

**ENERGY PROGRAMME
REQUEST FOR PROPOSAL (RFP)**

Research Areas	ENERGY GRID 3.0 GRANT CALL Call for Proposals on (a) Enhancing Grid Planning and Operations Capabilities; and (b) Managing New System Needs Such As Inertia
RFP Number	EPO RFP 17
Category	Open Call
Open Date for Proposal Submission	27 October 2025
Closing Date for Proposal Submission	8 December 2025, by 1200 hrs (noon) (UTC +08:00) Proposals and all accompanying attachments MUST be submitted via the FormSG link by the stipulated date and time. Link to FormSG: https://go.gov.sg/energy-grid-2025
Contact (For queries on proposal submission)	Energy Programme Office (EPO) Email: EMA_EnergyRD@ema.gov.sg Energy Market Authority 991G Alexandra Road #01-29 Singapore 119975

CALL FOR PROPOSALS: ENERGY GRID 3.0 GRANT CALL

Background

1. EMA, in collaboration with SP Group, has developed a Future Grid Capabilities Roadmap which outlines challenges associated with the changing context of Singapore's power system and identifies key focus areas to transform the electricity grid to manage new complexities. In line with the Roadmap, EMA is launching an Energy Grid 3.0 Grant Call to (a) enhance grid planning and operations capabilities; and (b) manage new system needs such as inertia.

Problem Statement

2. The power sector plays a key role in Singapore's endeavour to achieve net zero carbon emissions by 2050, as it currently contributes about 40% of our emissions. As we transit to a low carbon future, our supply mix will become more diverse with the deployment of more domestic solar and electricity imports based on renewable sources.
3. Our grid will also become more complex with more distributed energy resources (DERs) such as rooftop solar photovoltaics, battery energy storage systems, and electric vehicle (EV) chargers. This will pose challenges to our electricity grid, as a surge in solar generation or EV charging demand can potentially overload the electricity grid, causing network congestions. The network may also have insufficient capacity to accommodate new DER connections.
4. At the same time, the amount of inertia, or the energy stored in large rotating generators that stabilises the electricity grid, will reduce as we scale up the deployment of solar and electricity imports. Inertia is traditionally provided by the kinetic energy of rotating thermal generators such as combined cycle gas turbines and open cycle gas turbines. The power system needs inertia to buy time for the system to respond to contingencies such as when a power plant trips or demand spikes. As solar and electricity imports do not provide inertia, measures are required to manage the future needs of an evolving grid.
5. To this end, EMA is launching a Request for Proposal seeking proposals for R&D projects that will develop innovative solutions to manage an increasingly complex grid with more renewable penetration and DERs; and manage new needs of the power system, such as inertia. The proposal should address one or more of the following problem statements:
 - Enhance grid planning and operations capabilities
 - Manage new system needs such as inertia

Eligibility, Funding Support and Other Important Information

6. This grant call is open to research consortia comprising Institutes of Higher Learning (IHLs), Public Sector Research Institutions (RIs), public sector agencies, not-for-profit organisations and/or private sector companies. Each consortium shall be led by a Singapore Host Institution that is a company under Singapore's Companies Act. Each consortium must include at least one Partner Institution that is a Singapore public research performer (i.e., IHLs and public sector RIs).
7. Proposals shall not be funded or be currently considered for funding by other agencies.
8. All funding awarded must be used to carry out **research activities in Singapore**. Please refer to **Annex A** for the maximum funding support of approved direct cost of a project based on entity type. Only public research performers (e.g., IHLs, RIs) would be allowed support for indirect costs, which include up to 30% of qualifying costs as overheads.
9. Budget for the entire project shall be broken down into the following broad categories, mainly: (a) expenditure on manpower (EOM); (b) equipment; (c) other operating expenses (OOE); and (d) overseas travel. Please refer to **Annex B** for the list of non-fundable costs when proposing the project budget.
10. The project may include research collaborations with local or overseas organisations. However, contracting out the whole or substantial part of the research work using funding awarded to Singapore Host or Partner Institutions is not permitted.
11. All assets acquired using the funding awarded to Singapore Host or Partner Institutions must be located in Singapore and maintained within the control of the grantees.
12. The project duration, including completion of the final report and all miscellaneous project activities, shall not exceed **three (3) years**. The proposed project schedule must be realistic, allowing sufficient time for the preparation of final report and for the review of project results.
13. All Foreground Intellectual Property (i.e. IP arising from the awarded projects) shall be the property of the organisations responsible for undertaking the research project in such proportions as they may determine.
14. The Singapore Government and public sector agencies shall reserve a non-exclusive, non-transferable, perpetual, irrevocable, worldwide, royalty-free right and licence to

use, modify, reproduce and distribute the Foreground IP arising from Singapore Host or Partner Institutions for non-commercial, R&D and/or educational purposes only.

Assessment Criteria

15. Proposals will be evaluated against the following criteria:
- a. **Marketability:** Strong and clear demonstration of potential commercial viability and economic advantage of the proposed solution over existing technologies and practices, economic benefits to Singapore in terms of capabilities, manpower development, potential for commercialisation spin-offs, and Intellectual Property strategy;
 - b. **Technology:** High-technical-merit research and innovation that is novel, internationally competitive, directly addresses the identified challenge(s), and can lead to breakthrough results, technical advantage(s) over existing technologies, and ambition and appropriateness of research goals; and
 - c. **Research Capability:** Demonstration of an experienced research team with a good track record and whose members have the relevant and complementary expertise, appropriateness of research infrastructure.

Application and Evaluation Process

16. The Principal Investigator (PI) from the Host Institution is required to submit the proposal and the required supporting documents (all attachments **MUST** be submitted in PDF format, except for the budget details which must be submitted in Excel format) via the FormSG link provided.
17. The proposal shall be up to 25 pages in minimum size 11-point font with reasonable margins, describing the research programme being proposed **based on the given instructions, and shall be submitted in PDF format.**
18. Shortlisted proposals may be invited for an award selection by a Project Evaluation Panel.

Submission

19. Proposals must be submitted by the deadline of **8 December 2025, 1200 hrs (noon), Singapore time (UTC +08:00).**

20. Applications are only considered as complete after the proposal with the relevant attachments, are submitted by the specified deadline. The PI would receive an official acknowledgement email to confirm that the proposal has been submitted on FormSG. **EMA will not entertain any submissions after the specified deadline or any requests to extend the submission deadline. Any incomplete submission may be disqualified.**

Result

21. Successful proposals which are accepted and awarded by EMA can expect notification by **Q1 2026**. Awarded projects will commence thereafter.

Maximum Funding Support of Direct Cost based on Entity Type

S/N	Type	Maximum Funding Support of Direct Costs	Definition
1	Institutes of Higher Learning (IHLs) and Public Sector Research Institutes (RIs)	100%	<ul style="list-style-type: none"> Note: Only IHLs and RIs will be allowed support for indirect costs (i.e. up to 30% of qualifying costs as Overheads).
2	All Non-Singapore Private Sector Entities (including not-for-profits)	30%	<ul style="list-style-type: none"> <30% local shareholding (i.e. local equity held directly or indirectly by Singaporean(s) and/or Singapore Permanent Residents), determined by the ultimate individual ownership
3	Large Local Enterprises (LLEs)	30%	<ul style="list-style-type: none"> Have Group Annual Sales Turnover >\$100M; and ≥30% local shareholding
4	Singapore Small & Medium Enterprises (SMEs)	50%	<ul style="list-style-type: none"> Have Group Annual Sales Turnover ≤\$100M, or maximum employment of 200 employees; and ≥30% local shareholding
5	Singapore Start-ups	50%	<ul style="list-style-type: none"> Registered for less than 5 years at time of grant application Has individual ownership of more than 50% at reference year; and Employs at least 1 worker ≥30% local shareholding
6	Singapore Not-for-profit Organisations	Treated based on their size (i.e., 50% if they meet the SME definition of not more than \$100M in Group Annual Sales Turnover and 200 employees, and 70% if they do not)	<ul style="list-style-type: none"> Registered as a public Company Limited by guarantee, society or charity trust Main purpose is to support or engage in activities of public or private interest without any commercial or monetary profit, and are prohibited from distributing monetary residual to their own members To qualify as a Singapore not-for-profit, the entity must meet <u>all 3 of the following criteria</u>: (1) Registered and physically present in Singapore; (2) Core funding (i.e. excluding competitive grant funding) is derived entirely/mostly from Singapore entities; (3) Managed by a Board, which is at least half appointed by Singapore entities

GUIDE ON PROJECT COST ITEMS**Non-Fundable Direct Costs**

Type of Expenses	Description
Salaries of PI /Co-Is /Teaching staff /Teaching substitutes/General administrative support staff	Not allowable.
Undergraduate tuition support	Not allowable.
Costs related to general administration and management	Not allowable. This includes common office equipment, such as furniture and fittings, office software, photocopiers, scanners and office supplies.
Costs of office or laboratory space	Not allowable. This includes renovation/outfitting costs, rent, depreciation of buildings and equipment, and related expenditures such as water, electricity, general waste disposal and building/facilities maintenance charges.
Personal productivity tools & communication expenses	Not allowable, unless the use of mobile phones and other form of smart devices were indicated in the methodology for the Project.
Audit fees (Internal and external audit) and Legal fees	Not allowable.
Entertainment	Not allowable.
Refreshment	Not allowable, unless this is related to a hosted conference or workshop for the Project.
Fines and Penalties	Not allowable.
Patent Application	Not allowable. This includes patent application filing, maintenance and other related cost.
Professional Membership Fees	Not allowable.
Staff retreat and team-building activities	Not allowable.