

# Schools Solar PV Powering Our Schools



# Progress update on GM Schools Solar PV

- The impact of the rising electricity costs on school budgets is an ongoing concern raised by Greater Manchester's Local Authorities.
- Since March GMCA has been working with a small group of officers to design and develop a schools' solar power offer.
- We now have:
  - **Resources to support schools considering solar PV**, supported by funding from the NW Net Zero Hub.
  - **An established route to market for publicly funded schools to procure solar PV** via the GMCA Go Neutral call-off framework.
  - **The GMCA Low Carbon Project Delivery Unit (PDU)** equipped to provide project development and delivery support to Districts.
- Of the 637 maintained schools that are known to GMCA, roof mounted solar PV could provide a potential investment opportunity of £52m, based on an average of 60 kWp per school.
- The GM LAs have agreed that a GMCA-led collective purchase offer will help to drive forward this opportunity with publicly funded schools (maintained and non-maintained).
- GMCA is now working with the GM LAs to develop and deliver the GM '**Powering Our Schools**' campaign and collective purchase offer, which is outlined further in this slide pack.

# The proposition

The GM **Powering Our Schools campaign** has two parts:

1. **Resources** to help empower any school on deciding whether to install PV and to signpost to an accredited installer for those wanting to 'go it alone'.
2. Solar power **collective purchase offer** that publicly funded schools can register interest to participate in.

## **Resources**

Resources include guidance, case studies and a solar PV calculator. All schools can access these resources that are hosted on a dedicated [webpage](#) on the Green City Region website. The webpage also advertises the opportunity to register interest in the collective purchase exercise.

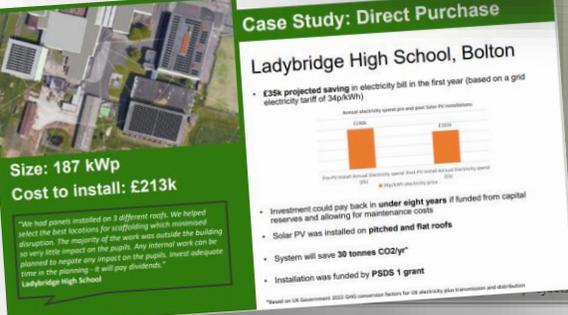
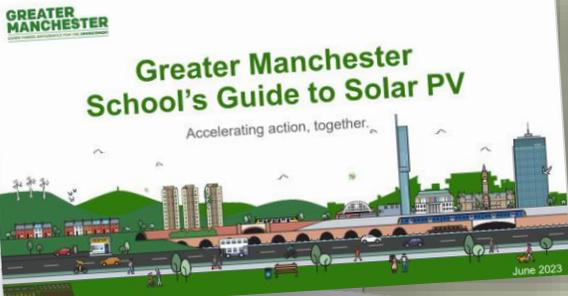
## **Collective purchase exercise**

For publicly funded schools GMCA is offering a centrally managed collective purchase exercise via the GM Go Neutral procurement framework. Centralised resources will support the schools and LAs throughout the process from expressing an interest through to installation and commissioning (slide 7). This approach builds upon the previous successful GM Solar Together collective purchase exercise for homeowners that achieved a circa 30% discount on panel prices.

Further detail is provided on the following slides.

# Resources – Powering Our Schools website

The screenshot shows the website interface for 'Powering Our Schools'. At the top, there is a navigation bar with links for 'Resource Library', 'Businesses', 'Schools', 'Contact Us', and 'GM Green Summit 2023'. Below this is a secondary navigation bar with 'Home', 'The challenge', 'Take action', 'Projects & campaigns', 'About us', and 'News and events'. The main content area features a large green header with the title 'Powering Our Schools'. To the right of the title is a video player showing an aerial view of a school building with solar panels. Below the title is a paragraph of text: 'Solar power is a source of renewable energy that has the potential to lower your electricity bills, protect against future electricity price increases and reduce your school's carbon footprint. It can also be a valuable curriculum aide, bringing STEM and climate change action to life for your pupils.' Below this text is a call to action: 'Explore the resources below to find out how your school can make the switch to solar.' At the bottom of the page is a grid of five resource cards, each with a 'Find out more' button. The cards are: 'LEARN MORE ABOUT SOLAR POWER FOR YOUR SCHOOL', 'HOW MUCH SOLAR POWER CAN I INSTALL AT MY SCHOOL?', 'CASE STUDY: SOLAR POWERED STOCKPORT SCHOOLS', 'JOIN FORCES WITH OTHER SCHOOLS TO BUY SOLAR POWER', and 'FIND A SOLAR INSTALLER'. On the left side of the page, there are two overlapping document thumbnails. The top one is 'Greater Manchester School's Guide to Solar PV' with the subtitle 'Accelerating action, together.' and the date 'June 2023'. The bottom one is 'Introduction' with the subtitle 'Why Solar PV? Why now?' and a quote: 'Having solar panels installed at our school has not only meant we save money on our fuel bills but it is also cleaner for our environment. Mitigating climate change has to be our priority and opportunities like these cannot be missed.' Below the thumbnails is a 'Case Study: Direct Purchase' for Ladybridge High School, Bolton, with details: 'Size: 187 kWp', 'Cost to install: £213k', and a bar chart showing a projected saving of £25k in electricity bills in the first year. The bottom of the page shows the URL 'https://gmgreencity.com/projects-and-campaigns/powering-our-schools/'.



LEARN MORE ABOUT SOLAR POWER FOR YOUR SCHOOL

Find out more

HOW MUCH SOLAR POWER CAN I INSTALL AT MY SCHOOL?

Find out more

CASE STUDY: SOLAR POWERED STOCKPORT SCHOOLS

Find out more

JOIN FORCES WITH OTHER SCHOOLS TO BUY SOLAR POWER

Find out more

FIND A SOLAR INSTALLER

Find out more

# How much solar power can I install at my school?

**GMCA** GREATER MANCHESTER COMBINED AUTHORITY

**north west net zero hub**

## Schools Solar Calculator

**About this calculator**

This calculator can help you to understand the potential benefits of installing solar power on your school roof, giving you an idea of potential size, installation costs and savings on your energy bill.

Please note: calculations are for indicative purposes only – actual values may vary.

[Design my solar power system](#)

If you have saved a solar power system design, login here to access it.

School Name

Password

Remember me

[Login](#)

**Step 4: Your solar power system**

Select areas of roof for your solar panels

Locate your school on the map below and use the mouse to draw an outline of the area(s) of roof where you want to install solar panels.

For pitched roofs make sure that the solar panel arrow points down the slope of the roof. Repeat this process for each area of roof. Tip: try to avoid areas of roof that have significant shading, are difficult to access or are in poor condition.

If you need help, check out these [helpful drawing tips](#) for drawing your roof outline.

**Roof Area Details**

Roof Slope

Use the slider below to specify the slope angle of your chosen roof area (if unsure select 30° for a pitched roof and 0° for a flat roof).

Roof Area Name

Rotation

[Delete Roof Area](#)

**Step 5: Finance Options**

Size of solar power system  
**39 kWp**

Estimated installation cost  
**£60,900**

**Finance Options**

Please select an option below

My school has money to cover the estimated installation costs

My school would need to take out a loan to cover the estimated installation costs

If the installation cost has come back higher than you are wanting to pay, you could try removing areas of roof from your selection by clicking on the 'back' button.

[Back](#) [Next](#)

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### FINANCIAL SUMMARY – PAID FOR USING CAPITAL RESERVES OPTION

**ANNUAL BENEFIT**

Estimated cost to install the solar PV system	Potential annual energy bill saving	Estimated annual cost to maintain the solar PV system	Estimated net annual saving in school energy costs	Estimated time to recoup investment (payback period)*
<b>£47k</b>	<b>£6.5k</b>	<b>£1.1k</b>	<b>£5.4k</b>	<b>8.8 years</b>

**LIFETIME BENEFIT**

Potential lifetime energy bill saving	Estimated lifetime cost to maintain the solar PV system	Estimated net lifetime saving in school energy costs	Estimated Net Present Value (over project lifetime)	Estimated Internal Rate of Return
<b>£290k</b>	<b>£47k</b>	<b>£243k</b>	<b>£63k</b>	<b>16%</b>

**NOTE: Key Assumptions**

CAPEX & OPEX costs are inflated in line with CPI	Capital cost rate of £1,550 per kWp and maintenance cost rate of £24 per kWp
Annual inflation rate of 4.7% applied to energy tariffs	Project lifetime of 25 years
Inverter replacement costs of 8% CAPEX are incurred every 11 years (included in lifetime maintenance cost)	Loan repaid over 25-year lifetime at 5.54% interest rate
Discount rate of 6%	Carbon factor of 0.143 kgCO <sub>2</sub> /kWh

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## School Solar Power

Assessment Report for School 1

School annual electricity demand 130,000 kWh  
Price paid for mains electricity 29.0 p/kWh  
Assumed export tariff 5.5 p/kWh

Name	Roof area (m <sup>2</sup> )	Size kWp	Roof pitch	Roof direction
Roof 1	137.6		0°	South

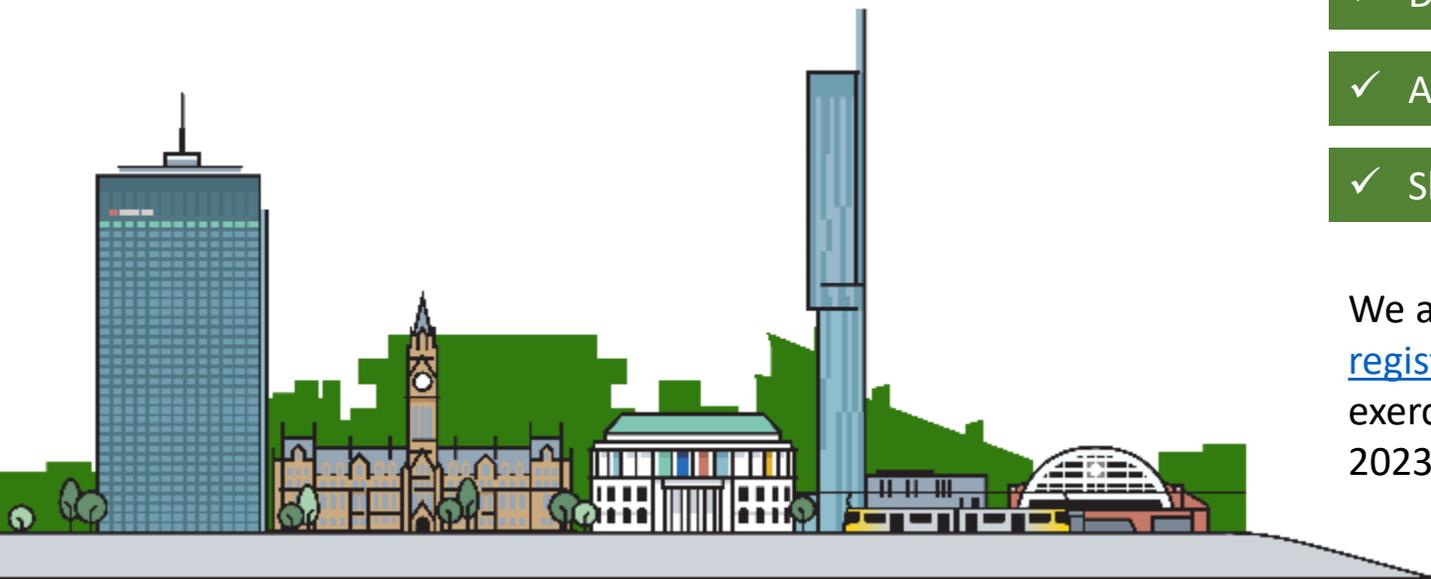
**TECHNICAL SUMMARY**

Solar PV system Size	Estimated annual solar energy generated	% of school electricity demand met by solar PV	% solar energy exported to the grid	Potential annual saving in carbon emissions
<b>31 kWp</b>	<b>24,895 kWh</b>	<b>17%</b>	<b>12%</b>	<b>3.6 tCO<sub>2</sub>e</b>

Downloadable 2-page report illustrates the potential benefits of solar power

<https://poweringourschools.com/>

# Powering Our Schools Collective Purchase Exercise

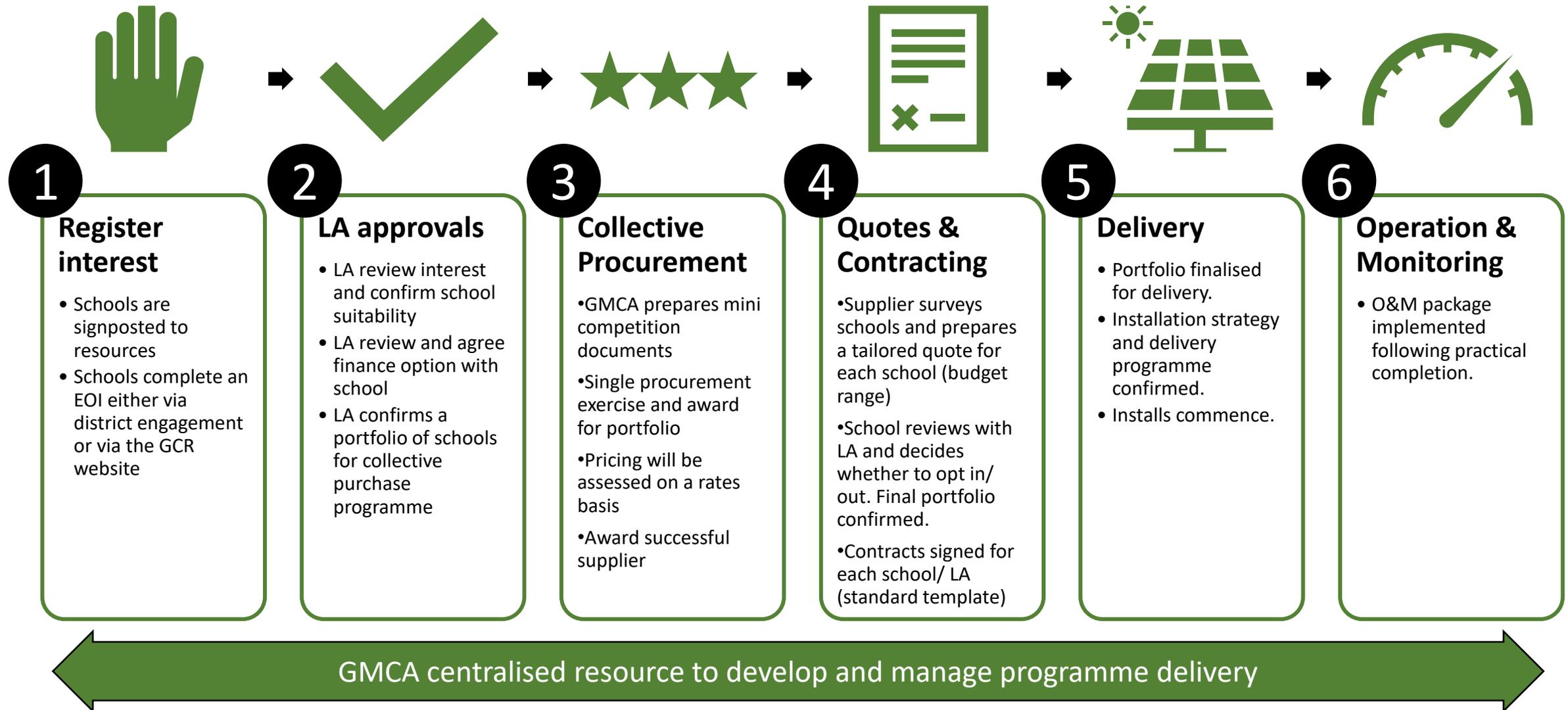


## Aims:

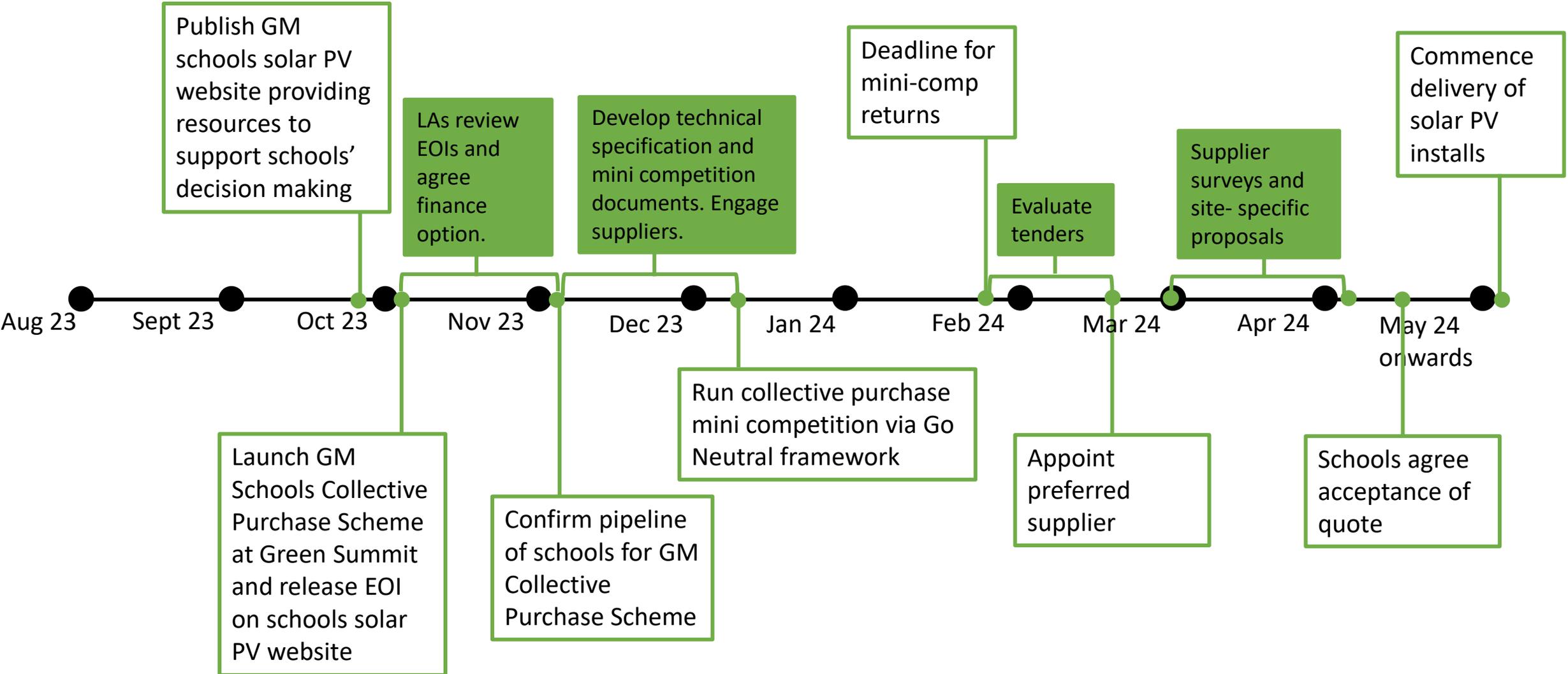
- ✓ Deliver accelerated impact against our 5YEP targets
- ✓ Protect schools from energy price volatility risks
- ✓ High quality installations from competent installers
- ✓ Bulk purchase for competitive price
- ✓ Centralised resource to reduce burden on LAs/ Schools
- ✓ Provide sustainable pipeline to support local businesses
- ✓ Drive use of GM Go Neutral Procurement Framework
- ✓ Access advice and support at all stages
- ✓ Shared learning and collaboration

We are now inviting GM publicly funded schools and LAs to [register interest](#) in participating in the collective purchase exercise. Closing date for registering interest is 31<sup>st</sup> October 2023.

# Collective purchase exercise – proposed approach



# Indicative timeline for collective purchase exercise



# Engagement activity

- The Powering Our Schools campaign is being promoted through various channels:
  - Green Summit campaign
  - Green City newsletter
  - GMCA newsletter
  - Direct mail to headteachers known to GMCA's Education team
  - Various approaches by the ten GM districts (e.g., direct contact and newsletters)
- Planned discussion with Ashden 'Let's Go Zero' schools initiative.
- All schools are being directed to register interest via the GCR website.

# Recommendations

- To note the content of this slide pack and resources.
- Where applicable, to promote through your wider network and partnerships.