

Flexible Funding Call 2021 (Round 2)

Supergen Energy Storage Network+

Call Headline Details

| | |
|---|---------------------------------------|
| Call opens | 9 th December 2021 |
| Closing date | 3 rd February 2022 (17.00) |
| Scope: Parameterisations of energy storage systems | |
| Funding level | 80% of full economic costs (FEC) |
| Available resource for this call | £8,000* (80%FEC) |
| Maximum grant value per applicant | £8,000 (80%FEC) |
| Application review complete and award decisions made | 18 th February 2022 |
| Offer letters issued | 21 st February 2022 |
| *If not all monies are allocated in the first submission round, the Management Board retains the right to re-open the process to applications or to allocate further funding to the highest ranked proposals, based on approval of an extended project scope. | |

Summary

The Supergen Energy Storage Network+ connects and serves stakeholders across the whole energy community, advancing and championing UK energy storage research and deployment.

A major deliverable for the Supergen Network+ is its flexible funding scheme. A total of £410,000 is available over the next four years to support development through travel and conference grants, feasibility studies and research projects that will enhance existing knowledge to facilitate academic, industrial, policy or international impact.

Expressions of Interests (EoIs) are sought for a piece of work that will deliver an organic on-line spreadsheet document as a key outcome from Supergen Energy Storage Network+ enabling users to extract parameterised representations of different energy storage systems. This document will be referred to as “Parameterisations of Energy Storage Systems” (POESS).

A total of **£8,000** is available in the current round of funding. The maximum ‘cost’ per project is £10,000 (at 100% FEC); the maximum funding available by Supergen Network+ is £8,000 (at 80% FEC) per project. Only one submission per applicant is permitted.

Context

POESS is intended to be operated for several years after initiation and this has several ramifications: (i) The document must be accessible over the internet and must offer open access to all who have the link but must have edit rights restricted to approved users, (ii) POESS must be archived regularly so that at worst the loss of data from a human or system error is limited to two weeks maximum and (iii) it must not be locked to any one academic institution – or if it is, there must be clear and explicit agreement from the outset that a copy will be released if/when required by EPSRC and the original site will be closed with redirection to the new site. A Google Sheets document is one possible format but not the only possibility. **The expectation is that this work can be done in three months or less.**

The requirement is for a spreadsheet-based tool containing parameterisations of different energy storage systems to be accessible to researchers who are interested to model the economic and technical viability of energy storage systems in specific applications.

This spreadsheet will serve as a repository that will be updated as time goes by and as energy systems evolve towards increased performance and reduced cost.

The structure and organisation of this spreadsheet is left to the discretion of the applicant. However, preference will be given to solutions that are well-structured such that they can be searched easily and such that the solutions contained within them can be ordered according to formulae implemented by the user. It will be expected that the applicant populates some of the tables and does not simply present a blank spreadsheet structure as the outcome.

A key outcome from POESS must be that the cost values, in particular, are presented in different formats so that different energy system modelling tools could pick up their favourite format. The actual parameters whose values reported should be determined by the applicant but these should include the following (or their equivalents):

Capital Cost per kWh of (output) storage capacity;

Capital Cost per kW of (input) power conversion capacity;

Capital Cost per kW of (output) power conversion capacity;

Percentage cost per year on the energy storage capacity to maintain the storage units at full capacity;

Percentage cost per year on the power conversion capacities to maintain these units at full capacity;

Round-trip efficiency (for short cycles);

Self-discharge reduction in output capacity (% per hour of storage);

Approximate value of energy invested per kWh of output storage capacity;

Approximate value of energy invested per kW of power conversion capacity.

EoIs will be judged based on the established level of expertise of the academic institution, as well as, the proposed structure of the POESS spreadsheet document. **Please submit a (maximum three-page) document describing the resource required, the background of the academic institution and the proposed structure of the POESS document.** If undertaking this work it is essential to recruit an early career researcher (ECR), please indicate this in the application. Applications enhancing the equality, diversity and inclusivity performance of the host institution and the energy storage community more broadly are especially encouraged.

Eligibility

For this call, EoIs are invited from eligible UK researchers, i.e. applicants based in UK Higher Education Institutions (HEIs), Research Council Institutes and Centres, and Independent Research Organisations (IROs) approved by UKRI. We expect that the applicant's research focus is within scope of the Supergen Network+ wider activities.

Submitted projects may be from a single UK academic institute or may be collaborative with a defined lead. The funding supports eligible activities as defined by UKRI, including but not limited to: staff time, travel, subsistence, consumables, and experimental costs. All costs must be fully justified as

relevant to the proposed project. The funding is provided by EPSRC and information on the eligibility of organisations and individuals to receive EPSRC funding is available in the [EPSRC-UKRI funding guide](#).

Assessment Process

Members of the Supergen Network+ Management Board will review eligible expression of interest. The Management Board will then make a final decision on which proposals receive funding. Every effort will be made to ensure that there are no conflicts of interest.

Evaluation Criteria

- Established level of expertise and quality of the academic institution / research group;
- Proposed structure of the POESS document;
- Fit with the scope of the call;
- Recruitment of an ECR;
- Fit to the aims of the Supergen Network+;
- Co-funded proposals are welcome though this is not essential. However, for EoIs with the same quality, priority will be given to co-funded proposals.

Submission

Please submit the following to [Dr Antzela Fivga](#):

- Up-to-date CV (max. 2 page), highlighting track record relevant to the proposed research;
- Please submit a (maximum three-page) document describing the resource required, the background of the academic institution/research group and the proposed structure of the POESS document;
- Application form (please find below);
- Any supporting letters.

Terms and Conditions

Terms and conditions of standard UKRI grant awards apply. All project outputs and engagement should include Supergen Network+ and UKRI/EPSRC branding. Funded projects will be required to produce:

1. Contribution to the development of the Supergen Network+ white paper (format TBC).

Equal Opportunities

The Supergen Network+ is dedicated to address Equality, Diversity and Inclusion (EDI) within all aspects of its remit. Accordingly, no eligible applicant will receive less favourable treatment on the grounds of gender, marital status, sexual orientation, gender re-assignment, race, colour, nationality, ethnicity or national origins, religion or similar philosophical belief, spent criminal conviction, age, disability, career breaks, paternity/maternity or adoption leave breaks. Applications will be assessed on their merits, in accordance with the evaluation criteria set for the call with all reviewers having received unconscious bias training and guidance.

Point of Contact

If you have a query concerning any aspect of this call, please contact the Supergen Network+ manager Dr Antzela Fivga at a.fivga@bham.ac.uk.

More information

For more information about the Supergen Network+, please see our website www.supergenstorage.org.

GDPR

This application will be stored by the University of Birmingham. By submitting it, you acknowledge that the information you provide will be transferred to the University of Birmingham for processing. All information will be held safely and in compliance with GDPR and the Equality Act 2010. The Supergen Network+ team will use this information to select research projects for funding. You can ask us to delete your data at any time by emailing energystorage@contacts.bham.ac.uk. Please note that without this data, we will be unable to process your application and so your application will be withdrawn.

Application Form

| Applicant Information | | | |
|---|------------------------------------|-----------------------------|--------------------------|
| Name of applicant | | | |
| Organisation | | | |
| Email | | | |
| Phone | | | |
| Job Role | | | |
| Describe your current research area (max. 100 words): | | | |
| Funds requested (please itemise these in £GBP; confirmation that costs are in accordance with institutional guidelines will be required by the date of award): | | | |
| Resource | Justification (when applicable) | Full economic cost (FEC) | Award value (80% FEC) |
| | | | |
| | | | |
| | | | |
| Total value requested from Supergen Network+ | | | £ |
| Details of additional external funding (if applicable) | | | |