use and energy supply: Permitted Use is indoor bowling and associated facilities. The Tenant must not supply electricity to other occupiers of adjoining/neighbouring Council property.

The review of these two lease agreements provides indicative insights into the types of legal and operational considerations that may arise. It highlights the importance of clearly defined access arrangements, including safe and designated routes and isolation points, as well as the need to establish agreed notice periods for routine maintenance and emergency de-energising. It also emphasises the need to ensure that future landlord repair works, such as roof maintenance, can be carried out without conflict, including provisions for the temporary removal or reinstallation of PV systems where required.

Recommendations for Future Lease Agreements

The reviewed lease agreements are broadly workable, but relies heavily on general wording, which leaves room for interpretation and, in practice, dispute. To future-proof lease agreements for solar PV, the priority should be to move from implicit rights and flexible standards toward clear, technology-specific provisions and operational detail. It would be prudent to make solar PV an expressly permitted landlord improvement rather than relying on it being captured within the term Service Media. A more robust approach is to state explicitly that the landlord may install, operate, maintain, replace, and decommission renewable energy systems, including panels, inverters, and associated infrastructure.

Future leases should include a dedicated schedule setting out how works will be carried out in practice. This would cover notice periods for planned works, permitted working hours (particularly for noisy activities). It should also define how contractors access the site, where materials can be stored, and how disruption is managed. Closely linked to this is the need to clarify what constitutes a material adverse effect on the tenant's use and enjoyment. It is recommended to define it more precisely, for example by reference to loss of access to key areas, disruption to core activities, or sustained noise above certain levels.

In addition, the lease agreements should clearly set out how the PV system connects to the building, who benefits from the generated electricity, how any surplus is exported, and whether any costs or savings are shared. Without this clarity, disputes may arise not from the installation itself but from the allocation of financial and operational benefits. It is also important to address the full lifecycle of the installation. Future-proofed leases should include provisions allowing the landlord to upgrade or replace PV systems as technology evolves, as well as clear obligations to decommission equipment and make good any damage at the end of PV system's operational life. This ensures that today's installation does not become tomorrow's liability.

On insurance, while it is appropriate that the landlord insures the property, the lease should go further by requiring notification to insurers before installation and confirming that PV systems are included in the insured value. It should also clearly allocate risk during the works phase, particularly between the landlord and its contractors, to avoid gaps in coverage.

8. Environmental Social and Governance (ESG) Ranking

Environmental, social and governance assessments can cover a variety of issues that can impact the project, however, the criteria for ESG was limited by what the available data could reveal. The ESG element might not be the main reason behind investigating rooftop solar for the council's buildings, still, the council is keen on adding value to the local communities however it can, thus the inclusion of the ESG in this screening exercise.

In general, solar power has a positive ESG impact, it's a renewable source with a positive impact on the environment, it also provides opportunities for the local communities to invest in energy and have some level of protection against wide energy prices swings. Therefor the rating the ESG is set to be generally high in this screening exercise, as in general the ESG value is bonus added to the case. the ESG assessment focused on three angles:

Financial Support Value: Installing solar PV provides direct financial benefit to the tenant being the main off taker of the cheaper than market priced energy produced by the system. Therefore, this can be seen by the council as a form of support that can be directed to where it's needed the most.

The Visual Impact: The visual impact can be subjective, situational and can depend on the perception of the solar PV. It can be a negative impact as in historical or themed commercial buildings or positive as in schools as it gets the next generation more accustomed to them as well as the potential of using them as an educational tool.

Carbon Savings Efficiency: Carbon savings is defined by the amount of additional Carbon that would be released to the atmosphere if the energy that is to be produced by solar were imported from the grid. Carbon savings directly from the generated solar power, however, since the economy of scale applies to the CAPEX of PV systems, the larger more productive projects would save more Carbon / CAPEX than smaller ones, thus given slightly higher ranking.

Below are the default values added to the sheet and the rational behind each value. As discussed in the methodology section, those values are editable and can be tweaked in the future as needed.

Table 2

Financial Support Value		
Building Type	**Rank**	**Rational**
Academy school	5	To support local educational institutions
Residential Care	4	Financial support is often needed especially for care homes
Community & Town/Parish Council	4	Council's own benefit which reflects on providing more services to constituents
Commercial Economic Development	3	Support Local Businesses
Commercial Retail, Leisure & Offices	3	Supporting Local Businesses

Table 3

Visual Impact		
Building Type	**Rank**	**Rational**
Academy school	5	Makes future generations more accustomed to the site of PV, it can serve as an educational tool as well.
Residential Care	3	Neutral, and subjective, depending on the tenant's attitude.
Community & Town/Parish Council	4	Having solar PV on visible on the council's operated building's rooftops projects are leading by example message.
Commercial Economic Development	3	Neutral, and subjective, depending on the tenant's attitude.
Commercial Retail, Leisure & Offices	3	Neutral, and subjective, depending on the tenant's attitude.

In general, the ESG impact of the PV is predominantly positive and seen as such, though a closer look on the specifics of each building can benefit the analysis further, for example, a state-owned children school in a vulnerable area is more deserving of financial support than a luxury academy that may not need financial support.

9. Results

Summary of results based on the overall rank and weighting in the screening tool

The Overall rank is derived from a weighted aggregation of four assessment dimensions across 122 buildings. Technical performance is the dominant factor, accounting for 60 % of the total score, followed by commercial performance at 20 %. ESG considerations and legal factors each contribute 10 %. As a result, the ranking largely reflects the technical suitability of buildings for PV deployment, with commercial, ESG and legal criteria acting as secondary modifiers rather than primary drivers.

It is important to note that this ranking is not absolute. A change in weighting – for example placing greater emphasis on commercial returns or ESG outcomes – would alter the relative position of many buildings. The current results therefore represent a technically led prioritisation scenario, aligned with a strategy that favours deliverability and performance.

	Installed capacity [MWp]	Annual production [mWh/year]
Top 25-30 sites	4.53 – 4.63	5430 - 5561
Medium 30-35 sites	2.43 - 2.92	2911 - 3499
Bottom 55 sites	1.33	1593

When the portfolio is divided into three groups based on Overall rank, clear patterns emerge. The top 25-30 buildings represent the strongest opportunities under the current weighting. These assets consistently score highly on technical criteria, typically offering large, contiguous roof areas with minimal shading, good access conditions and limited rooftop clutter. This enables larger PV installations, high annual energy yields and strong system performance, totalling 4.53 – 4.63 MWp installed capacity with an annual yield of approximately 5430 - 5561 MWh. Financial metrics in this group are also robust, with payback periods commonly in the range of eight to nine years, returns on investment around 11–12 per cent and relatively low levelized cost of energy. Although commercial performance carries less weight than technical performance, it reinforces rather than undermines the ranking of these sites. ESG outcomes are favourable, largely driven by scale and high absolute carbon savings, while legal risks appear manageable. Under the current weighting, this group forms a clear core portfolio and would typically be prioritised for early deployment with limited need for further optimisation.

The middle 30-35 buildings present a more mixed and conditional picture. These projects are generally technically feasible, totalling 2.43 – 2.92 MWp installed capacity with an annual yield of approximately 2911 - 3499 MWh, but tend to exhibit moderate constraints such as smaller roof areas, less efficient layouts, increased shading or more complex access arrangements. Given the heavy technical weighting, such limitations have a noticeable impact on Overall rank. Commercial performance is usually acceptable but less compelling, with payback periods often extending to nine to eleven years and higher sensitivity to assumptions around electricity prices, self-consumption and delivery costs. ESG and legal scores are typically adequate, but their lower weighting means they are rarely strong enough to offset weaker technical fundamentals. Many of these buildings could become attractive if bundled, aligned with roof refurbishment works or reassessed under an alternative weighting that places greater emphasis on financial or ESG outcomes rather than technical optimisation alone.

The bottom 55 buildings are structurally weak under the current model. This group is dominated by very small or fragmented PV opportunities with limited installable capacity and low annual generation, totalling 1.33 MWp installed capacity with an annual yield of approximately 1593 MWh. Fixed costs therefore dominate, resulting in poor capital efficiency, long payback periods and low returns. While ESG and legal constraints are not necessarily severe, their limited weighting prevents them from compensating for poor technical and commercial performance. Absolute carbon savings are low, and the strategic value of these projects is limited. Under current assumptions, these buildings are unlikely to merit investment and would typically be excluded from a near-term delivery programme unless priorities or weighting were fundamentally changed.

Strategic conclusion

The current results clearly reflect a strategy that prioritises technical quality and deliverability above all else. Under this logic, the top 25-30 buildings form a strong and defensible core programme, the middle 30-35 act as a secondary pipeline requiring selective optimisation, and the bottom 55 should generally be excluded from near-term investment decisions.

However, it is critical to recognise that this hierarchy is not fixed. A shift in weighting towards commercial performance, ESG impact or legal simplicity would lead to a different ordering and potentially a different investment narrative. The Overall rank should therefore be seen as a decision-support tool rather than a definitive answer, designed to be revisited and recalibrated as strategic priorities evolve.

Overall, the results demonstrate that a meaningful proportion of the estate is suitable for rooftop solar deployment, particularly from a legal standpoint, while technical, commercial, and ESG factors introduce variability in feasibility. This supports a prioritised approach, focusing on high-performing sites for implementation while considering moderate sites for further optimisation. However, it is important to note that this analysis represents an initial screening exercise based on available data and standardised assumptions. Site-specific factors such as detailed structural conditions, lease provisions, and on-site constraints may influence final feasibility.

As a next step, approximately 10–20 buildings should be selected for further detailed assessment, where more in-depth analysis across technical, commercial, legal, and delivery considerations will be undertaken before progressing towards implementation.

10. Recommendations

- Further investigation for the top-ranking sites (top 25) to qualify a few for a feasibility study
- To keep the ranking tool updated, and to adjust the weightings to reflect the latest priorities
- To start engaging with the different stakeholders including but not limited to the tenants of the selected buildings and the grid operators.