

Extraordinary Finance & General Purposes Committee Report

Report Title: JMH – Proposed Solar PV and Battery Storage Installation

Date: 5th August 2026

Report Author: Andrew Briggs – Head of Ops

1. Recommendations

The Committee is recommended to:

1. **Note** that independent energy assessments have identified John Moulton Hall as suitable in principle for roof-mounted solar PV.
2. **Approve in principle** the Switch Together proposal for:
 - 25 x 460W solar panels;
 - approximately 11.5 kWp installed generation capacity;
 - estimated annual generation of 10,303 kWh;
 - 15.6 kWh battery storage;
 - inverter, mounting system, installation and online monitoring;
 - bird proofing; and
 - a total quoted cost of £13,304 including VAT.
3. **Approve funding** from the £50,000 Green Energy allocation within the Council's Public Works Loan Board capital programme.
4. **Authorise Officers** to finalise the installation agreement, subject to:
 - a satisfactory site and structural survey;
 - confirmation of the final panel layout and system capacity;
 - confirmation of the exact inverter and battery specification;
 - electrical load testing by the Council's Salix contractor;
 - confirmation that the incoming electrical supply is adequate;
 - any required Distribution Network Operator approval;
 - confirmation of landlord consent where required;
 - satisfactory warranties, certification, insurance and aftercare; and
 - the final scheme remaining within the approved Green Energy capital allocation.
5. **Authorise officers** to explore whether more than 25 panels can be installed where the site survey demonstrates that this would be technically appropriate and provide improved whole-life value.
6. **Require coordination** between the solar installer and the Council's Salix contractor so that the solar PV and battery installation is compatible with the completed heat-decarbonisation works.

2. Background

John Moulton Hall is currently being converted from gas-fired heating to electrically powered heating and hot-water systems through the Salix Public Sector Decarbonisation Scheme.

The project includes:

- air-source heat-pump systems;
- electric panel heaters;
- electric point-of-use water heaters;
- new electrical distribution and controls; and
- associated testing and certification.

The project will materially reduce the building's reliance on fossil fuel, but it will also increase electricity consumption.

Solar PV and battery storage would complement the Salix works by generating renewable electricity on site and storing surplus generation for use later in the day. This would support the Council's longer-term objectives of:

- reducing dependence on electricity imported from the grid;
- reducing exposure to future electricity-price fluctuations;
- increasing the proportion of energy generated and used on site;
- improving the financial performance of the Salix investment; and
- supporting the long-term sustainability of the building.

The Switch Together offer is time limited and is currently due to expire in mid-August 2026. The proposal has therefore been brought to the Extraordinary Finance Committee on 5th August 2026.

3. Independent assessments

The Carbon Reduction Recommendations Report recommended, subject to survey:

- 30 solar panels;
- approximately 13.8 kWp installed capacity;
- estimated annual generation of 12,765 kWh;
- estimated annual savings of approximately £2,390; and
- an indicative payback period of 7.6 years.

The report also recommended consideration of battery storage to increase the amount of generated electricity used within the building.

A separate SolarEdge assessment considered a larger system comprising:

- 34 panels;
- 17.34 kWp installed capacity;
- estimated annual generation of 17,770 kWh;
- an estimated cost of £19,995; and
- an indicative payback period of 5.9 years.

Both assessments support the principle of installing solar PV at John Moulton Hall. They are indicative designs rather than final installation proposals.

4. Electricity consumption and future demand

The Carbon Reduction Report used annual electricity consumption of 14,883 kWh.

Council energy records show:

Financial year	Electricity consumption	Cost
2023/24	15,393 kWh	£4,907
2024/25	14,459 kWh	£3,900
2025/26	14,432 kWh	£3,517
2026/27 to date – three months	3,408 kWh	£936

Future electricity demand will be higher once the Salix systems are fully operational. The existing gas consumption will not transfer directly into an equivalent amount of electricity because heat pumps are more efficient than direct electric heating. However, the new heat pumps, panel heaters and electric water heaters will create a significant additional electrical load.

This increased demand is likely to improve the proportion of solar generation used directly within the building, rather than exported at a lower tariff.

5. Switch Together proposal

The proposal received is:

Item	Specification
Panels	25 Astronergy Astro N7s bifacial panels
Panel output	460W each
Total installed capacity	Approximately 11.5 kWp
Estimated annual generation	10,303 kWh
Battery	Fox ESS
Battery capacity	15.6 kWh
Inverter	Fox ESS
Monitoring	Included
Bird proofing	Included
Estimated annual bill saving	£2,009

Item	Specification
Estimated annual export income	£335
Estimated total annual benefit	£2,344
Total quoted price	£13,304 including VAT

The product information confirms that the standard package includes the solar panels, inverter, mounting system, installation, warranties and online monitoring.

The quoted price is made up approximately as follows:

Element	Cost
25-panel solar system	£6,113
15.6 kWh battery	£4,099
Bird protection	£875
Subtotal	£11,087
VAT	£2,217
Total	£13,304

The Council is able to reclaim the VAT, giving an estimated net capital cost of:

£11,087

Based on the estimated annual benefit of £2,344, the indicative simple payback against the net cost is approximately:

4.7 years

This remains an estimate and will depend on actual generation, future electricity use, import and export tariffs and battery operation.

6. Comparison

	Carbon report	SolarEdge design	Switch Together
Panels	30	34	25
Installed capacity	13.8 kWp	17.34 kWp	11.5 kWp
Annual generation	12,765 kWh	17,770 kWh	10,303 kWh
Battery	Considered separately	Not included	15.6 kWh included
Bird proofing	Not specified	Not specified	Included
Gross cost	£18,070–£20,850 excluding battery	£19,995	£13,304
Net cost after VAT recovery	Not stated	Not stated	Approximately £11,087

The Switch Together proposal is smaller than the two earlier assessments but is materially cheaper and includes battery storage and bird proofing.

Its estimated annual generation is equivalent to approximately 70% of the building's historic electricity consumption. The percentage of future consumption met by the system will be lower once the Salix equipment is operational, but a greater proportion of generation should be used directly on site.

7. Suitability and panel numbers

There is no inherent reason why a 25-panel, 11.5 kWp system would be unsuitable for a community building.

John Moulton Hall has both daytime and evening use and will have an increased electrical base load following completion of the Salix works. This creates a suitable demand profile for solar generation and battery storage.

The battery should allow daytime surplus to be used later for:

- evening activities;
- early-morning heating;
- hot-water demand;
- lighting and general building use; and
- periods when solar generation falls.

The independent report recommended 30 panels, whereas the standard Switch Together online proposal is capped at 25 panels. The product information states that customers requiring more than 25 panels should discuss this directly with the installer.

The five-panel difference represents approximately:

- 2.3 kWp additional capacity; and
- potentially 2,000–2,500 kWh additional annual generation.

The final number of panels should therefore be determined through the site survey, considering:

- available roof area;
- structural suitability;
- shading;
- future electricity demand;
- inverter sizing;
- DNO export requirements;
- marginal cost; and
- whole-life financial benefit.

8. Electrical capacity and Salix coordination

The existing records identify a single-phase 230V installation with a 100A main switch. The current documentation does not confirm the final diversified maximum demand once the Salix works are complete.

The Salix electrical design includes new circuits for:

- three heat-pump systems;
- electric panel heaters;
- electric water heaters;
- controls; and
- metering.

Before the solar installation is finalised, the Salix contractor should complete:

- electrical load testing;
- a diversified maximum-demand assessment;
- confirmation of the available incoming supply capacity; and
- confirmation of whether any supply upgrade is required.

The Council intends to update the electrical certification and EICR following completion of the Salix works.

The solar installer should then use the final electrical information to confirm:

- the inverter type and phase arrangement;
- battery connection;
- generation metering;
- isolation arrangements;
- any export limitation; and
- any DNO application requirements.

Solar generation and battery storage will reduce grid imports, but they do not replace the need for an adequate incoming supply, particularly during winter and periods of peak heating demand

9. Long-term benefits

The proposal supports the long-term sustainability of John Moulton Hall by:

- generating renewable electricity on site;
- reducing reliance on grid electricity;
- reducing exposure to future price volatility;
- supporting the additional electrical demand created by the Salix project;
- storing lower-cost solar electricity for use later;
- reducing the proportion of electricity exported at a lower tariff;
- improving energy resilience;
- reducing operational carbon emissions; and
- making better use of the Council's capital investment in heat decarbonisation.

The system would not make the building fully independent of the grid. However, it would reduce the amount of electricity purchased and provide greater control over future operating costs.

10. Financial implications

The Council has identified:

£50,000 for Green Energy measures

within the Public Works Loan Board capital programme.

The gross cost of £13,304 would be paid from this allocation. Following VAT recovery, the estimated net cost would be approximately £11,087.

This would leave approximately: **£38,913**

of the Green Energy allocation available for further works, before any survey-led variations.

Possible additional costs may include:

- additional panels;
- a larger inverter;
- electrical alterations;
- DNO works;
- structural strengthening;
- fire-safety measures;
- landlord consent costs; and
- other requirements arising from the site survey.

Any variation should remain within the approved £50,000 allocation unless further approval is obtained.

Officers have also explored external funding opportunities to reduce the cost to the Council. An application was submitted to the National Lottery Community Fund but was unsuccessful because the Council already holds an active Awards for All grant and is not eligible to apply again until October 2027.

A further application has been submitted to the Swindon Science Museum funding programme and the outcome is awaited; however, the likelihood of securing support is considered limited. The proposal has therefore been assessed on the basis that it may need to be fully funded from the Council's existing Green Energy capital allocation.



Thank you for your application 20359248 to National Lottery Awards for All England.

We're sorry to tell you that your application was not eligible. This is because it does not meet the eligibility criteria.

We know how much time and care goes into applying for funding, and we appreciate you taking the time to tell us about your project.

Why your application is not eligible

The maximum total we can fund an organisation in any 12-month period is £20,000 and you can only hold one grant, for each different country in the UK, at a time.

We cannot accept a new application from your organisation as you have a current grant from National Lottery Awards for All England:

- Project Name:
- PID: 20323462
- Awarded amount: £19,936
- Awarded on: 22 October 2025

This means we will be unable to consider offering you another grant until 21 October 2027. You are welcome to reapply at that time, taking into account application and assessment turnaround times.

Please note that all the project activities will also need to be completed. Any monitoring information we may have requested will also need to have been sent to us and approved before we can offer you another grant.

We have not considered any other elements of your application as part of this decision.

11. Key matters for Members

Members should be aware that:

- the offer is time limited and due to expire in mid-August;
- the system supports and complements the Salix heat-decarbonisation project;
- the quoted 25-panel system is smaller than the independent recommendations;
- additional panels may be available following discussion with the installer;
- the Council can reclaim the VAT;
- the final electrical demand and supply capacity must be confirmed;
- the Salix contractor can undertake the required load testing;
- the final system remains subject to survey and structural assessment;
- DNO approval may be required;
- the battery does not automatically provide whole-building backup during a power cut; and
- final approval should remain conditional on satisfactory technical and contractual checks.

12. Options

Option 1 – Approve in principle

Progress the Switch Together proposal within the offer period, subject to the conditions set out in the recommendations.

This is the recommended option.

Option 2 – Defer

Wait until the Salix works and electrical testing are fully complete.

This would provide greater certainty over future electrical demand but would result in the current offer expiring.

Option 3 – Decline and procure separately

Undertake a separate procurement for a larger solar system.

This may maximise generation but is likely to cost more and delay delivery.

13. Officer assessment

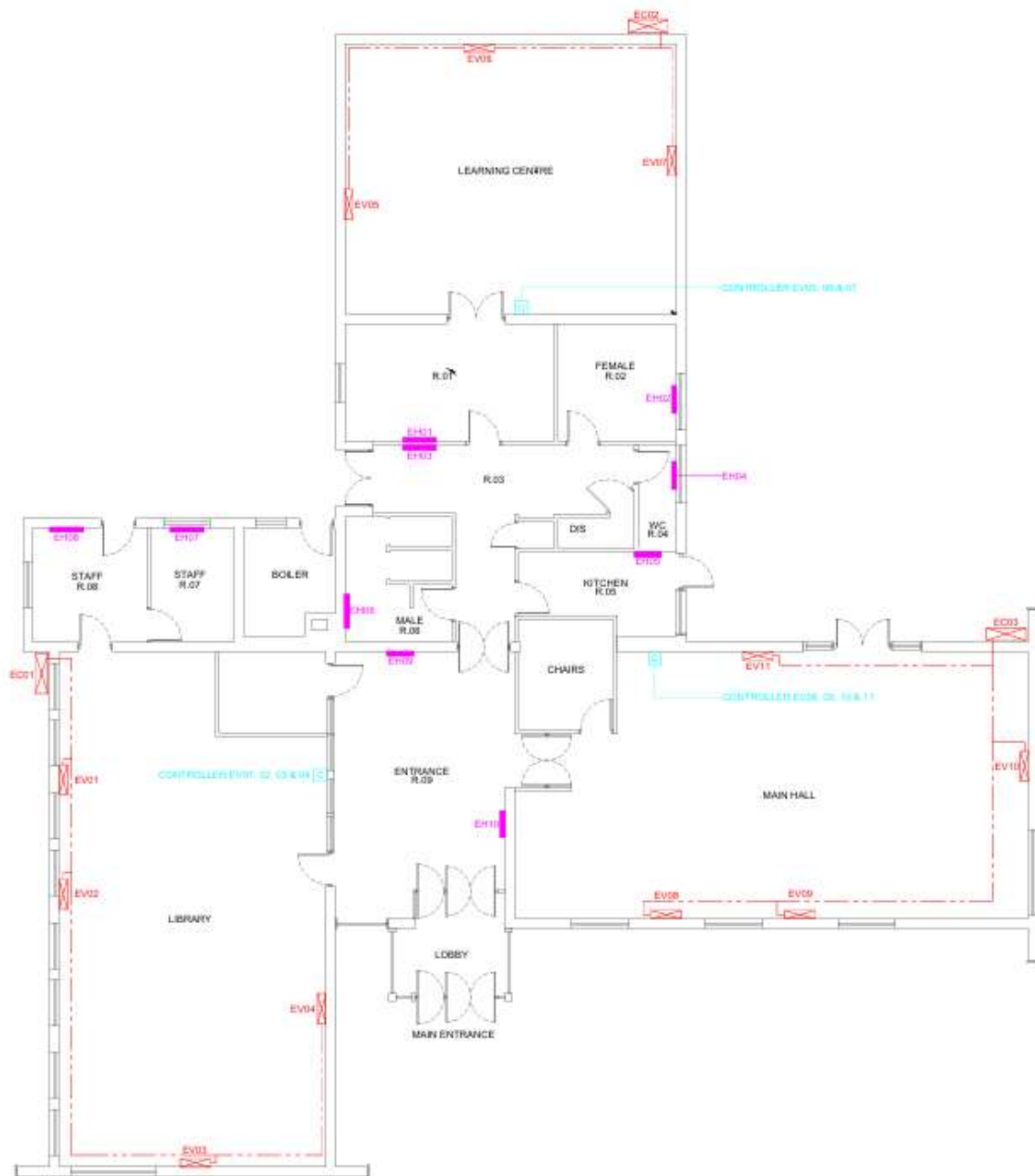
The proposal represents a credible and financially attractive opportunity to support the Council's existing investment in heat decarbonisation.

The independent assessments support the installation of solar PV at John Moulton Hall. The Switch Together proposal is smaller than the earlier indicative designs but is significantly cheaper and includes substantial battery storage.

The system would provide a meaningful contribution towards the building's electricity use and help manage the increase in demand arising from the Salix project. It would also reduce reliance on the grid, limit exposure to future energy-price fluctuations and improve the building's long-term financial and environmental sustainability.

The proposal should therefore be approved in principle, subject to the site survey, structural checks, Salix load testing, supply-capacity confirmation, DNO requirements and final contractual checks.

Heating / Cooling System



Electrical

