**MARINE CLIMATE CHANGE SCIENCE (MCCS) PROGRAMME**

**FULL PROPOSAL TEMPLATE (FORM A)**

**All information is treated in confidence. The information is furnished to the National Research Foundation and National Parks Board with the understanding that it shall be used or disclosed for evaluation, reference and reporting purposes. Please complete ALL sections, following instructions and prompts carefully. Incomplete submissions may not be accepted.**

1. **PROJECT DETAILS & DESCRIPTION**

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| **General Information** | | | | | | | |
| **Call Topic** *(Refer to Grant Call information sheet)*: **e.g. [MCCS\_V1\_2021-1\_T1] Assessing the carbon storage and sequestration potential of blue carbon resources in Singapore** | | | | | | | |
| **Proposal Title: *The proposal title should be descriptive and accessible to the general reader, and should not exceed 30 words.*** | | | | | | | |
| **Total Budget Requested (Including indirect cost)**:**S$ XX** | | | **Period of Support: XX years** | | | **Host Institution 1: XX** | |
| **List of Project Team Members** *(Please add/delete rows where necessary)* | | | | | | | |
| **Role** | **Name** | **Designation** | | **Department & Institution** | **Contact details (Email address)** | | **% of time committed on the project** |
| ***Lead PI 2*** |  |  | |  |  | |  |
| ***Co-I 3 (1)*** |  |  | |  |  | |  |
| ***Co-I (2)*** |  |  | |  |  | |  |
| ***Collaborator 4 (1)*** |  |  | |  |  | |  |
| ***Collaborator (2)*** |  |  | |  |  | |  |

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| 1 Host institution refers to the organisation (Singapore-based public research institutes (RIs) (e.g., Institutions of Higher Learning (IHLs) and A\*STAR RIs), companies, company-affiliated research laboratories or institutions and not-for-profit entities) to which the Lead PI belongs, which will provide the primary support for the proposed project if it is funded by MCCS. This organisation will be named in the Letter of Award as the Host Institution.  2 Lead PI refers to Lead Principal Investigator who is the person to be named in the Letter of Award as the Lead Principal Investigator for the project.  3 Co-I refer to Co-Investigator who is the person to be named in the Letter of Award as a Co-Investigator for the project.  4 Collaborator refers to any company, institution, incorporated body or other industry or academic collaborator, which is not an Institution or an Investigator but is to be engaged in the Research in collaboration with the Institutions or any of them. **A Collaborator is not eligible to receive any part of the funding for the project.** |

1. **DETAILS OF RESEARCH PROPOSAL**
   1. **Important Instructions and Notes**
      1. The following write-ups are required under this section:
2. Introduction
3. Research Methodology and Approach
4. Value Capture/Value Created
5. Research Team
6. Outcomes and Deliverables
   * 1. All essential project information for the abovementioned required write-ups in sections 2.2 to 2.6 should be kept **strictly within a total of 20 printed pages** using a size 12, Times New Roman (or equivalent) font. Additional sheets can be attached to include the applicant(s) CVs (see Annex A for requirements) and selected publications, and the list of cited literature. Please note that proposals would be evaluated based on these 20 printed pages and that additional sheets attached may or may not be taken into consideration.
     2. All proposals will be evaluated against the following criteria and hence, the applicant(s) is encouraged to highlight the information below clearly in the proposal:
7. Potential Contribution to MCCS Objectives
   * Relevance of proposed research in contributing to objectives/targets stated for the MCCS Call Topic.
8. Potential for Breakthrough and Innovation
   * Quality and significance of proposed research, including value for money, and the potential for breakthrough/innovation to advance knowledge and understanding within its own field or across different fields.
9. Potential for Application and Deployment in Singapore and Commercialisation/Export
   * Potential for application of research outcomes in Singapore by a public agency and potential for solutions to be replicated in Singapore beyond a single site/project.
   * Feasibility for commercialisation/ export in areas where Singapore has a competitive advantage.
10. Execution Strength and Technical Competency of Research Team
    * Quality of plans for execution and delivery of the research programme and goals, including the appropriateness of the proposed milestones and deliverables (specific to evaluation of full proposal applications).
    * Quality, significance, and relevance of the recent research record of the Lead PI and Co-Is and the strength of the applicant group, including likely synergy in delivering research and potential for international leadership.
    1. **Introduction**
       1. **Research Objectives**

*Clearly state the research question(s) to be addressed, the objective(s) and significance of the project. Omit jargon and acronyms in description.*

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* + 1. **Relevance to Marine Climate Change Science (MCCS) Programme**

*Explain why the MCCS programme should fund this project, by elaborating on how this project will contribute to the overall aims of the programme, and to the specified targets and requirements of the Call Topic, as set out in the Grant Call Information Sheet.*

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* 1. **Research Methodology and Approach**
     1. **Previous Preliminary Work/State of Current Research**

*Describe all prior work, including those by the applicant(s) (Lead PI, Co-Is and Collaborators), that is related and/or relevant to this proposal and any preliminary results that would help support this proposal. Describe the state of current research for the proposed project within Singapore and globally i.e., list researchers who are working in similar areas/projects and highlight their current work. Where relevant, (i) highlight whether there are similar commercially available solutions, and how this research is different, and; (ii) highlight the novelty of the proposed R&D work, and how this work will address the limitations in existing R&D efforts/market solutions.*

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* + 1. **Proposed Approach and Methodology**

*Describe the research approach, and highlight the novelty of the research and how it differs from existing efforts. Highlight the technical challenges and the corresponding mitigation measures.*

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* + 1. **Research Component to Be Done Overseas (If Applicable)**

*Specify and justify any research work that is intended to be done overseas, listing the key deliverables and funding required. The funding required for overseas work should be clearly indicated in the “Budget Template (Form B)”. Please note that any research work to be done overseas using the awarded funding must be expressly approved by the Grantor.*

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* + 1. **Declaration of Other Substantially Similar Projects**

Please indicate (Yes/No) if the Lead PI, Co-I(s), or Collaborator(s) have submitted other project proposals, with substantially similar scope to this project, for grant application under other funding initiatives/grants.

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| Yes: |  |  | No: |  |

If yes, please provide the details in the table below. Please note that this project proposal will not be considered until the results from the other funding initiatives/grants are finalised. Please also complete a more detailed declaration of other funding support in the “Budget Template (Form B)”.

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| --- | --- | --- | --- |
| **Funding Initiative/Grant** | **Funding Agency** | **Total Amount**  **(S$ ‘000)** | **Years of Support** |
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* + 1. **Data Requirements (If Applicable)**

*Highlight all the datasets necessary to be obtained from other sources (e.g. government agencies, collaborating companies etc.) for this project. Include details on data parameters needed, resolution, and whether each type of data, if unavailable, would impact the success of the project. Please also highlight mitigation measures.*

*Highlight all the datasets to be measured/collected within this project. Include details on data parameters to be measured, data collection plans, potential challenges, and mitigation measures.*

*Please note that data to be collected in the project could be shared, unless they are commercial data or bounded by NDAs. This applies to all publicly funded projects and is meant to maximise synergies across projects requiring similar data and minimise duplicative work.*

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* + 1. **Approval(s) for Work (If Applicable)**

*Summarise any regulatory, institutional, or professional approvals required to execute this project, such as site access permits, safety requirements, or ethics reviews.*

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* 1. **Value Captured/Value Created**
     1. **Deployment/Application of Research Outcomes**

*Describe which areas (e.g., physical locations, policies, operational processes, etc.) in Singapore this project could positively impact,* *and the proposed plans to facilitate the deployment or application of research outcomes. Where relevant, identify the site(s) for test-bedding/deployment, and the rationale for choosing these sites. Clearly identify the key translation partners (both public agency or industry) that the research team will work with to bring the research outcomes to deployment or application.*

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* + 1. **Industry Collaboration Plan to Translate Upstream Research to Downstream Implementation**

*State the industry collaborators involved in the project, their roles, and the plan to translate upstream research to downstream implementation. Please indicate N.A. if this section is not applicable to this project.*

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* + 1. **Commercialisation/Export Plan**

*Please indicate the current Technology Readiness Level (TRL) and expected end TRL of this project based on the table below.*

*Describe the commercialisation plan (e.g. licensing of IP generated, export of product overseas) for the proposed R&D products/solutions and the prospects for successful exploitation (i.e., large international market demand, etc), including the time to market, and the addressable market for the technology, both locally and overseas. List the expected intellectual property (in the form of patents and technology disclosures) likely to be generated from this project, if any. Please indicate N.A. if these plans are not applicable to this project.*

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| **Current TRL:**  **Expected end TRL:** |

**Technology Readiness Levels**

*Technology Readiness Level (TRL) is a widely used indicator of the degree of development of a technology toward deployment on a scale of 1 – 9.*

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| **Level** | **Stage** | **Description** |
| 9 | Production | Actual system, proven through successful mission operations |
| 8 | Full-scale development | Actual system completed and operationally qualified through test and demonstration |
| 7 | Exploratory development | System prototype demonstration in an operational environment |
| 6 | System/ sub-system model or prototype demonstration in a relevant environment |
| 5 | Component and/ or basic sub-system validation in relevant environment |
| 4 | Technology development | Component and/ or basic sub-system technology validation in laboratory environment |
| 3 | Analytical and laboratory studies to validate analytical predictions |
| 2 | Technology concept and/ or application formulated |
| 1 | Basic principles of technology observed and reported |

* 1. **Research Team**

*CVs of the Lead PI, Co-I(s) and Collaborator(s) should be attached in a separate document (see format in Annex A).*

* + 1. **Expertise and Effort Level of Lead PI**

*Please indicate the role and contribution of the Lead PI and describe his/her capabilities and expertise that are relevant for this project. Briefly describe the plans for interaction among the team member(s) and collaborators in achieving the research objectives. Where relevant, indicate whether the Lead PI has any prior experience in IP commercialisation, such as via licensing or creating spin-offs.*

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* + 1. **Expertise and Effort Level of Co-I(s) and Collaborator(s)**

*Please indicate the role and contribution of each Co-I and Collaborator, and his/her capabilities and expertise that are relevant for this project. Where relevant, indicate whether the Co-I(s) and/or Collaborator(s) have any prior experience in IP commercialisation, such as via licensing or creating spin-offs.*

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* 1. **Outcomes and Deliverables**
     1. **Project Deliverables**

*List and describe the expected deliverables for the project, taking into account those described in the Information Sheet where applicable. Please also complete the separate attachment “Capability Indicators Template (Form C)”.*

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* + 1. **Project Implementation Schedule**

*Please list the proposed project activities/milestones and deliverables, and their delivery timelines (see example below). These project activities/milestones and deliverables should be as specific as possible, and will be tracked throughout the project. Please add/delete rows/columns where necessary.*

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| **Research**  **Activities/Milestones &**  **Deliverables** | **Year 1** | | | | **Year 2** | | | |
| **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** |
| ***e.g., Activity/Milestone 1*** |  |  |  |  |  |  |  |  |
| ***e.g., Deliverable 1*** |  |  |  |  |  |  |  |  |
| ***e.g., Activity/Milestone 2*** |  |  |  |  |  |  |  |  |
| ***e.g., Activity/Milestone 3*** |  |  |  |  |  |  |  |  |
| ***e.g., Deliverable 2*** |  |  |  |  |  |  |  |  |
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1. **SUGGESTED NAMES OF TECHNICAL PEER REVIEWERS**

The applicant(s) is invited to submit the names and contact details (organisation and email address) of at least (3) three experts, including at least (1) one international expert, in the field as possible reviewers for the proposal. The proposed reviewer list should not include anyone who may have a conflict of interest in reviewing the proposal, such as former advisers, students, or recent collaborators. It will be the MCCS Programme Office’s decision whether to use the reviewers suggested. Please indicate NIL for sections that are not applicable.

* 1. **Proposed Reviewer List**

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| --- | --- | --- | --- | --- | --- |
| **S/N** | **Salutation/ First Name/ Last Name** | **Institution/ Designation** | **Tel/ Fax/ Address/ Email** | **Relationship** | **Expertise** |
| **1** |  |  |  |  |  |
| **2** |  |  |  |  |  |
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1. **DECLARATIONS**

We affirm that all information provided in this proposal is complete and accurate to the best of our knowledge and ability at the time of preparation.

We affirm that we have reviewed and understand the application requirements for the Grant Call. We acknowledge that the submission of this proposal signifies unconditional acceptance of the terms and conditions applicable to the grant.

We, the applicant(s), of the proposal agree that (i) the MCCS Programme Office is under no obligation to accept the proposal, and (ii) the applicant(s) shall abide by the decisions of the MCCS Programme Office.

**PROPOSAL TITLE:**

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| Signature of Lead Principal Investigator (PI): | Organisation: |
| Name (in BLOCK LETTERS): | Contact Number: |
| Lead PI’s Designation: | E-mail Address: |

**(1) Supported by Head of Department or equivalent position holder in the organisation**

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| Signature: | Designation: |
| Name (in BLOCK LETTERS): | Date (DD/MM/YY) |

**(2) Endorsement by organisation (Research Director, CEO, MD or equivalent)**

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| Signature: | Stamp of Organisation |
| Name (in BLOCK LETTERS)/ Designation: | Date (DD/MM/YY) |

**NOTE:**

**Only application forms that are duly signed and endorsed and submitted to the IGMS website within the stipulated period will be accepted for review and evaluation.**

**ANNEX A: CURRICULUM VITAE**

CVs should be provided for PI, Co-Is, and collaborators.

Please use the format below to provide the required information on the research team. Please indicate “**NA”** beside the label field if the required information is not applicable. Please limit the CVs to **2 pages** for each team member.

* Name
* Title
* Office Mailing Address
* Email
* Contact No.
* Current Position (Please provide full details, e.g. primary appointment, joint appointments; other academic appointments including those outside of Singapore; percentage of time spent in Singapore every year, if applicable)
* Employment History
* Academic qualifications (Indicate institution’s name and year degree awarded)
* Professional Awards
* Research interests
* Top 5 publications in the last 5 years that pertains to the proposed project/programme
* Patents filed (related or unrelated to the study)
* Summary of the most relevant research outcomes from all previous grants (e.g. patents, awards, etc) [please limit to half a page]