

Southern Cross University **(Grant Recipient)**

Military Road Lismore, NSW 2480, Australia

22 August 2025

Attention: Daniel Harrison

Dear Daniel,

FPCW-PR01-P014 Marine Cloud Brightening in a complex world – moving beyond the Twomey effect –  
**Standard Grant Funding Letter**

Congratulations, we can't wait to see what you will achieve and very much look forward to working with you and your team.

You recently submitted an application in response to Exploring Cooling Climate and ARIA is pleased to offer you a Grant for the performance of the Project Activities up to the Maximum Sum, subject to your agreement to, and compliance with, the terms and conditions set out in this Grant Funding Letter and its Schedules.

## 1. Overview of the Grant

Any reference in this letter to "you" or "your" means the Grant Recipient and any capitalised terms have the meanings given in the ARIA Grant Conditions (Conditions).

The key elements of the Grant are described in the table below:

<b>Project Activities</b>	Marine Cloud Brightening in a complex world – moving beyond the Twomey effect A more detailed description of the Project Activities is set out in Schedule 2 (Project Activities).
<b>Maximum Sum of the Grant (inclusive of taxes)</b>	£1,035,718 (inclusive of all taxes where applicable)
<b>Commencement Date</b>	The commencement date is 25 August 2025
<b>Completion Date</b>	The completion is 24 March 2027
<b>Grant Review Intervals</b>	ARIA will review the Grant at quarterly intervals using the process referred to in clause 6 of the Conditions

<b>Adequate Insurance</b>	Employers' liability - as required by the relevant legislation  Public liability: AUD\$20 million (per year in aggregate)	
<b>Monitoring and Reporting</b>	The performance reports referred to in clause 7 of the Conditions shall be provided at the frequency identified in Schedule 2 to the ARIA point of contact as set out in the project kick-off documentation.	
<b>Project Representative</b>	Associate Professor Daniel Harrison  ████████████████████  ████████████████  National Marine Science Centre  Southern Cross University  ████████  ████████████████████  ████████	
<b>Grant Manager</b>	Mark Symes, Programme Director ████████████████████	
<b>Escalation Contacts</b>	<b>ARIA</b>	<b>Grant Recipient</b>
	Chief Product Officer  ██████████████████	██████████████████ ████████████████████  ██████████████████  ████████████████████
<b>Notices</b>	ARIA Contracts  ██████████████████	██████████████████ ████████████████████  ██████████████████  ████████████████████

## **2. Confirmation of Bank Details**

- 2.1. You must complete and sign the Confirmation of Bank Details form available [here](#) as part of your acceptance of the Grant and return it to [REDACTED]

## **3. The Grant Agreement**

- 3.1. Once you sign a copy of this Grant Funding Letter in accordance with paragraph 6 (Acceptance) below, it will form a binding "**Grant Agreement**" between you and ARIA that includes and incorporates the following documents:

- 3.1.1. the **Grant Conditions** in Schedule 1;
- 3.1.2. the **Project Activities, Milestones** and **Grant Application** in Schedule 2;
- 3.1.3. the **Royalty percentages** (including annexes) in Schedule 3; and
- 3.1.4. the terms relating to Data Protection in Schedule 4.

- 3.2. The parties confirm that it is their intention to be legally bound by the Grant Agreement.

## **4. Warranties**

- 4.1. By signing this Grant Funding Letter, you warrant and represent that:
- 4.1.1. your obligations under the Grant Agreement are legal, valid, binding and enforceable;
  - 4.1.2. all authorisations and consents necessary to enable you to enter into and perform the obligations in the Grant Agreement have been obtained;
  - 4.1.3. the person signing the Grant Agreement is duly authorised to sign on your behalf; and
  - 4.1.4. your Project Representative referenced in the table above is authorised to make decisions and provide information on your behalf.

## **5. Amendments to the Grant Conditions**

Not Used

## **6. Acceptance**

- 6.1. To accept this Grant Funding Letter, please arrange for an authorised signatory to sign and date the duplicate copy of this Grant Funding Letter as indicated below, and return to ARIA as a complete signed original of the Grant Agreement including its Schedules, accompanied by evidence of the authorised signatory's authority to enter into the Grant Agreement and to bind the Grant Recipient.
- 6.2. The offer of this Grant Funding Letter will expire on 25 August 2025.

Yours sincerely

for and on behalf of ARIA

Name of ARIA signatory:

Position Held:

Date:

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I confirm the agreement of Southern Cross University to the terms and conditions in this Grant Funding Letter and its Schedules.

Signature:

Name: Professor Mary Spongberg

Position: Senior Deputy Vice Chancellor

Date:

## **SCHEDULE 1 - GRANT CONDITIONS**

### **1. PRECEDENCE**

- 1.1 Where there is any conflict between the documents that make up the Grant Agreement the conflict will be resolved in accordance with the following order of precedence:
- (a) the Grant Funding Letter;
  - (b) these Conditions;
  - (c) the remaining Schedules to the Grant Agreement with the exception of Schedule 2 Part 2 (the Grant Application);
  - (d) Schedule 2 Part 2 (the Grant Application); and
  - (e) any other documents incorporated by reference in, or developed in accordance with, the Grant Agreement.

### **2. DURATION AND PURPOSE OF THE GRANT**

- 2.1 The Grant Agreement will subsist for the duration of the Funding Period unless extended by written agreement signed by a duly authorised representative of the parties or terminated earlier in accordance with its terms. Any provision of the Grant Agreement that expressly or by implication is intended to come into or continue in force on or after termination or expiry of the Grant Agreement shall remain in full force and effect, including clauses 1, 2, 4, 7.4, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22.3, 22.7, 22.8, 22.11, 22.12, 23, 24, 26, 27, 28, and 30.
- 2.2 You may only use the Grant for carrying out the Project Activities. You may not make any changes to the Project Activities without ARIA's prior written agreement.
- 2.3 You may not unreasonably withhold, condition or delay your agreement to any changes requested by ARIA to the Project Activities or the amount of the Grant. Any agreed change will be recorded in a written variation to the Grant Agreement in accordance with clause 26.

### **3. ENVIRONMENTAL AND SAFETY REQUIREMENTS**

- 3.1 In performing the Project Activities, you shall meet the requirements of all applicable Laws regarding the environment and safety, including laboratory safety requirements, in all material respects.

### **4. PAYMENT OF GRANT**

- 4.1 Subject to the remainder of this clause 4, ARIA will pay the Grant to you:
- (a) up to the Maximum Sum;
  - (b) in pounds sterling (GBP) by wire transfer into your bank account, details of which you provided in the Confirmation of Bank Details form attached to the Grant Funding Letter; and
  - (c) if a tax is chargeable in respect of the Grant, all payments will be deemed to be inclusive of all such taxes and ARIA will not be obliged to pay any additional amount.
- 4.2 The bank account of which you provided details in your Confirmation of Bank Details form (and any alternative bank details nominated subsequently by you) must be an ordinary business bank account

with appropriate segregation of duties and control. During the Funding Period, you must notify ARIA of any change of bank account details as soon as reasonably practicable on the same form and signed by an approved signatory. You must notify ARIA of any change of signatory for approval, as soon as known.

- 4.3 You will be the sole recipient of the Grant and you will be responsible for managing the Grant as between you and any Third Parties involved in performing the Project Activities. This includes securing the repayment of the Grant if requested by ARIA in accordance with the Grant Conditions, including where the Grant has already been distributed to Third Parties.
- 4.4 You must promptly notify ARIA if any money is incorrectly paid to you for any reason, and must repay it as soon as reasonably practicable. Any amount not immediately repaid will be recoverable as a civil debt.
- 4.5 ARIA reserves the right not to pay any Grant Claims that are not submitted within the period set out in the Grant Funding Letter or that are incomplete, incorrect or not accompanied by full supporting documentation (including any documentation that ARIA reasonably requests).
- 4.6 You may not apply for or obtain Duplicate Funding for any Project Activities.
- 4.7 You may not retain any Unspent Monies and must repay them to ARIA within 30 days after ARIA's request for repayment.
- 4.8 You acknowledge the critical importance of cash flow for Sub-Contractors (including startups and small businesses) and commit to paying all valid and undisputed invoices relating to the Project within a maximum of 30 days from the date of receipt.
- 4.9 Where required, you will work with Sub-Contractors to arrange more frequent payment schedules (e.g., same day, weekly or milestone-based payments) to better support their cash flow needs.

## **5. ELIGIBLE AND INELIGIBLE EXPENDITURE**

- 5.1 ARIA will only pay the Grant for Eligible Expenditure incurred by you in carrying out the Project Activities. You must provide ARIA with any evidence reasonably requested by ARIA (including receipts, invoices and other documentary evidence) that all Grant Claims relate to costs that are Eligible Expenditure.
- 5.2 You may not in any circumstance claim as Eligible Expenditure paid-for lobbying, which means using the Grant to fund lobbying (via an external firm or in-house staff) in order to undertake activities intended to influence or attempt to influence Parliament, government or political activity; or attempting to influence legislative or regulatory action.

## **6. GRANT REVIEW**

- 6.1 ARIA will review the Grant at the intervals specified in the Grant Funding Letter. The review will take into account your carrying out of the Project Activities against the Milestones. As part of the ARIA review process, ARIA will review the reports produced by you in accordance with clause 7.3.

- 6.2 Following the review carried out under clause 6.1, ARIA may choose to do any of the following, taking into account any representations made by you in the course of the review:
- (a) consent to the Project Activities and the Grant Agreement continuing in line with existing plans;
  - (b) increase or decrease the Grant for the remainder of the Funding Period, as applicable;
  - (c) redefine the Milestones;
  - (d) require you to carry out remedial activity with the aim of improving delivery of the Project Activities; and/or
  - (e) terminate the Grant Agreement in accordance with clause 22.
- 6.3 Any change to these Grant Terms, the Project Activities, or the Grant pursuant to clause 6.2(a), 6.2(c) or 6.2(d) will be recorded in a written variation to the Grant Agreement in accordance with clause 26.
- 6.4 For the avoidance of doubt any decision to terminate the Grant Agreement as a result of a Go/No Go Milestone will be made at ARIA's sole discretion and done so in accordance with clause 22.6.

## **7. MONITORING AND REPORTING**

- 7.1 You must closely monitor the carrying out of the Project Activities throughout the Funding Period and must notify ARIA as soon as reasonably practicable of any actual or potential failure to comply with any of your obligations under the Grant Agreement.
- 7.2 ARIA does not limit its engagement with you to purely administrative activities and will require details of all Results and all material Foreground IP, so you must allow ARIA personnel to visit your premises at a reasonable frequency and at dates and times agreed with you to liaise with your applicable researchers for the purpose of identifying Foreground IP, evaluating Milestones and assessing progress with the Project Activities. ARIA will treat the Results and Foreground IP, and other information it learns from such visits, as your Confidential Information under clause 11.
- 7.3 You must provide ARIA with:
- (a) the Milestones and a report on your performance against the Milestones at the intervals and for the periods of time specified in the Grant Funding Letter. ARIA may copy and adapt the contents of any of the Milestones and those reports for ARIA's internal use to review, develop and shape ARIA's funded research programmes, but ARIA will treat those contents as your Confidential Information under clause 11;
  - (b) any assistance and information reasonably requested by ARIA to establish whether you have used the Grant in accordance with the Grant Agreement; and
  - (c) a quarterly report on the use of the Maximum Sum, details broken down in accordance with ARIA's prescribed form.

- 7.4 ARIA is built for long-term impact and needs to be kept informed of the impact of its funding activities and compliance with the terms of the Grant Agreement. ARIA will therefore have the right to make reasonable requests for information from you, from time to time for a period of 10 years after the end of the Funding Period about the impact metrics, commercial exploitation or other dissemination of the Results and how this has benefited the United Kingdom. You must respond and provide the information requested within one month (unless ARIA specifies otherwise). If requested, ARIA will treat the information provided as your Confidential Information under clause 11. Nothing in this Grant Agreement will be deemed to limit ARIA's ability to use, share or publish such information as part of aggregated and anonymised reporting. This clause 7.4 shall survive termination or expiry of this Grant Agreement.

## **8. AUDITING AND ASSURANCE**

- 8.1 For Grants over £500k: Annually, and on each anniversary of the Commencement Date and at the end of the Funding Period you must provide ARIA with independent assurance that the Grant has been used for carrying out the Project Activities. To satisfy this requirement you must provide a statement showing that the use of the Grant has been certified by an appropriately qualified auditor or accountant within your organisation.
- 8.2 Subject to clause 11, ARIA and/or its authorised representative may, at any time during the Funding Period and for up to 7 years after the end of the Funding Period, conduct audits in relation to your use of the Grant and your compliance with the Grant Agreement. You must act reasonably in cooperating with any such audit, including by granting access to relevant documentation, premises and personnel.
- 8.3 You must:
- (a) maintain an appropriate system of financial management and controls, maintain detailed records in relation to those controls, and provide copies of those records to ARIA on request; and
  - (b) retain, and procure that your Sub-Contractors retain and will provide to you on request, all relevant documentation relating to the Eligible Expenditure (including invoices, receipts and accounting records) during the Funding Period and for a period of 7 years thereafter.

## **9. FINANCIAL MANAGEMENT**

- 9.1 You must:
- (a) maintain a sound administration and audit process, including internal financial controls, to safeguard against fraud and theft, money laundering, terrorist financing or any other impropriety, or mismanagement in connection with the administration of the Grant; and
  - (b) notify ARIA of any actual or suspected cases of fraud, theft or financial irregularity relating to the Project Activities as soon as they are identified, and keep ARIA informed of your remedial actions.



9.2 In the event of any actual or suspected fraud, theft or other financial irregularity (which includes use of the Grant for any purpose other than that envisaged by the Grant Agreement), ARIA may, at its absolute discretion:

- (a) require you to take any remedial steps that ARIA may reasonably specify; and/or
- (b) suspend the Project Activities and future payment of the Grant to you,

and in all cases you must explain to ARIA what steps are being taken to investigate the fraud, theft or irregularity (as applicable) and must keep ARIA informed about the progress of any such investigation. You must, if required by ARIA, refer the matter to an external auditor or any other relevant Third Party.

## **10. CONFLICTS OF INTEREST**

10.1 You must inform ARIA promptly of any actual, perceived or potential conflicts between your and your Representatives' obligations under the Grant Agreement and your and their personal, business or professional interests. You must have adequate procedures to manage and monitor any actual or potential conflicts of interest, whether identified in the application process or notified to ARIA during the Funding Period.

10.2 If ARIA is not satisfied that you are adequately managing any actual or potential conflicts of interest, or that these conflicts are not capable of such management, the parties will discuss the issues raised and try to agree a resolution. If this is not possible, ARIA may request you or your Representative to cease the conflicting activity and if that is not acceptable to you or your Representative, either party may terminate the Grant Agreement on at least 30 days' notice in writing.

## **11. CONFIDENTIALITY**

11.1 Except to the extent set out in this clause 11 or where disclosure is expressly permitted by the other party, each party must treat all Confidential Information belonging to or disclosed by the other party as confidential and will not disclose any such Confidential Information to any other person without the prior written consent of the other party, except to any persons who are directly involved in the provision of the Project Activities, who need to know the information and who are subject to binding obligations of confidentiality to the disclosing party.

11.2 ARIA may publish a summary of the Grant Agreement in any medium (having redacted both parties' Confidential Information), including a summary of any changes to the Grant Agreement agreed from time to time. Additionally, ARIA may publish a copy of the Milestones (in whole or in part) in any medium (provided that, where such Milestones contain or constitute your Confidential Information, ARIA has given you a reasonable opportunity to make representations in respect of any redactions or amendments you wish to be applied). For the avoidance of doubt, ARIA's publication rights under this clause 11.2 are exercisable at ARIA's sole discretion.

11.3 Nothing in this clause 11 will prevent either party disclosing any Confidential Information of the other party:

- (a) for the purpose of the examination and certification of its accounts and/or pursuant to section 6(1) of the National Audit Act 1983;

- (b) to any government department, consultant, contractor or other person engaged by that party, provided that such party only discloses information necessary for the purpose concerned and obtains appropriate confidentiality undertakings in relation to such information;
- (c) where disclosure is required by Law, including under the Information Acts to the extent they apply to that party and where no exception to disclosure under them is applicable; or
- (d) where that party (acting reasonably) considers disclosure necessary or appropriate for the carrying out of its public functions.

11.4 Nothing in this clause 11 will prevent either party from using any techniques, ideas or know-how gained during the performance of its obligations under the Grant Agreement in the course of its normal business or activities, to the extent that this does not result in a disclosure of the other party's Confidential Information or an infringement of the other party's Intellectual Property Rights.

## **12. STATUTORY DUTIES**

- 12.1 Each party must comply with its obligations under the Law, including where applicable the Information Acts, the EA and the HRA and you shall notify ARIA immediately of any investigation of or proceedings against you under the EA.
- 12.2 You acknowledge that ARIA is subject to requirements under the Information Acts (other than the FOIA) and you will provide reasonable assistance and cooperation to ARIA to assist ARIA's compliance with its information disclosure obligations.
- 12.3 You acknowledge that ARIA, acting in accordance with the Information Acts (other than the FOIA), may disclose information concerning you and the Grant Agreement without consulting you. ARIA must take reasonable steps to notify you of any request for information to the extent permissible and reasonably practical and will give you adequate opportunity to make representations before ARIA discloses any information relating to such matters. ARIA will be responsible for determining in its absolute discretion whether any information is exempt from disclosure in accordance with the Information Acts.
- 12.4 Where you are subject to the Information Acts and receive a request for disclosure that relates to ARIA or the Grant Agreement you will notify ARIA and give ARIA adequate opportunity to make representations to you before you disclose any information relating to such matters.
- 12.5 You must take account of the requirements of the National Security and Investment Act 2021 before assigning or licensing Results or Foreground IP. You are encouraged to give a voluntary notice to the Secretary of State under the Act in advance of any such assignment or licence if the assignment or licence is likely to meet the requirements of section 18 of the Act and inform ARIA if any mandatory or voluntary notification is made.
- 12.6 You must take account of the Secure Innovation and Trusted Research Guidance. You must also consider any risks to the physical safety and security of the public and implement any appropriate

mitigations and measures where the Project Activities you carry out have the potential to interact with the public.

### **13. DATA PROTECTION**

- 13.1 Each party must comply at all times with its obligations under the Data Protection Legislation. At ARIA's request you must provide ARIA with all relevant documents and information relating to your data protection policies and procedures that ARIA may reasonably request.
- 13.2 The parties do not envisage that either party will process any Personal Data for or on behalf of the other party under or in connection with the Grant Agreement. If either party anticipates that the other will process any Personal Data on its behalf under the Grant Agreement it must notify the other party and the parties must agree a variation to the Grant Agreement under clause 26 to incorporate appropriate provisions (such as those set out in Schedule 4) in accordance with, or as otherwise required by, the Data Protection Legislation.

### **14. SUBSIDY CONTROL AND STATE AID**

- 14.1 ARIA intends that the Grant complies with the Subsidy Control Act 2022 on the basis that the Project Activities are not economic activities and do not give a specific advantage to one or more enterprises. You must take all reasonable steps to maintain this position and to assist ARIA to comply with the requirements of the Act and must cooperate with any investigations under the Act.
- 14.2 Where the EU state aid laws apply to the Grant (where the Project Activities will affect trade between Northern Ireland and the EU), you acknowledge that the Project Activities are designed and performed so they are compatible with state aid laws. You will take all reasonable steps to assist ARIA to comply with state aid law requirements and cooperate with any investigations by the European Commission into the Project Activities.
- 14.3 ARIA will immediately stop future payments of the Grant and may require repayment of some or all of the Grant if subsidy control or state aid laws so require for the funding to be compliant.

### **15. INTELLECTUAL PROPERTY RIGHTS**

- 15.1 You must act in good faith and comply with the spirit of clauses 15 and 16 and not seek to avoid their application by artificial means.

#### **Background IP**

- 15.2 The Grant Agreement does not affect the ownership of your Background IP. You must notify ARIA during the Funding Period if any additional Background IP is required either to carry out the Project Activities or to exploit commercially any of the Results.

#### **Foreground IP ownership**

- 15.3 You will own all Foreground IP unless your policy is for individual researchers, including students, to own the Foreground IP they create, or you agree your Sub-Contractor (or another third party) will own

all, or parts of, the Foreground IP. Where your Sub-Contractor, students or individual researchers (or any other third party involved in the performance of the Project Activities) will own any of the Foreground IP you must impose on them the obligations relating to Foreground IP and Results contained in clauses 15 and 16. The Parties acknowledge that copyright in a student's thesis will be owned by the student who has authored that work. Where you assign any Foreground IP to a Third Party (including your technology transfer company) you must impose on that Third Party the obligations relating to Foreground IP and Results contained in clauses 15 and 16.

- 15.4 You must submit all (i) all patents within or covering the Foreground IP and (ii) data generated from any activities or experiments identified in the Project Activities to the Future Proofing our Climate and Weather Intellectual Property Pledge promptly following creation or filing (as applicable) of such patents and/or data (unless otherwise agreed in writing with, or instructed by, ARIA). For clarity, your rights to use and commercialise Foreground IP set out in clauses 15 and 16 are subject to the terms of the Future Proofing our Climate and Weather Intellectual Property Pledge. You hereby agree to comply and uphold the terms of the Future Proofing our Climate and Weather Intellectual Property Pledge.

#### **Attribution to ARIA**

- 15.5 You must ensure that whenever any Results are used with or communicated to Third Parties or are exploited commercially, ARIA's funding of the Project Activities is suitably accredited in accordance with ARIA's accreditation guidelines in force at the time.

#### **Patenting and publication**

- 15.6 You must ensure that all Foreground IP is protected and managed in a professional manner, which may include patenting of any Results that are patentable.
- 15.7 You must notify ARIA, where practicable, at least 30 days (and in any event at least 48 hours) before publication of any Results by any person. This is intended to give ARIA the opportunity to discuss with you the possibility of filing a patent application before publication, and if appropriate assisting you with that process.
- 15.8 You must give ARIA as much notice as possible, but no less than 30 days' notice, of any decision to abandon or withdraw patent protection for any of the Results for the lifetime of the relevant patents or such shorter period as is agreed with ARIA so that ARIA can consider whether it wishes to fund future prosecution and maintenance and/or request the assignment of the patents to ARIA or its nominee.

#### **Inventor first preference**

- 15.9 Subject to the terms of the [Future Proofing our Climate and Weather Intellectual Property Pledge] if any inventor or active participant in the Project Activities expresses interest in the exploitation of the Foreground IP they have developed, you must give them an opportunity to negotiate an assignment or commercial licence of the Foreground IP, on reasonable terms, prior to negotiating with any entity in which an inventor or active participant in the Project Activities is not involved as a shareholder or other key stakeholder.

## **16. COMMERCIALISATION OF RESULTS**

- 16.1 Save for Results that are subject to the terms of the Future Proofing our Climate and Weather Intellectual Property Pledge, where they are capable of commercial exploitation you should seek to exploit the Results commercially. This should be done, where applicable, in accordance with the Commercialisation Hypothesis.
- 16.2 Save for Results that are subject to the terms of the Future Proofing our Climate and Weather Intellectual Property Pledge, if for any reason you choose not to exploit any such Results commercially within a reasonable timeframe (or, where applicable, the timeframe set out in the Commercialisation Hypothesis) you are encouraged to discuss the position with ARIA, and you may request that ARIA exploit them or assist you with their exploitation. In this case ARIA may request that you assign the relevant Foreground IP to it or its nominee. Any assignment would include a licence back to the relevant Foreground IP for research purposes.

### **Non-UK Commercialisation**

- 16.3 Save as set out in the Future Proofing our Climate and Weather Intellectual Property Pledge, to avoid any restriction on commercialisation, no consent is required from ARIA for any Non-UK commercialisation or any sale of Foreground IP to a Non-UK Entity. However, ARIA is set up to create value for the UK and therefore you must secure a fee payable to ARIA (**ARIA Non-UK Fee**) in each of the following circumstances:
- (a) where you are a Non-UK Entity;
  - (b) where you become a Non-UK Entity;
  - (c) where you assign or Commercially License any Foreground IP to a Non-UK Entity; or
  - (d) where you have assigned or Commercially Licensed any Foreground IP to a UK Entity that subsequently becomes a Non-UK Entity.
- 16.4 In order to avoid any unnecessary complexity, the ARIA Non-UK Fee will be based on the terms that you agree with any person to which you assign or Commercially License the relevant Foreground IP. This ARIA Non-UK Fee will amount to an additional twenty-five per cent (25%) of the value of the consideration (including upfronts, licence fees, milestone payments, royalties, shares or other securities, buyouts, exit fees and other consideration) that you receive from the exploitation of the relevant Foreground IP during any period that the above circumstances exist.
- 16.5 For example, if you would receive £100 (via royalty or royalty buyout), you must ensure your contractual mechanism enables you to collect an additional £25 and pay that additional amount to ARIA.
- 16.6 The ARIA Non-UK Fee is payable within 90 days after the end of each relevant Financial Year for receipts related to that calendar year. You are encouraged to use the clauses in Annex 1 in your Commercialisation Licences of Foreground IP.

### **Crown Body customers**

- 16.7 You must ensure that any Crown Body is able to procure any products and services that are covered by, use or incorporate the relevant Foreground IP within a reasonable time period at prices that are no

higher than those offered to or agreed with any other customer for equivalent quantities, and in suitable quantities for the Crown Body's requirements.

### **Spin-outs**

- 16.8 ARIA seeks to maximise future investment of entrepreneurial talent and capital in start-up companies commercialising the Results of its funded activities. To that end, having funded the full economic cost of the research, ARIA places restrictions on the level of equity stakes and royalties that you may negotiate in exchange for the assignment or Commercialisation Licence of any Foreground IP.
- 16.9 If you or your technology transfer company assign or licence any Foreground IP to any third party or to a start-up established for the purpose of commercially exploiting the Results (a NewCo) you together with any connected person (including any investment fund to which you may transfer any part of your stake) shall be entitled to:

EITHER

- (a) hold or have the right to hold no more than 10% in fully-dilutable shares or equity (pre investment) in the third party or NewCo (with no other preferential subscription rights), not including any shares or equity subscribed for cash on arm's length terms alongside other investors;

OR

- (b) charge a royalty, with no upfront payments, annual fees, milestone payments or minimum royalties, payable by the third party or NewCo under any licence or assignment of the Foreground IP at no more than the relevant rate, and on the other terms, set out in Schedule 3.

- 16.10 The provisions of clauses 16.9(a) and 16.9(b) shall not apply to any equity taken or royalty charged in consideration of:

- (a) IP other than Foreground IP licensed or assigned to the third party or NewCo; or  
(b) facilities, equipment, personnel or other material support or services provided to the third party or NewCo independent of the Project Activities,  
with such equity or royalty limited to the proportion that reflects the contribution made by IP that is not Foreground IP.

- 16.11 You must notify ARIA in writing before any transaction completes of the overall equity stake or royalty percentages agreed under clause 16.8 (and any impact of clause 16.9, if relevant).

## **17. ASSETS**

- 17.1 You must keep a register during the Funding Period and for up to 7 years after the end of the Funding Period of all Assets, with all relevant details about each Asset. You must use any Assets purchased with Grant monies for the Project Activities, or as agreed between the Parties.

- 17.2 At the end of the Funding Period all equipment purchased for use on the Project with funds provided by ARIA shall remain your property.

## **18. INSURANCE**

- 18.1 You must maintain Adequate Insurance (including public liability insurance) either as a self-insurance arrangement or with an insurer of good repute to cover all insurable claims and liabilities under or in connection with the Grant Agreement. You must provide evidence of that insurance to ARIA on request.

## **19. ASSIGNMENT AND SUBCONTRACTING**

- 19.1 You may not transfer, assign, novate or otherwise dispose of the whole or any part of the Grant Agreement or any rights under it, to another organisation or individual, without ARIA's prior written consent.
- 19.2 You shall not subcontract any of the Project Activities to a Third Party except to the extent permitted, and to the person or persons identified, in Schedule 2 Part 1. You must seek ARIA's prior consent to appoint any new Sub-Contractors not identified in Schedule 2 Part 1. You shall (i) be responsible for the acts and omissions of any Sub-Contractor as though they were your own, and (ii) enter into a written agreement with each Sub-Contractor on terms that are at least as protective of ARIA's rights and interests as the terms of this Grant Agreement and which contains all other provisions as are necessary to ensure that the Sub-Contractor complies with your obligations under this Grant Agreement.

## **20. BORROWING, LOSSES, GIFTS, SPECIAL PAYMENTS**

- 20.1 You must obtain ARIA's prior written consent before:
- (a) borrowing or lending money from any source in connection with the Grant Agreement;
  - (b) giving any guarantee, indemnity, security over any Asset or letter of comfort in relation to the Grant Agreement;
  - (c) making any gift or writing off any debt or liability in connection with the Grant, and must keep a record of all gifts given and received in connection with the Grant.

## **21. PUBLICITY**

- 21.1 The parties will agree the text of a press release or other announcement to publicise the award of the Grant and all such publicity must comply with ARIA's accreditation and branding guidelines. Neither party may make any other press release or announcement about the Grant or publicise details of the Grant Agreement without the other's consent, except as required by Law.
- 21.2 You must comply with all reasonable requests from ARIA to facilitate visits and provide reports, statistics, photographs (with consent of your personnel if required) and case studies that will assist ARIA in its promotional and impact assessment activities relating to the Project Activities.

## **22. EVENTS OF DEFAULT AND TERMINATION**

### **Events of Default**

22.1 ARIA may exercise its rights set out in clause 22.2 if any of the following events occur:

- (a) you fail to comply with any of your obligations under clauses 2.2, 7.2, 9.1, 11, 12, 13, 15.5 or 25, or commit a material breach of any other term of the Grant Agreement in the reasonable opinion of ARIA;
- (b) you do not commence the Project Activities within 30 days after the Commencement Date unless an extension is agreed with ARIA;
- (c) you fail to improve the performance of the Project Activities, notwithstanding your having undertaken the remedial activity agreed with ARIA in the remedial plan under clause 6.2(d);
- (d) you or the researchers involved in the Project Activities obtain any funding from a Third Party that, in the opinion of ARIA, undertakes activities that are likely to bring the reputation of the Project Activities or ARIA into disrepute;
- (e) you provide ARIA with any materially misleading or inaccurate information in your grant application or in subsequent related correspondence;
- (f) you commit a Prohibited Act or fail to report a Prohibited Act to ARIA, whether committed by you or a Third Party, immediately upon becoming aware of it;
- (g) you are subject to an Insolvency Event;
- (h) the Grant or any part of it is held by a court or competent authority to be a prohibited subsidy under the Subsidy Control Act 2022 or an illegal state aid;
- (i) you undergo a Change of Control which will, in the reasonable opinion of ARIA:
  - (i) be materially detrimental to, or result in fundamental changes to, the Project Activities;
  - (ii) result in your being unable to receive the Grant; and/or
  - (iii) raises national security concerns.

#### **Rights reserved for ARIA in relation to an Event of Default**

22.2 If an Event of Default has or may have occurred, ARIA may by written notice to you take any one or more of the following actions:

- (a) suspend the Project Activities and payment of the whole or any part of the Grant for such period as ARIA may determine, acting reasonably;
- (b) reduce the Maximum Sum, in which case the payment of Grant will thereafter be made in accordance with the reduction and notified to you; and/or
- (c) subject to clause 22.4, terminate the Grant Agreement with immediate effect as from the date of service of the notice of that termination.

22.3 Where this Grant Agreement is terminated for an Event of Default described in clause 22.1(f) or 22.1(h), ARIA may require you to repay the entire amount of the Grant previously paid to you.

#### **Opportunity for you to remedy an Event of Default**

22.4 If ARIA wishes to exercise any right under clause 22.2 in connection with an Event of Default which is capable of remedy:



- (a) ARIA will provide reasonable notice to you specifying particulars of the Event of Default, how it must be remedied and the timescales for its remedy; and
- (b) following receipt of a notification under clause 22.4(a), you will be given a reasonable opportunity to remedy the Event of Default before ARIA exercises the relevant right under clause 22.2.

22.5 Without prejudice to any other provision of the Grant Agreement, you may terminate the Grant Agreement on written notice to ARIA if ARIA commits a material breach of the Grant Agreement which is either not capable of being remedied or, if the breach is capable of being remedied, ARIA fails to remedy such breach within 30 (thirty) days of receiving written notice requiring it to do so.

### **General Termination Rights**

22.6 Notwithstanding ARIA's right to terminate the Grant Agreement under clause 22.2(c), either party may terminate the Grant Agreement (in whole or in part) at any time by giving at least 60 days' prior written notice to the other party.

22.7 You must promptly notify ARIA in writing if at any time the principal investigator or any key researcher(s) named in Schedule 2 working on the Project Activities is unable or unwilling to continue to be involved in the Project Activities or is moving to a new organisation without the desire to continue the research. Within 60 days after the date of that notice, you must either:

- (a) nominate one or more successors, subject to ARIA's approval; or
- (b) agree that the Grant is transferred to another organisation subject to your and the new organisation's agreement in writing and ARIA's approval of the transfer

If ARIA is unwilling to accept the nominated successor(s) or does not approve a request for transfer, it may terminate the Grant Agreement by at least 30 days' written notice to you.

### **Consequences of Termination**

22.8 If the Grant Agreement is terminated you must return any Unspent Monies to ARIA within 30 days after the date of the termination notice, save where ARIA gives written consent to their retention.

22.9 Where ARIA terminates the Grant Agreement in accordance with clause 22.6, ARIA will be liable to pay any Unavoidable Costs subject to:

- (a) you taking all reasonable steps to mitigate such loss; and
- (b) the Unavoidable Costs being:
  - (i) proven, reasonable, and not capable of avoidance or recovery;
  - (ii) incurred under arrangements or agreements that are directly associated with this Grant Agreement;
  - (iii) supported by full particulars, including a fully itemised and costed list of such costs, with supporting evidence and copies of any relevant Sub-Contracts, and such information has been provided to the reasonable satisfaction of ARIA;

- (iv) costs not relating to Sub-Contracts with an entity which directly or indirectly controls you, is controlled by you, or is under direct or indirect common control with you;
- (v) costs that would not have been incurred had this Grant Agreement continued until the end of the Funding Period as set out in the Grant Funding Letter (or, if it has been extended, the expiry of such additional period).

- 22.10 You shall ensure that any Sub-Contract, or the part of the Sub-Contract which relates to the Services, over £250,000 will terminate automatically and immediately upon termination of this Agreement.
- 22.11 If requested by ARIA from time-to-time, you must (acting in good faith) provide ARIA with a reasonable estimate of the Unavoidable Costs which would be payable under this Grant Agreement in the event that the Grant Agreement was terminated (calculated on the basis described in clause 22.8).
- 22.12 ARIA's total liability under clause 22.9 shall be limited to the Maximum Sum under the Grant Agreement (or relevant part), including any sums paid, due or becoming due to you at the date of termination.
- 22.13 If the Grant Agreement is terminated or expires ARIA will not be liable to pay any of your costs or those of any of your contractors or suppliers related to any transfer or termination of employment of any employees engaged in the provision of the Project Activities, unless they have been hired for the purpose of the Project Activities, are specified personnel in the Grant Funding Letter and are normal statutory or contractual requirements. You must at ARIA's request promptly prepare a written exit plan to provide for the cessation or seamless transfer to a Third Party of the Project Activities following expiry or termination of the Grant Agreement.

## **23. DISPUTE RESOLUTION**

- 23.1 The parties must use all reasonable endeavours to resolve in good faith any dispute that arises during the term of the Grant Agreement.
- 23.2 All disputes and complaints must be referred in the first instance to the Grant Manager and the Project Representative.
- 23.3 If the dispute cannot be resolved between the Grant Manager and the Project Representative within a maximum of 15 Working Days, then the matter will be escalated to a formal meeting between the parties' Escalation Contacts.

## **24. LIMITATION OF LIABILITY**

- 24.1 Neither party's liability for any of the following shall be subject to the limitations or exclusions of liability otherwise provided for in this clause:
- (a) fraudulent misrepresentation or any other fraudulent act or omission;
  - (b) payment of sums properly due and owing to the other in the normal course of performance of this Grant Agreement;
  - (c) a breach of clause 13;

- (d) liability arising under any indemnity in this Grant Agreement; or
- (e) liability which may not lawfully be excluded or limited.

24.2 Subject to clause 24.1, ARIA accepts no liability for any consequences or Losses (except, for clarity, as set out in this Grant Agreement or for ARIA's breach of this Grant Agreement), whether arising directly or indirectly, that may arise in connection with:

- (a) your carrying out the Project Activities;
- (b) the use of the Grant by any person;
- (c) any reduction, suspension, withdrawal or request for repayment of the Grant in accordance with this Grant Agreement; or
- (d) termination of the Grant Agreement in accordance with this Grant Agreement.

24.3 Subject to clause 24.1, neither party will be liable to the other party, whether for breach of contract, tort (including negligence) or otherwise, for:

- (a) loss of profit, sales or turnover;
- (b) loss of contracts or business opportunities;
- (c) loss of anticipated savings;
- (d) loss of goodwill or damage to reputation; or
- (e) any indirect, special or consequential loss or damage;

in each case arising out of or relating to the Grant Agreement, whether or not such loss or damage was foreseeable or the other party was advised of its possibility.

24.4 Subject to clause 24.1, each party's total aggregate liability arising out of or relating to the Grant Agreement or its subject matter or anything which it has done or not done in connection with the Grant Agreement or its subject matter (whether for breach of contract, tort, including negligence, or otherwise), will not exceed the amount of the Maximum Sum.

24.5 You shall under no circumstances in connection with this Grant Agreement be entitled to recover damages, or obtain payment, reimbursement, restitution or indemnity more than once in respect of the same loss, shortfall, damage, deficiency, breach or other event or circumstance.

24.6 ARIA shall be entitled to set off any of your outstanding liabilities against any amounts that are payable by it pursuant to this Grant Agreement.

## **25. RESEARCH ETHICS AND CODE OF CONDUCT**

25.1 As a recipient of a Government grant you must operate in accordance with the Concordat.

25.2 All research data:

- (a) must be generated using sound scientific techniques and processes;
- (b) must be accurately recorded in accordance with good scientific practices by the people conducting the research; and

- (c) must be analysed appropriately, without bias and in accordance with good scientific practices.

25.3 The Results must be stored securely and be easily retrievable with document trails that allow reconstruction of key decisions and conclusions of the Project.

25.4 You must comply with the Code of Conduct and ensure that your Representatives undertake their duties in a manner consistent with the principles set out in the Code of Conduct. You must immediately notify ARIA if you become aware of any actual or suspected breaches of the principles contained in the Code of Conduct.

## **26. VARIATIONS**

26.1 Any variation to the Grant Agreement will only be valid if it is agreed in writing and signed by an authorised representative of each party.

## **27. GENERAL**

27.1 Notices: All notices and other communications in relation to this Grant Agreement must be in writing and will be deemed to have been duly given if personally delivered, e-mailed, or mailed (first class postage prepaid) to the address of the relevant party as stated in clause 2.1 of the Offer Letter. If personally delivered or if e-mailed all such communications will be deemed to have been given when received (except that if received on a non-working day or after 5.00 pm on any Working Day they will be deemed received on the next Working Day) and if mailed all such communications will be deemed to have been given and received on the third Working Day following such mailing.

27.2 Change of control: You must notify ARIA as soon as practicable in writing of any arrangements that are in progress or in contemplation that if completed will result in a Change of Control, and must provide to ARIA sufficient details about the circumstances surrounding the proposed Change of Control and the identity of the proposed acquiror to allow ARIA to assess whether clause 22.1(i) is likely to apply.

## **28. GOVERNING LAW**

28.1 This Grant Agreement (including any non-contractual disputes or claims arising in connection with this Grant Agreement) will be governed by and construed in accordance with the laws of England and Wales and the parties irrevocably submit to the exclusive jurisdiction of the courts of England and Wales.

## **29. NOT USED**

## **30. DEFINITIONS AND INTERPRETATION**

30.1 Where they appear in these Conditions or the Grant Agreement:

**Adequate Insurance** means the insurance requirements and amounts set out in the Grant Funding Letter.

**Asset** means any asset that is purchased, improved or developed using the Grant including equipment and fixed assets;

**Background IP** means IP that is:

(a) owned by or licensed to a party prior to the Commencement Date; or  
(b) developed by or on behalf of a party during the Funding Period but not in connection with the Project Activities,

and is in either case used in connection with the Project Activities;

**Bribery Act** means the Bribery Act 2010 and any subordinate legislation made under that Act from time to time together with any guidance or codes of practice issued by the relevant government department concerning this legislation;

**Change of Control** means the sale of all or substantially all your assets; any merger, consolidation or acquisition of you with, by or into another person, or any change in the ownership of more than fifty percent (50%) of your voting capital in one or more related transactions;

**Code of Conduct** means the Code of Conduct for Recipients of Government General Grants published by the Cabinet Office in November 2018 which is available (at the Commencement Date) at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/754555/2018-11-06\\_Code\\_of\\_Conduct\\_for\\_Grant\\_Recipients.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/754555/2018-11-06_Code_of_Conduct_for_Grant_Recipients.pdf)

including any subsequent updates from time to time;

**Commencement Date** means the date set out in the Grant Funding Letter;

**Commercialisation Licence** means a licence of IP other than a research or evaluation licence and/or subcontract manufacture (and **Commercially License** means to license under a Commercialisation Licence);

**Commercialisation Hypothesis** means the exploitation plan approved by ARIA and set out at Schedule 2 Part 2, as may be amended by agreement between the parties during and after the Funding Period;

**Completion Date** means the date set out in the Grant Funding Letter;

**Concordat** means the Concordat to Support Research Integrity which can be found at <https://ukrio.org/about-us/the-concordat-to-support-research-integrity/>

**Conditions** means these ARIA Grant Conditions;

**Confidential Information** means any information (however conveyed, recorded or preserved) disclosed by or on behalf of a party to the other party, whether before or after the date of the Grant Agreement, that ought reasonably to be considered to be confidential (whether or not it is so marked), (a) including: (i) information relating to the business, affairs, customers, clients, suppliers or plans of the disclosing party; (ii) the operations, processes, product information, know-how, designs, trade secrets or software of the disclosing party; (iii) any information developed by the parties in the course of carrying out the Project Activities; (iv) Personal Data supplied by either party to the other for the purposes of, or in connection with, the Grant Agreement; and (v) and any information derived from any of the above,

(b) but not including information which: (i) was public knowledge at the time of disclosure (otherwise than by breach of clause 11); (ii) was in the possession of the receiving party, without restriction as to its disclosure, before receiving it from the disclosing party; (iii) is received from a Third Party (who lawfully acquired it) without restriction as to its disclosure; or (iv) is independently developed without access to the Confidential Information; and (v) the content of this specific version of the Grant Agreement, save in respect of any information which is exempt from disclosure under the Information Acts as they apply to the relevant party;

**Crown Body** means the government of the United Kingdom (including the Northern Ireland Assembly and Executive Committee, the Scottish Executive and the National Assembly for Wales), including, but not limited to, government ministers and government departments and particular bodies, persons, commissions or agencies from time to time carrying out functions on its behalf;

**Data Protection Legislation** means all applicable laws from time to time in force in England and Wales on data protection, including but not limited to, the Data Protection Act 2018, the retained EU law version of the GDPR and the Privacy and Electronic Communications (EC Directive) Regulations 2003, SI 2003/2426, and any national laws or regulations implementing Directive 2002/58/EC (as updated by Directive 2009/136/EC) and any judicial or administrative interpretation of any of the above, and any guidance, guidelines, codes of practice, approved codes of conduct and approved certification mechanisms issued by any relevant supervisory authority as applicable;

**Duplicate Funding** means funding provided to you by a the UK Government which is to fund the same activities as the Project Activities;

**EA** means the Equality Act 2000 and any subordinate legislation made under that Act from time to time together with any guidance or codes of practice issued by the relevant government department concerning the legislation;

**EIR** means the Environmental Information Regulations 2004 or Environmental Information (Scotland) Regulations 2004;

**Eligible Expenditure** means the payments made by you during the Funding Period for the purposes of carrying out the Project Activities which comply with clause 5 and ARIA's published eligibility rules (which provide for full economic cost reimbursement) and as agreed in the Grant Funding Letter;

**Escalation Contact** means the escalation contact appointed by ARIA or by you (as the case may be), which at the Commencement Date will be the individuals listed as such in the Grant Funding Letter;

**Event of Default** means any of the events or circumstances set out in clause 22.1;

**Financial Year** means 1 April to 31 March;

**FOIA** means the Freedom of Information Act 2000 and the Freedom of Information (Scotland) Act 2002, any subordinate legislation made under those Acts from time to time together with any guidance or codes of practice issued by the relevant government department concerning the legislation;

**Foreground IP** means any IP in the Results;

**Funding Period** means the period commencing on the Commencement Date and ending on the Completion Date or such later date as may be agreed between the parties unless otherwise determined in accordance with the terms of the Grant Agreement;

**Future Proofing our Climate and Weather Intellectual Property Pledge** means the pledging system for patents relating to approaches for intentionally altering the Earth system through solar radiation modification, modification of ocean circulations, modification of cloud properties, surface engineering works, or weather modification (operated by ARIA or by a third party), in the form set out at Annex A;

**GDPR** means Regulation (EU) 2016/679;

**Go/No-Go Milestone** means a decision point for ARIA to determine whether it wishes to proceed with or terminate the Project Activities (any decision regarding a Go/No-Go Milestone will be made at ARIA's sole discretion, following a Grant Review as outlined in Clause 6);]

**Grant** means the sum or sums ARIA will pay to you up to the amount set out in the Grant Funding Letter, in accordance with clause 4 and subject to the provisions set out at clause 22.

**Grant Agreement** has the meaning given in the Grant Funding Letter;

**Grant Claim** means a request submitted by you to ARIA for payment of the Grant;

**Grant Funding Letter** means the letter from ARIA to you to which these Conditions are annexed;

**Grant Manager** means the individual who has been nominated by ARIA to be your day-to-day point of contact in relation to the Grant;

**Grant Review** means the process for reviewing the grant outlined in clause 6;

**HRA** means the Human Rights Act 1998 and any subordinate legislation made under that Act from time to time together with any guidance or codes of practice issued by the relevant government department concerning the legislation;

**Ineligible Expenditure** means expenditure incurred by you which is not Eligible Expenditure as set out in clause 5 and ARIA's published eligibility rules;

**Information Acts** means the Data Protection Legislation, FOIA and the EIR, as amended from time to time;

**Insolvency Event** means:

(i) where you pass a resolution, or the court makes an order that you be wound up (otherwise than for the purpose of a bona fide and solvent reconstruction or amalgamation); or (ii) a receiver, manager or administrator on behalf of a creditor is appointed in respect of all or part of your business or assets; or (iii) circumstances arise which entitle a court or creditor to appoint a receiver, manager or administrator or which entitle the court (otherwise than for the purpose of a solvent and bona fide reconstruction or amalgamation) to make a winding up order; or (iv) you cease to trade or are unable to pay your debts within the meaning of the Insolvency Act 1986 or any similar event occurs under the law of any other jurisdiction;

**Intellectual Property Rights** or **IP** means copyright, rights related to or affording protection similar to copyright, rights in databases, patents and rights in inventions, semi-conductor topography rights, trade marks, rights in internet domain names and website addresses and other rights in trade names, designs, know-how, trade secrets and any modifications, amendments, updates and new releases of the same and all similar or equivalent rights or forms of protection which subsist or will subsist now or in the future in any part of the world;

**Law** means any law, statute, bye-law, regulation, order, regulatory policy, guidance or industry code, judgement of a relevant court of law, or directives or requirements of any regulatory body, delegated or subordinate legislation;

**Losses** means all losses, liabilities, damages, costs, expenses (including legal fees), disbursements, costs of investigation, litigation, settlement, judgement, interest and penalties whether arising in contract, tort (including negligence), breach of statutory duty, misrepresentation or otherwise;

**Maximum Sum** means the maximum amount of the Grant stated in the Grant Funding Letter;

**Milestones** means the outputs of the Project Activities described in paragraph 3.2 of Schedule 2;

**NewCo** has the meaning given in clause 16;

**Non-UK Entity** means a legal entity that is not a UK Entity;

**Personal Data** has the meaning given to it in the Data Protection Legislation as amended from time to time;

**Prohibited Act** means:

(a) directly or indirectly offering, giving or agreeing to give to any servant of ARIA or the Crown any gift or consideration of any kind as an inducement or reward for (i) doing or not doing (or for having done or not having done) any act in relation to the obtaining or performance of the Grant Agreement; and/or (ii) showing or not showing favour or disfavour to any person in relation to the Grant Agreement;

(b) committing any offence: (i) under the Bribery Act; (ii) under legislation creating offences in respect of fraudulent acts; and/or (iii) at common law in respect of fraudulent acts in relation to the Grant Agreement; and/or

(c) defrauding or attempting to defraud or conspiring to defraud ARIA or the Crown;

**Project** means the Project Activities together with the Results;

**Project Activities** means the activities to be carried out by you that are described in the Grant Funding Letter and in Schedule 2 Part 1;

**Project Representative** means the representative appointed by you, who at the Commencement Date will be the individual listed as such in the Grant Funding Letter;

**Representative** means any of the parties' duly authorised directors, employees, officers, agents, professional advisors and consultants;

**Results** means all information, data, techniques, inventions, discoveries, works, software and materials generated in the course of the Project Activities;

**Secure Innovation and Trusted Research Guidance** means the best practice for the implementation of basic protective security measures guidance provided by NCSC and NPSA which can be found on ARIA's website;

**Sub-Contract** means any contract or agreement or proposed contract or agreement between you and any Third Party whereby that Third Party agrees to provide to you the Project Activities or any part thereof or facilities or services necessary for the performance of the Project Activities or any part thereof or necessary for the management, direction or control of the Project Activities or any part thereof, and **Sub-Contractor** shall be construed accordingly;

**Third Party** means any person or organisation other than you or ARIA;

**UK Entity** means a legal entity whose ultimate parent company has its headquarters and principal establishment in the United Kingdom;

**Unavoidable Costs** means the amounts paid or payable by you to your Sub-Contractors or other third parties in respect of the termination of Sub-Contracts as a direct result of the early termination of this Grant Agreement and which are not capable of recovery;

**Unspent Monies** means any monies paid to you which remain unspent at the end of the Funding Period because of termination or breach of the Grant Agreement. Unspent Monies do not include non-cancellable costs incurred prior to termination; and

**Working Day** means any day other than a Saturday, Sunday or public holiday in England and Wales.

30.2 In these Conditions and the Grant Agreement, unless the context otherwise requires:

- (a) references to "party" and "parties" are to the parties to the Grant Agreement;
- (b) the singular includes the plural and vice versa;
- (c) references to a person include an individual, company, body corporate, corporation, unincorporated association, firm, partnership or other legal entity or Crown Body;
- (d) references to clauses and Schedules are to the clauses of these Conditions and to the Schedules to the Grant Agreement;
- (e) a reference to any Law includes a reference to that Law as amended, extended, consolidated or re-enacted from time to time;
- (f) the words "including", "other", "in particular", "for example" and similar words will not limit the generality of the preceding words and will be construed as if they were immediately followed by the words "without limitation"; and
- (g) the headings in the Grant Agreement are for ease of reference only and will not affect the interpretation or construction of the Grant Agreement.



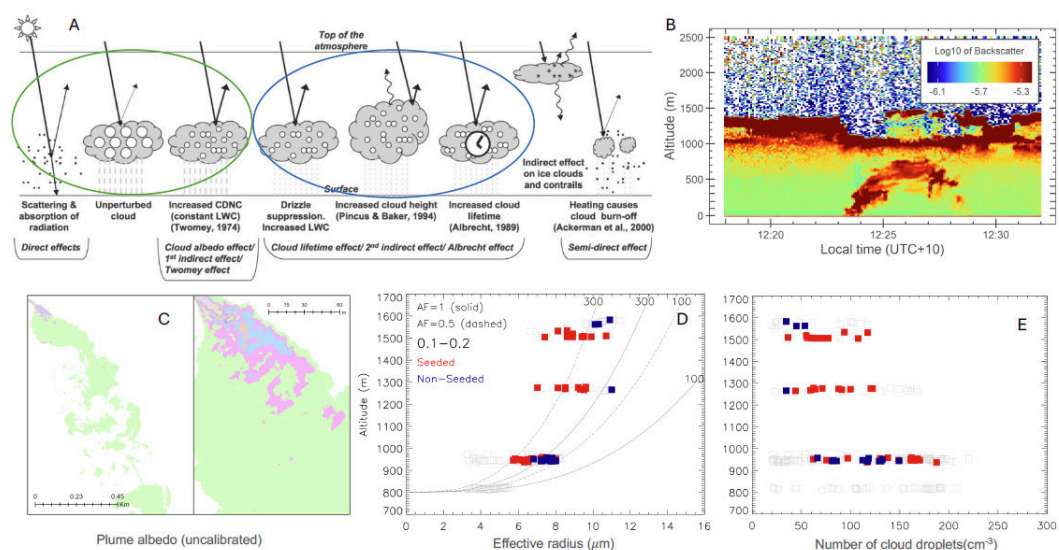
## SCHEDULE 2

### PART 1 - PROJECT ACTIVITIES

#### 1. Background

Building on over 30+ years of theoretical study, Southern Cross University (SCU) and partners have advanced MCB research from theory and laboratory studies to outdoor experiments measuring in-situ with aircraft the cloud microphysical response to perturbation (Fig. 1 B&E). In your nozzle laboratory you refined the effervescent atomisation technique to create sea spray aerosols at MCB relevant sizes with number production rates and energy efficiency which enable outdoor field testing to occur. From 2020 to 2024 you successfully scaled up outdoor field-testing prototypes from 100 to 640 nozzles and developed the Aerosol, Radiation, and their Interactions Experimental Laboratory (ARIEL) spraying system. ARIEL can produce up to  $10^{15} \text{ s}^{-1}$  sea spray aerosol (SSA) in three distinctly different aerosol size spectra to tease out the influence of competing cloud processes and direct radiative responses (Fig. 1A).

A series of 'point source' perturbation experiments over the Great Barrier Reef (GBR) have been completed to evaluate the sensitivity of trade wind cumulus clouds to the artificially generated SSA. You have demonstrated a key underpinning hypothesis of the MCB concept, that supplying additional cloud condensation nuclei (CCN) can, for a given cloud liquid water content, decrease the cloud drop effective radius (Fig. 1D) and increase the droplet number concentration (Fig. 1E). These initial shifts in cloud microphysical properties are those proposed by Twomey (Fig. 1A) and are expected to result in a predictable initial albedo increase for the cloud (1st aerosol indirect effect). While the resulting albedo increase can be calculated, it has not yet been measured explicitly during your field experiments due to their limited scale. Beyond the initial Twomey effect, MCB is expected to result in a series of adjustments to cloud properties (2<sup>nd</sup> aerosol indirect effects; Fig. 1A) which may further increase, or conversely reduce, the net radiative forcing. Both the sign and magnitude of these interacting effects are influenced by the concentration, composition, and size distribution of the artificially generated aerosol as well as that of the background aerosol, the prevailing atmospheric conditions, and the nature of clouds present. Understanding these interlinked processes sufficiently well to estimate their respective importance and cumulative impact on radiative forcing is key to accurately predicting the efficacy and risks of MCB for a given atmospheric and meteorological situation.

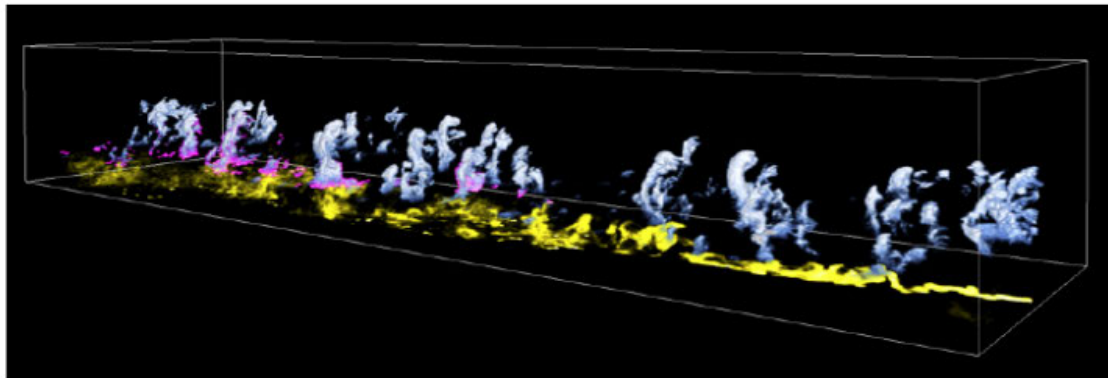


**Figure 1:** (A) Aerosol-cloud-radiative processes, green circle represents MCB effects measured in past campaigns (C-E), blue indicates effects targeted in this proposal. (B) LiDAR measurement from a sampling vessel of the ARIEL produced MCB plume lifting into a cloud layer at ~ 1000m cloud base altitude. (C) uncalibrated albedo of MSB (direct effect) from the aircraft mounted hyperspectral camera (still in processing), vessel is in upper left corner. (D&E) Within-cloud results demonstrating the Twomey effect.

**Why the GBR?** Low cloud over the GBR consists of stratocumulus, shallow trade wind cumulus, and cumulus of greater vertical development, with the latter two classifications being more common during your field campaign periods in summertime. Your work has shown that meteorology and clouds in the GBR region play an important role in coral bleaching events. Corals experience bleaching due to a combination of both heat and light stress. Modelling, field observations, and your previous MCB experiments (Fig. 1B-E) demonstrate that both sky and cloud albedo over the GBR are sensitive to aerosol perturbation. Hydrodynamic modelling indicates that the unique, shallow, semi-enclosed bathymetry of the GBR lagoon provides an ideal case study, where application of MCB at a regional scale could lead to significant sea surface temperature reductions. Implementation over as little as 10% of the GBR would be effective in reducing ocean temperature and mitigating coral bleaching. Evidence that MCB could meaningfully alter the trajectory of live coral cover on the GBR over the coming decades makes this a promising application of technology to actively cool the earth. Your work on the GBR has proceeded under federal regulatory approval and with effective governance mechanisms in place. The Australian public supports further research, and is 'accepting' of cloud brightening on the GBR with 63% supporting (69% within region), and 14% rejecting this intervention in a national survey.

**Advancing the state of the science.** A challenge of measuring albedo change in cumulus cloud fields is that the perturbation does not necessarily affect the entire cloud at once and can progress in individually impacted clouds at different rates and locations (Fig. 2). You propose to address this challenge by employing an upscaled experimental approach. By including 2-3 MCB spraying vessels and increasing the output of the next generation of ARIEL, you will aim to achieve a degree of homogenisation of the enhanced CCN concentration within an area of approximately 10 x 10 km. By utilising two sampling aircraft you will measure the albedo change in a more uniformly perturbed region of cloud and begin to examine experimentally the microphysics induced changes to whole-of-cloud structure with time (1-2 hours) that result in the 2<sup>nd</sup> aerosol indirect effects (Fig. 1A). You will apply a state-of-the-art lagrangian cloud model (LCM) coupled to a large-eddy simulation

model for high resolution MCB simulations. The LCM relies on individually simulated computational particles, each representing an ensemble of identical hydrometeors (aerosols, cloud droplets, rain drops), where process rates are determined from first principles. The use of individually simulated particles allows the physicochemical properties of the sprayed and natural aerosol to be directly described, a prerequisite to investigating the effects of MCB on clouds in the required detail. Within the two-way coupled LES-LCM framework, you can investigate the interactions of dynamics, aerosol, and cloud microphysics essential to quantifying aerosol indirect effects on clouds and radiation, e.g., the turbulent transport of sprayed aerosol to the cloud base (see. Fig. 1B), their subsequent activation determined by the cloud's updraft, as well as the turbulent mixing of the cloud with its environment and the subsequent effects on the number and size of cloud droplets and evolution of the cloud properties over time.



**Figure 2:** LES-LCM model results of a single MCB spraying vessel (at far right) in a shallow cumulus cloud field with wind right to left. White = cloud, Yellow = MCB aerosol, Magenta = aerosol impacted cloud.

ACCESS-EMS-GBR is a convection-permitting, coupled atmosphere-ocean model of the GBR that has been configured to undertake assessments of MCB using simulations at local to global scales. The model consists of a regional atmosphere configuration of the Australian Community Climate and Earth System Simulator (ACCESS), coupled for this project to the CSIRO Environmental Modelling Suite (EMS) hydrodynamic and biogeochemical model of the GBR. The resulting coupled model represents aerosol cloud-radiation interactions, atmosphere-ocean heat feedbacks and subsequent impacts on the underlying coral reef, making it ideal for assessing the impacts and risks associated with MCB applied to the GBR and wider region. Higher resolution convection-resolving simulations are also achievable, and wider insights into potential benefits and pitfalls of MCB beyond the GBR application can be derived.

## 2. Aims and objectives of the Project Activities

Advance the technical feasibility, social license and scientific understanding of efficacy and risks of Marine Cloud Brightening (MCB). By undertaking the next generation of outdoor experimentation enabled through the development of technology, methodology, numerical modelling, governance, and engagement.

## 3. Project Activities

Work detail. You propose activity across five work streams (WS A-E) each consisting of work packages.

WS.A Proposed technology development. To support the next phase of MCB research it is necessary to increase the total output of ARIEL and construct additional units. The most important improvement

is to increase the number CCN produced per unit energy required. It is also desirable to decrease the total footprint of the system to allow operation on smaller and less costly vessels. Two shipping containers of ARIEL are each fully occupied by 3 sizable air compressors (total 6) that supply the large quantity of compressed air required (Fig. 3C). The requirement for compressed air is responsible for most of the energy, space, and weight of the overall system. The current technique achieves ~66% of the SSA within the target size range (Fig. 3A). You aim to improve the current system by targeting a reduction in the gas to liquid ratio (and hence energy) while improving output. In parallel you will investigate alternate technologies which may remove the need for compressed air entirely while also improving the size distribution (Fig. 3B).

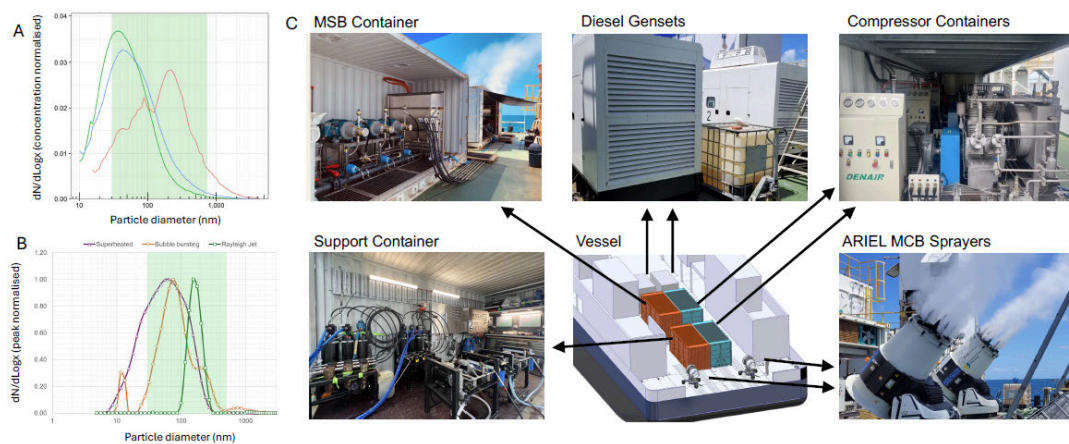


Figure 3: (A) Field measured size distributions for the 3 sprays currently produced by ARIEL. (B) Alternate spray technologies showing improved fraction in the target range (green shading). (C) ARIEL components.

WS.B Fieldwork. Ahead of the proposed outdoor field experiments you will refine and test your methodologies for tracing the generated aerosol plume in the atmosphere and for quantifying the cloud microphysical and albedo response. In later stages, preliminary outdoor experiments on land and at sea will provide opportunity for real-world testing and refinement of the improved ARIEL prototypes prior to design finalisation and multiple unit manufacture. The major MCB perturbation experiment will consist of a multispraying-source field campaign in which you aim to validate model predictions and explicitly measure the response of cloud albedo, and the extended series of cloud physics impacts illustrated in Fig 1A.

WP.B1. Methodology development (SCU & UNSW, yr 1-2). All but two methodologies required for the proposed fieldwork are now well refined to practice including; logistics, vessel fit out and operation, ARIEL reliability, methods to manipulate the size and salt composition of the spray, use of drones, aircraft sampling operations, ground based remote sensing, and satellite observation of the perturbations. Methodology for tracking the plume without the addition of any chemical tracer has been developed and allows apportionment of the relative contributions of diesel exhaust and sea salt aerosol. There is, however, no independent validation as yet. The hyperspectral camera is mounted to the aircraft and acquiring data (Fig.1C) but the methodologies for retrieving cloud microphysical properties, calibrating albedo, and altitude for each pixel requires further development. You propose to further refine these two techniques in a low-cost manner during test flights with the aircraft, targeting aerosol plumes resulting from container ship exhaust.

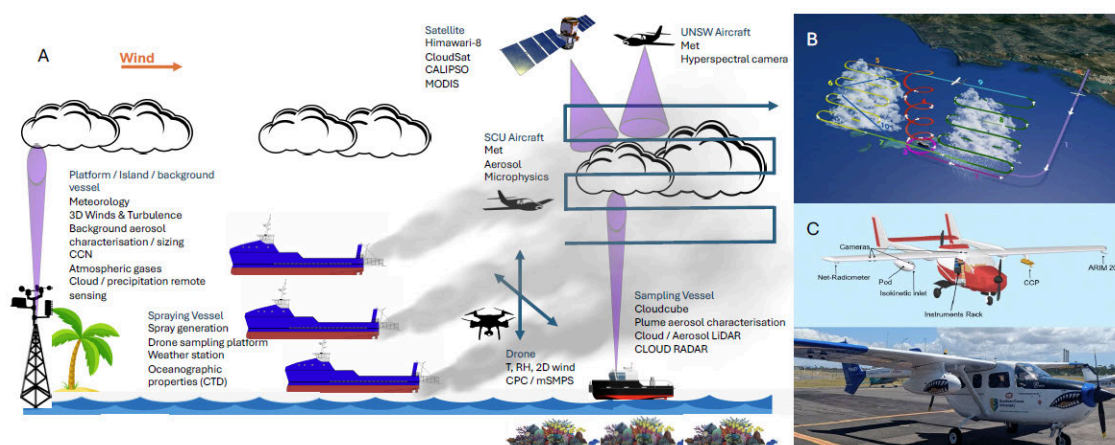


Figure 4: (A) The proposed major field campaign strategy. (B) Flight sampling strategy for aerosol and cloud physics sampling of upwind (background) and downwind (perturbed) cloud. (C) The SCU aircraft<sup>6</sup>.

WP.B3 Prototype sea testing (SCU, QUT, UNSW, late yr 3). Following the land-based testing, an iteration of engineering improvements is allowed for, prior to the Australian sea trials. These trials (stage gated) will serve as a smaller precursor to the major field campaign. It will consist of a single spraying vessel and a sampling vessel to operate downwind for characterising the SSA plume and remote sensing of cloud properties (a simplified version of the strategy illustrated in Fig. 4A). SCU has developed a small portable 8' x 8' containerised laboratory "CloudCube" that can be loaded aboard a vessel for this purpose. This fieldwork will offer the opportunity to compare and contrast the impacts of up to three different MCB technologies on cloud (ARIEL + prototypes developed in WP.A2). It will provide proof of concept demonstration for methodologies developed in WP.B1 prior to the major field campaign in yr 4 (WP.B4).

WP.B4 Next generation MCB field experiment (SCU, QUT, UNSW, late yr 4). This (stage gated) package delivers the major advancement in MCB research that your proposal is focused around. The field campaign strategy is illustrated in Fig. 4. It involves multiple spraying vessels (target of 3) operating in the optimum configuration informed by the outcomes of the high-resolution modelling in WP.C2. By operating multiple higher output systems together, you will have advanced the engineering aspects of MCB one step closer to potential implementation. The comprehensive measurement campaign will improve your process understanding of the multiple interconnected atmospheric and cloud microphysical implications of MCB.

WS.C High resolution modelling of aerosol and cloud processes. You will undertake high-resolution, large-eddy numerical simulations with Lagrangian cloud microphysics (LES-LCM). This computational tool will assimilate data from previous outdoor experiments into a numerical modelling framework, aid in the interpretation of results from past and future campaigns, and allow you to plan and predict outcomes of multi-vessel spraying scenarios and optimise sampling methodologies for the planned field campaign.

WP.C1 Model validation and hindcasts (LMU & SCU, yr 1-2). Your team is unique in that you have collected a wealth of field data on MCB which is yet to be incorporated into a numerical modelling framework, the LES-LCM is the most appropriate state of the art tool for this purpose. To validate the model and interpret past results a major objective is to conduct simulations of selected days during

past field campaigns (hindcasts). For this, reanalysis data, and/or the modelling output from WP.D1 will provide the synoptic conditions that determine the development of the boundary layer and its clouds. The measurement campaigns will provide detailed information on the background aerosol, while sprayers will be added using the specifications from past lab studies and measured in WP.A1 (e.g., the size and number of sprayed sea spray aerosols). You expect that the large-scale conditions vary during the field campaigns (e.g., wind direction, background aerosol), therefore you plan to produce at least one simulation for each condition.

WP.C2 Informing fieldwork planning and interpreting results (LMU & SCU, yr 2-5). A primary purpose of the modelling will be to guide and augment observations. Your simulations will identify regions of cloud most susceptible to the MCB aerosols e.g. where to target observations for the Twomey effect and for cloud water adjustments (Albrecht effect), cloud lifetime, and cloud fraction effects (Fig. 1A). Your simulations will give a baseline on how strong these effects are expected to be in relation to background variability and indicate under what atmospheric, meteorological and spraying conditions they will be statistically discernible. The simulations will augment the field collected data by providing process-level insights that will support the interpretation of the observations. The modelling will also allow you to gain insight into (a) the impacts of negative buoyancy due to the evaporation of sprayed seawater droplets, which may limit the vertical transport of the sprayed particles, and will vary for different spraying technologies and atmospheric stability (b) the potential collisions of sprayed particles close to the sprayer where concentrations can be very high (Brownian coagulation), which reduces the number of sprayed particles reaching the cloud base, (c) the potential losses of very large sprayed particles to the ocean due to sedimentation, and (d) how the sprayed sea salt aerosol is distributed within the boundary layer.

WP.C3 Alternate scenarios (LMU & SCU, yr 5). Financial, technical, and meteorological constraints will limit what you can test in the field. Therefore, you will use your simulations to test how clouds would respond to increased or lowered spraying rates, alternative distributions of sprayed sea salt aerosols, spraying geometries and strategies, different conditions of background aerosols, and multiple meteorological situations. This will inform the design and assessment of future MCB implementation strategies and scenarios for WP.D1&2.

WS.D Understanding efficacy and risks of implementation. This workstream is focused on gaining insight into potential implications of MCB operated at a sufficient scale to derive regional benefit. Since LES-LCM is limited to geographical domains of ~20 x 20 km, and it is infeasible to directly test MCB under all variations of atmospheric condition, the broader evaluation of benefit and risk will use a larger domain model in which some processes are parameterised. You limit your focus in this work stream to address the key questions of scalability, efficacy, and risks of the most apparent concern, being those to regional weather, precipitation patterns, the marine and terrestrial environment, and atmospheric chemistry.

WP.D1 Simulating MCB impacts and efficacy (CSIRO & SCU, Yr 1-3). You will use observations from field studies (WS.B) and insights from the high-resolution cloud microphysics modelling (WP.C1-2) to better represent aerosol indirect effects on cloud. A key consideration in determining the efficacy of MCB is the importance of the aerosol direct and indirect effects on the radiation budget. ACCESS-EMS-GBR includes detailed aerosol and cloud microphysics schemes that explicitly represent aerosol-cloud interactions and radiative effects. The model also includes a mechanism to represent sea spray aerosol emissions for MCB and can therefore be used to quantify the direct and indirect impacts on cloud, precipitation and radiation at implementation scales which are



unachievable in the high-resolution modelling. Various sea spray application MCB scenarios will be modelled to identify the optimal scenario in terms of emissions parameters, timing and location, to maximise the cooling response while minimising resources and costs. Model performance will be benchmarked against the LES-LCM.

WP.D2 Quantifying risks of MCB (QUT, CSIRO & SCU, yr1-3). The coupled ACCESS-EMS-GBR model will also be used to assess the risks associated with MCB, including the potential for precipitation changes. An increase in cloud droplet number concentration can suppress rainfall in low-level cumulus clouds and enhance precipitation in deep convective clouds, highlighting the complexity in aerosol-cloud-precipitation interactions. While the scale of any future sea spray applications for the GBR are not currently expected to seriously impact precipitation, long-term changes could influence flooding and/or drought in north-eastern Australia and therefore stakeholder concern and diligence require a detailed risk assessment. A series of control and perturbed simulations will be conducted at convection-permitting resolution to explore the impacts of sea spray applications on precipitation over the north-east Australia region. Impacts on atmospheric composition via altered aerosol pH, altered heterogeneous and aqueous-phase reactions and altered oxidative capacity, will also be assessed.

Supplementary chemical transport modelling will be conducted, supported by experiments to be undertaken in the QUT atmospheric chamber using nozzles developed in package WP.A1 with seawater samples collected from representative ocean regions and types. These experiments, combined with the modelling, aim to assess whether the addition of sea spray aerosol at levels necessary for effective MCB, will significantly impact secondary atmospheric chemistry in pristine regions.

WS.E / WP.E1 Governance and social license. Working with federal regulators from the outset, SCU and partners have conducted a total of five MCB field campaigns. Each incremental improvement in technology, scale and scientific ambition has been subject to permitting approval by the Great Barrier Reef Marine Park Authority, following review of the outcomes of the previous iteration. In this manner your research is progressed in responsible steps with appropriate monitoring, risk minimisation, regulatory oversight, indigenous consent and involvement, and societal support. Critically, this progress has occurred and would continue under ARIA within a fully transparent, federally legislated regulatory framework which includes public and indigenous community consultation. You have supplemented this external oversight through multiple levels of internal governance arrangements, including an independent risk review group, and your own community and traditional indigenous owner engagement, including community reference panels. You propose to continue similar arrangements to be determined in consultation with ARIA. This WP allocates time of the leadership team to comply with ARIA principles for outdoor experiments by continuing the aforementioned engagement and governance activities, with the goal of continuing to build societal support to explore MCB as a potential intervention to mitigate coral mass bleaching events in the GBR41 (yr 1-5). You are not requesting direct funding for social science or governance research, but rather will continue to collaborate with your now established network of social, legal, ethics, and regulatory scientists.

## **Dependencies**

The following work packages will be delivered jointly by the University of Cambridge, the University of Cambridge's activity will however be delivered under a separate ARIA grant.

WP.A1 Nozzle tech development (UoC & SCU, yr 1-3). Five alternative technologies to atomise the seawater will be developed and tested for size specificity, production rate, and energy efficiency. These include; superheated water, electrospray, Rayleigh jet breakup, bubble formation from pressurised air, and Powercloud derived from Archipelago's proprietary Powerdrop ® technology. Several of these techniques are already showing promise of improved energy efficiency and size mono-specificity (Fig. 3B). Initially these methods will be developed and tested in parallel at the nozzle development facilities. SCU's dedicated facility includes two sizes of non-recirculating wind tunnel developed specifically for MCB nozzle testing. There is a custom designed industrial plant to supply high pressure air, water, and heat. The key objectives are to establish the resulting sea salt aerosol size distribution, the degree to which it can be manipulated, the production rate, and energy efficiency for each technology. The leading two technologies will move to the prototype stage (internal performance stage gate). Spray characterisation results will inform WP.C2.

WP.A2 Prototype development and testing Parts of this work are to be undertaken within the separately funded REFLECT project (UoC & SCU, late yr 1 – yr 3). In this stage you will undertake the engineering design for an overall system of sufficient scale to achieve production of  $0.5-1 \times 10^{16}$  CCN s<sup>-1</sup>, targeting ~10x increase on the current ARIEL output. The design phase will confirm the viability of upscaling the most promising water atomisation techniques to field testable prototypes and determine the process inputs, feasibility, safety, and environmental considerations. Following the design phase review (stage-gate) prototypes will be manufactured for field testing. This process will involve engineering design consultants and certifiers to ensure safety and regulatory compliance. The prototypes will be tested in WP.B2.

WP.A3 Prototype upscaling and manufacture Parts of this work are to be undertaken within the separately funded REFLECT project (SCU & UoC yr 4). Based on the outcome of WP.B2 field testing (stage-gate) a technology prototype will be selected for the manufacture of 1-2 additional systems. The final number of sprayers (target 3) will be dependent on performance and informed by modelling undertaken in WP.C1 to support the experimental planning. The system selected may be the existing ARIEL technology if new prototypes prove unable to outperform the existing system or are found to be unreliable or impractical for operations at sea. ARIEL was improved iteratively over multiple field campaigns and the expectation is that there will be improvements to new prototypes following each round of field testing.

WP.B2 Prototype indoor testing (UoC & SCU, late yr 2 / early yr 3). Indoor testing of UoC prototypes led by UoC now falls within the REFLECT project. Initially the prototypes will be tested on land or indoors (stage-gated if outdoors). This will serve to iron out any initial engineering issues, and confirm the performance of the design by sampling the produced sea spray aerosols downwind while monitoring the engineering parameters of seawater flow and energy consumption. SCU has developed proven methodologies for such land-based testing.

### **3.1 Scope and Matched funding**

- 3.1.1 The scope of this Schedule 2 is based on the delivery of a Project with an estimated total cost of £15,000,000.
- 3.1.2 Upon signature of this Grant Agreement, ARIA commits an initial contribution of £1,035,718 (inclusive of all taxes) to deliver the Phase 1 Milestones and associated Project Activities. The costs associated with the Phase 2 Project Activities and Milestones are not included within the Maximum Sum and Funding Period.



- 3.1.3 ARIA will release up to a further £3,964,282 to deliver Phase 2, subject to you securing matched funding at a minimum ratio of 2.522:1 (match:ARIA). To access the additional £3,964,282 of potential ARIA funding, you must secure matched funding totalling £10,000,000. If lower levels of matched funding are secured, ARIA may release funding proportionally, maintaining the 2.522:1 ratio (match:ARIA) provided the Project team retains sufficient resources to reach the next go/no-go decision point.
- 3.1.4 In the event that the full £10,000,000 of matched funding is not obtained, the parties may consider options to reduce the scope of the Project accordingly, or terminate the Grant Agreement.
- 3.1.5 Matched funding may include both financial and in-kind contributions (e.g. the provision of services or resources such as vessel time or equipment), subject to ARIA's approval.
- 3.1.6 You shall provide an update on the status of matched funding discussions in each of your quarterly progress reports. Where matched funding is confirmed within a given quarter, you shall include appropriate evidence (such as letters of intent or funding agreements) with that quarterly update.
- 3.1.7 Upon receipt and acceptance of confirmed matched funding evidence, at ARIA's sole discretion it may release the corresponding portion of funding. Where appropriate, the parties will agree a formal variation to this Grant Agreement in accordance with Clause 26 of the Grant Conditions set out in Schedule 1.
- 3.2 The following Milestones will be used to monitor your delivery of the Project. The costs associated with completing these Milestones are estimated in the cost breakdown sheet [REDACTED]

### Phase 1 Milestones

ID	Milestones	Measure	Date	Notes
1	Report on nozzle progress	Completion of initial nozzle design, fabrication, required operating plant and commencement of performance testing (key testing parameters: size distribution, production rate, energy requirement) for two nozzle technologies.	Commencement date + 6 months	

2	Engagement documentation reviewed	<p>Development of community, stakeholder, and traditional owner engagement strategy submitted to ARIA programme team and Oversight Committee.</p> <p>Evidence of ongoing community engagement and codesign provided to the ARIA team and oversight committee.</p>	Commencement date +12 months	
3	<p>Match funding secured</p> <p><b>Go/no go milestone</b></p>	<p>Review of status of match funding.</p> <p>In accordance with para 3.1 above</p>	Commencement date +19 months	

### Phase 2 Milestones

The following Phase 2 Milestones are provided for indicative purposes only. Progression to these Milestones, and any associated scope described in the Project Activities above, is subject to a “Go” decision at Milestone 3.

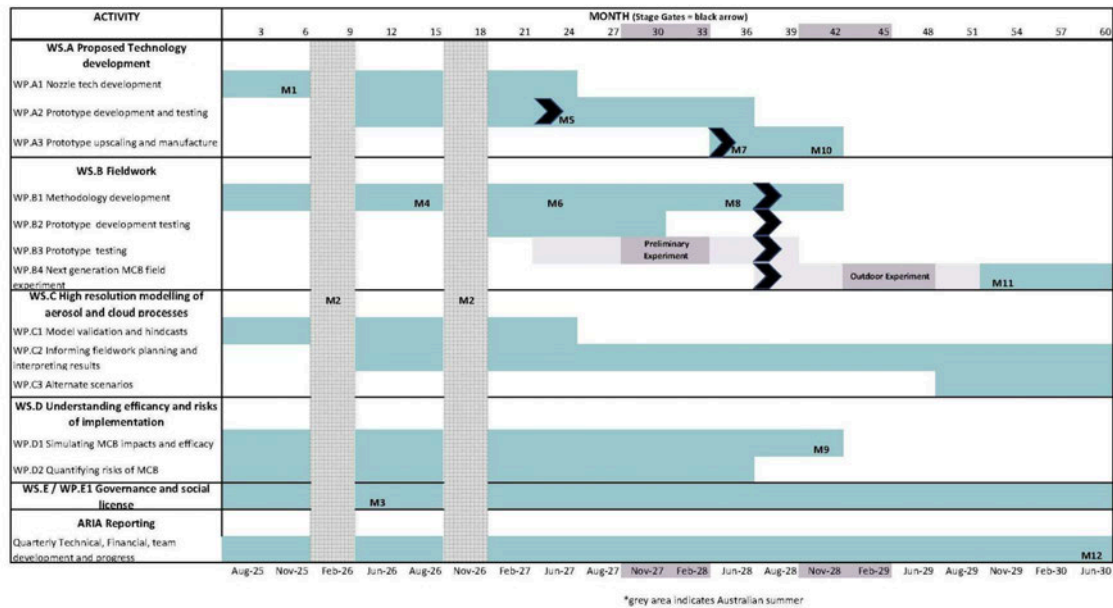
ID	Milestones	Measure	Date	Note
4	<p>Submission for funding for small outdoor experiment campaign</p> <p><b>This is a Go/No Go Milestone</b></p>	<p>Evidence submitted that the land based and small sea based experiments can be conducted in a safe manner, compliant with regulation, with effective control measures and that key stakeholders, the local population and the wider public have been effectively consulted.</p> <p>Impact assessment will be undertaken by the GBR</p>	Commencement date +15 months	

		<p>Marine Park Authority as the regulator</p> <p>If approved, small sea based experiments are expected to start from month 27.</p>		
5	Nozzle prototype design evaluation	<p>Detailed nozzle prototype design completed and evaluated as feasible for at least 1 technology and ready for commencement of construction. Data and technical know-how submitted to ARIA public repository.</p> <p>(revert to existing SCU plant for further testing if not met)</p>	Commencement date +27 months	Delivery of the milestone has dependencies on the University of Cambridge
6	Methodology report	Initial demonstration of aircraft-based cloud albedo and microphysics measurement technology & methodology.	Commencement date +27 months	
7	<p>Prototype Stage gate milestone</p> <p><b>Go/no-go milestone for initiating WPA3 &amp; WP.B4</b></p>	<p>Completion of a stage gate review of prototype testing to proceed to multiple unit manufacture with either existing SCU plant or new prototype and commit to a major field campaign.</p> <p>New prototype technology to be evaluated against existing technology in particle production rate, sea salt aerosol size distribution, reliability (and technical simplicity), feasibility,</p>	Commencement date +36 months (some dependency on start date due seasonal field-testing requirement)	Delivery of the milestone has dependencies on the University of Cambridge

		occupational health and safety considerations, and suitability for operations at sea.		
8	<p>Final submission for funding for large outdoor experiment</p> <p><b>This is a Go/No Go Milestone</b></p>	<p>Evidence submitted that the large outdoor field trials can be conducted in a safe manner, compliant with regulation, with effective control measures and that key stakeholders, the local population and the wider public have been effectively consulted.</p> <p>The size of the outdoor experiment to be agreed at this go/no go point to match the available budget, but not to exceed an application area of 10 km by 10 km</p> <p>Impact assessment will be undertaken by the GBR Marine Park Authority as the regulator</p> <p>Experiment takes place between months 42 and 54, depending on season</p>	Commencement date +36 months	
9	<p>Documentation (Relies also on subcontractors CSIRO, QUT, and Freie Universität Berlin)</p>	<p>Finalisation and dissemination of key research outputs of the understanding efficacy and risks workstream, including peer-reviewed publications submitted, technical reports, and policy-relevant</p>	Commencement date +42 months	

		summaries. Data submitted to ARIA public repository.		
10	Preparations completed	<p>Multiple prototypes constructed and run-tested ready for field testing. Preparations for major field campaign complete including long lead time items and completion of compliance and risk mitigation procedures to support safe and responsible field operations.</p> <p>Field campaign then runs M42 to M54</p>	Commencement date +42 months	
11	Outdoor tests completed	Major field campaign completed.	Commencement date +54 months	
12	Project completed	Finalisation and dissemination of key research outputs, including peer-reviewed publications submitted, technical reports, and policy-relevant summaries. Data submitted to ARIA public repository.	Commencement date +60 months	

In addition to the above Milestones, the following project plan will be used to track progress throughout the project and may be updated from time to time:



**Figure 5:** Project timeline. Purple lines indicate suggested stage gates.

3.3 The intended long-term outcomes are summarised below:

- This project will provide the first direct measurement demonstrating the ability of Marine Cloud Brightening to alter cloud albedo and reflect more incoming solar radiation back into space
- We will combine comprehensive in-situ cloud microphysical measurement data of controlled deliberate sea salt aerosol cloud perturbations with state-of-the-art lagrangian cloud modelling to begin to unravel the second indirect effects of aerosols on cloud in detail that has not previously been possible
- Marine Cloud Brightening technology will advance from the initial proof of concept systems which enabled the first outdoor testing to occur to systems approaching the scale that could enable the first limited-area demonstration trials to commence
- The project will elevate the bar for best practice governance and engagement with community, stakeholders, indigenous traditional owners and the public, including genuine two way sharing of knowledge and co-design of the research

#### 4. Project Reporting requirements

You will complete, submit and attend the following reporting/meeting requirements at the frequency set out below:

Frequency	Requirement
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Planning	<ul style="list-style-type: none"> <li>• Roles and responsibilities</li> <li>• External communications</li> <li>• Vision</li> <li>• Project details</li> <li>• Code and data management</li> <li>• Project plan + project management</li> </ul>
Quarterly	<p>Reporting:</p> <ul style="list-style-type: none"> <li>• Technical status - Red/Amber/Green</li> <li>• Delivery status - Red/Amber/Green</li> <li>• The latest progress against milestone(s) from last quarter</li> <li>• Key Learning, discoveries and decisions</li> <li>• Stories to highlight</li> <li>• Priorities for the next quarter</li> <li>• Challenges</li> <li>• Changes to team and new collaborations</li> <li>• Invoicing and cost reporting</li> </ul> <p>Optional:</p> <ul style="list-style-type: none"> <li>• technical evidence saved to drive e.g. report or presentation as requested by PD</li> <li>• review meeting slide deck saved to drive as requested by PD</li> </ul>
Annual	<ul style="list-style-type: none"> <li>• ARIA impact metrics</li> <li>• Attendance at annual ARIA event</li> </ul>
Ad hoc	<ul style="list-style-type: none"> <li>• As required, Programme Director/ Programme Team may request additional information and evidence</li> <li>• Workshops - potential to be invited to ARIA workshops</li> </ul>
Project closure	<ul style="list-style-type: none"> <li>• Project closure report</li> </ul>

## 5. Payment

5.1 Subject to your compliance with the terms of this Grant Agreement, ARIA will make Grant payments quarterly in arrears based on actual costs incurred.

For quarterly payments, the cadence of payments will align with ARIAs financial year beginning 1st April e.g. Quarter 1 Grant Claims will be for the period of 1st April to 30 June, Quarter 2 Grant Claims will be for the period of 1st July to 30 Sept and so on.

5.2 Before paying any Grant Claim, ARIA must be satisfied that the Project Activities have been carried out during the Funding Period (or that part of the Funding Period to which the claim for

Grant relates).

5.3 Grant Claims must be submitted to ARIA by the 15th Working Day of the month following the end of the relevant period.

5.4 Payment of the Grant Claim will be made on the following timeline: (a) within 14 days of receiving any Grant Claim, ARIA will either approve or not approve any Grant Claim and will inform you; and (b) Payment of the Grant Claim will be made within 16 days after ARIA approves your Grant Claim.

## **6. Principal investigator/key researchers**

6.1 For the purposes of clause 22.7, the following principle investigators or key researchers have been identified:

Name	Role	Organisation
Daniel Harrison	Project developer and lead across all WP	Southern Cross University (SCU)
[REDACTED]	Lead the high-resolution modelling component of the project (WS.C).	Freie Universität Berlin (FU)
[REDACTED]	Supervise the surface-based measurements of aerosols and atmospheric chemistry during fieldwork (WS.B), and supervise the experimental work on atmospheric chemistry risk in the QUT atmospheric chamber (WP.D2).	Queensland University of Technology (QUT)
[REDACTED]	Lead research into the implications of introducing additional seawater on heterogeneous atmospheric chemistry (WP.D2)	Queensland University of Technology (QUT)
[REDACTED]	Lead the efficacy and risk modelling component and oversee work to improve model parameterisations (WS.D).	Commonwealth Scientific and Industrial Organisation (CSIRO)
[REDACTED]	lead the UNSW contribution to piloted aircraft sampling during the field campaigns and contribute to study of the	University of New South Wales (UNSW)



	MCB plume behaviour (WS.B)	
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## 7. Sub-Contractors

7.1 For the purposes of clause 19, the following Sub-Contractors have been agreed:

Name	Description of activity	Location of organisation
Commonwealth Scientific and Industrial Organisation (CSIRO)	Provide models and modelling support for the ACCESS-EMS-GBR use as well risk modelling development that will inform Governance.	Australia
University of New South Wales (UNSW)	Provide resources (aircraft) and technical expertise for methodology development and field observations	Australia
Queensland University of Technology (QUT)	Involvement with field and laboratory investigation of aerosol characteristics. Includes resources, infrastructure, researchers and students	Australia
Freie Universität Berlin	Provide researchers and resources to conduct cloud microphysical modelling as a strategic component to the project	Germany

## **PART 2 - GRANT APPLICATION**

Application titled "Marine Cloud Brightening in a complex world – moving beyond the Twomey effect" submitted 9 December 2024

### SCHEDULE 3

#### Royalty Percentages

Royalties on the sale or supply of products or services that are covered by, use or incorporate the Foreground IP licensed to the NewCo will only become due on aggregate net sales derived from the Foreground IP exceeding £50 million.

The maximum headline percentage royalty rate (i.e. before any royalty stacking, step-down or other reduction and excluding any ARIA Non-UK Fee) for products or services that are covered by, use or incorporate the Foreground IP, and of sublicensing income, shall be one of the following:

Type of product	Applicable headline royalty percentage (up to)
Low margin	0.5% of net sales
Medium margin	1% of net sales
High margin	2% of net sales
Sublicensing royalty	10% of net receipts

## ANNEX 1

### Clause for inclusion in licences of Foreground IP

#### [ ] **ARIA NON-UK FEE**

[ ].1 In this clause:

**“ARIA”** means the Advanced Research and Invention Agency;

**“Crown Body”** means the government of the United Kingdom (including the Northern Ireland Assembly and Executive Committee, the Scottish Executive and the National Assembly for Wales), including, but not limited to, government ministers and government departments and particular bodies, persons, commissions or agencies from time to time carrying out functions on its behalf;

**“UK Entity”** means a legal entity that has or whose ultimate parent company has its headquarters and principal establishment in the United Kingdom.

[ ].2 The Foreground IP was developed with funding from ARIA. As a condition of its funding ARIA requires that a benefit is returned to the United Kingdom where the Foreground IP is licensed by the Licensor to any person that is not a UK Entity. Accordingly, in addition to any other sums payable by the Licensee to the Licensor under this Agreement, the Licensee shall pay to the Licensor within 90 days after the end of each calendar year during the Relevant Period (as defined below), and within 90 days after the end of the Relevant Period, a fee (**ARIA Non-UK Fee**) on all amounts (including upfronts, licence fees, milestone payments, royalties, shares or other securities, exit fees, buyout or other consideration) payable by the Licensee to the Licensor under this Agreement in relation to the exploitation of any Foreground IP (**Relevant Amount**) that accrues during, or relates to, any period of time that the Licensee is not a UK Entity (**Relevant Period**). The amount of the ARIA Non-UK Fee is 25% of the Relevant Amount, and is payable by the Licensee to the Licensor in addition to the amounts that would otherwise be payable under this Agreement. For example if the Relevant Amount is £100 the ARIA Non-UK Fee is an additional £25, which the Licensee shall pay to the Licensor and the Licensor shall remit to ARIA.

#### **Crown Body customers**

[ ].3 You must also ensure that any Crown Body is able to procure any products and services that are covered by, use or incorporate the relevant Foreground IP within a reasonable time period at prices that are no higher than those offered to or agreed with any other customer for equivalent quantities and in suitable quantities for the Crown Body's requirements.

[ ].4 ARIA shall have the right to enforce this clause [ ] under the Contracts (Rights of Third Parties) Act 1999. Neither party may amend this Agreement in a way that detracts from ARIA's right to enforce its rights under this clause without ARIA's prior written consent.

- [1] When using this clause you may substitute the relevant defined terms used elsewhere in the agreement to capture the concept of "Foreground IP". Where the clause refers to the "Licensor" and "Licensee" please use the appropriate defined terms to include the licensor, licensee, assignor and assignee of the Foreground IP. This clause is not suitable for assignments of the Foreground IP in consideration of the payment of one or more lump sum payments. In those cases the Licensor needs to be informed, and potentially make an additional payment, if the Foreground IP is subsequently assigned to a non-UK Entity or if the Assignee ceases to be a UK Entity.

## **SCHEDULE 4: Data Protection**

### **1. DEFINITIONS**

The following definitions apply in this Schedule.

Controller, Processor, Data Subject, Personal Data, Personal Data Breach and Processing: have the meanings given to them in the Data Protection Legislation.

Data Protection Legislation all applicable data protection and privacy legislation in force from time to time in the UK including the UK GDPR; the Data Protection Act 2018 (DPA 2018) (and regulations made thereunder) and the Privacy and Electronic Communications Regulations 2003 (SI 2003/2426) as amended and all other legislation and regulatory requirements in force from time to time which apply to a party relating to the use of Personal Data (including, without limitation, the privacy of electronic communications); and the guidance and codes of practice issued by the Information Commissioner or other relevant regulatory authority and applicable to a party.

Domestic Law: the law of the United Kingdom or a part of the United Kingdom.

UK GDPR: has the meaning given to it in section 3(10) (as supplemented by section 205(4)) of the Data Protection Act 2018.

### **2. GENERAL OBLIGATION**

- 2.1. Both parties will comply with all applicable requirements of the Data Protection Legislation. This paragraph 2.1 is in addition to, and does not relieve, remove or replace, a party's obligations or rights under the Data Protection Legislation.

### **3. DATA PROCESSING**

- 3.1. The parties acknowledge that for the purposes of the Data Protection Legislation, ARIA is the Controller and you are the Processor when performing its obligations under this Grant Agreement (the scope, nature and purpose of processing by the Provider, the duration of the processing and the types of Personal Data and categories of Data Subject are set out in paragraph 3.7, as updated from time to time).
- 3.2. Without prejudice to the generality of paragraph 2.1, ARIA will ensure that it has all necessary appropriate consents and notices in place to enable lawful transfer of the Personal Data to you [and/or lawful collection of the Personal Data by [the Provider] on behalf of ARIA] for the duration and purposes of Grant Agreement.
- 3.3. Without prejudice to the generality of paragraph 2.1, you shall, in relation to any Personal Data processed in connection with the performance by the Provider of its obligations under Grant Agreement:
  - 3.3.1. process that Personal Data only on the documented written instructions of ARIA unless you are required by Domestic Law to otherwise process that Personal Data. Where you are

relying on Domestic Law as the basis for processing Personal Data, you shall promptly notify ARIA of this before performing the processing required by the Domestic Law unless the Domestic Law prohibits you from so notifying ARIA;

- 3.3.2. ensure that it has in place appropriate technical and organisational measures, reviewed and approved by ARIA, to protect against unauthorised or unlawful processing of Personal Data and against accidental loss or destruction of, or damage to, Personal Data, appropriate to the harm that might result from the unauthorised or unlawful processing or accidental loss, destruction or damage and the nature of the data to be protected, having regard to the state of technological development and the cost of implementing any measures (those measures may include, where appropriate, pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of its systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the technical and organisational measures adopted by it);
- 3.3.3. ensure that all personnel who have access to and/or process Personal Data are obliged to keep the Personal Data confidential; and
- 3.3.4. not transfer any Personal Data outside of the UK unless the prior written consent of ARIA has been obtained and the following conditions are fulfilled:
  - 3.3.4.1. ARIA or you have provided appropriate safeguards in relation to the transfer;
  - 3.3.4.2. the Data Subject has enforceable rights and effective legal remedies;
  - 3.3.4.3. you comply with your obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred; and
  - 3.3.4.4. you comply with reasonable instructions notified to you in advance by ARIA with respect to the processing of the Personal Data;
- 3.3.5. assist ARIA, at ARIA's cost, in responding to any request from a Data Subject and in ensuring compliance with its obligations under the Data Protection Legislation with respect to security, breach notifications, impact assessments and consultations with supervisory authorities or regulators;
- 3.3.6. notify ARIA without undue delay on, and in event within 24 hours of, becoming aware of a Personal Data Breach;
- 3.3.7. at the written direction of ARIA, delete or return Personal Data and copies thereof to ARIA on termination of Grant Agreement unless required by Domestic Law to store the Personal Data; and

- 3.3.8. maintain complete and accurate records and information to demonstrate its compliance with this Schedule and allow for audits by ARIA or ARIA's designated auditor and immediately inform ARIA if, in the opinion you, an instruction infringes the Data Protection Legislation.
- 3.4. [[ARIA does not consent to you appointing any sub-Processor of Personal Data under this Schedule.] OR [ARIA consents to your use of sub-Processors engaged in the processing of Personal Data by way of general authorisation in respect of all sub-Processors as at the date of this Schedule. You shall make a list available to ARIA upon request. You shall give ARIA not less than 15 days' prior written notice of a change in the list of sub-Processors to give ARIA an opportunity to object to such change. ARIA must notify you in the event that it does not agree to a proposed change within 15 days of receiving a notification from you , specifying its grounds for such objection (acting reasonably). If you receive such an objection, then you may (at its option):
- 3.4.1. cancel its plans to change the affected sub-Processor;
- 3.4.2. offer an alternative which is acceptable to ARIA; or
- 3.4.3. take corrective steps to remove the objection identified by ARIA to ARIA's reasonable satisfaction, after which you may proceed with the appointment of the relevant sub-Processor.
- 3.5. If none of the above options resolve the objection, then without liability for either party, either party may terminate Grant Agreement by providing written notice of termination with immediate effect where such notice of termination is served within 30] days of you informing ARIA of the proposed change.
- 3.6. You confirm that it has entered or (as the case may be) will enter with its sub-Processors into written agreements incorporating terms which are substantially similar to those set out in this Schedule and which you confirm reflects and will continue to reflect the requirements of the Data Protection Legislation. As between you and ARIA, you shall remain fully liable for all acts or omissions of any sub-Processor appointed by it pursuant to this paragraph 3.4 to 3.6.]
- 3.7. Scope, Nature, Purpose of Processing, Types of Personal Data and Categories of Data Subjects.

Scope and purpose of Processing:	Provision of the Project Activities by you under this Grant agreement.
Nature of Processing:	[Here you should describe what the Processor will be doing with the Personal Data, for example collecting it, storing it, retrieving it, consulting it, disseminating it or destroying it, etc.



	Note the definition of processing in the UK GDPR: <i>"any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction"</i> ]
Duration of Processing:	Duration of this Grant Agreement (and any post termination processing that is permitted / required).
Types of Personal Data:	[Describe here the types of data relating to the individuals concerned, e.g. names, addresses, email addresses, financial details, date of birth, place of birth, photographs, nationality, gender, signature, health records, work appraisal records, disciplinary processes, references, job applications, CVs, notes of interviews, etc. If so-called "special categories" of personal data (currently known as sensitive data) are being processed describe them here. Note the definition of special categories of personal data in the UK GDPR: <i>"data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation"</i> ]
Categories of Data Subjects:	[Describe here the individuals whose data will be processed, by reference to their relationship with the company and its business, e.g. employees, directors,

	clients, prospects, suppliers, sub-contractors, consultants, job applicants, advisors, key opinion leaders, etc.]
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#### **4. INDEMNIFICATION**

- 4.1. You shall indemnify and keep ARIA indemnified against all losses, claims, damages, liabilities, fines, interest, penalties, costs, charges, sanctions, expenses, compensation paid to Data Subjects (including compensation to protect goodwill and ex gratia payments), demands and legal and other professional costs (calculated on a full indemnity basis and in each case whether or not arising from any investigation by, or imposed by, a supervisory authority) arising out of or in connection with any failure by you or your employees, subcontractors or agents to comply with any of its obligations under this Schedule or the Data Protection Legislation.
- 4.2. Any limitation of liability set out in this Grant Agreement will not apply to this Schedule's indemnity or reimbursement obligations.

## **Annex A - Future Proofing our Climate and Weather Intellectual Property Pledge**

1. Submission of Pledged Patents and Experimental Data
  - 1.1 The Pledgor undertakes to submit relevant details of all Pledged Patents to the operator of the Pledge Repository in accordance with the Submission Guidelines.
  - 1.2 The Pledgor undertakes to:
    - (a) submit (or provide a link to a publicly available digital copy of) all Experimental Data to the operator of the Pledge Repository in accordance with the Submission Guidelines; and
    - (b) publish such Experimental Data in accordance with the Submission Guidelines.
2. Experimental Data Licence
  - 2.1 Subject to Clause 6.1, the Pledgor hereby grants a royalty-free, non-exclusive licence under the Experimental Data to any party that wishes to accept it ("Experimental Data Licensee") solely for the purpose of carrying out research in the Field.
  - 2.2 The licence granted under Clause 2.1:
    - (a) is non-transferable and non-sublicensable;
    - (b) permits research activities but does not permit development, manufacture, sale or other exploitation of products or services under the Experimental Data.
  - 2.3 The Experimental Data Licensee may conduct relevant research activities itself or in collaboration with a third party, provided that the Experimental Data Licensee must ensure that such third party agrees to comply with the terms of Clause 2.4 as if such third party were the Experimental Data Licensee.
  - 2.4 The Experimental Data Licensee must:
    - (a) at all times when using the Experimental Data comply with all Laws; and
    - (b) to the extent that any data relating to the Field is generated by or on behalf of the Experimental Data Licensee in the course of carrying out research activities based on or using the Experimental Data or the Pledged Patents, make such data available on the terms of this Pledge (and such data shall be deemed to be Experimental Data pursuant to this Pledge).
3. Research Licence
  - 3.1 Subject to Clause 6.1, the Pledgor grants a royalty-free, non-exclusive licence under the Pledged Patents to any party that wishes to accept it ("Research Licensee") solely for the purpose of carrying out research in the Field.
  - 3.2 The licence granted under Clause 3.1:
    - (a) is non-transferable and non-sublicensable; and
    - (b) permits research activities but does not permit development, manufacture, sale or other exploitation of products or services under the Pledged Patents.
  - 3.3 Subject to Clause 6.1, the licence granted in accordance with Clause 3.1 shall subsist until the expiry of the final Pledged Patent.

- 3.4 The Research Licensee may conduct relevant research activities itself or in collaboration with a third party, provided that the Research Licensee must ensure that such third party agrees to comply with the terms of Clause 3.5 as if such third party were the Research Licensee.
- 3.5 The Research Licensee must:
- (a) at all times when using the Pledged Patents comply with all Laws; and
  - (b) to the extent that any patents relating to the Field are filed by or on behalf of the Research Licensee covering data generated in the course of carrying out research activities based on or using the Pledged Patents or Experimental Data, make such patents available on the terms of this Pledge (and such patents shall be deemed to be Pledged Patents pursuant to this Pledge).
4. Commercial Licence
- 4.1 The Pledgor undertakes to grant a non-exclusive licence on reasonable terms under the Pledged Patents and/or Experimental Data to any Signatory that requests it ("Commercial Licensee") for the purpose of carrying out commercial activities (including development, manufacture, sale or other exploitation of products or services) in the Field.
- 4.2 The Pledgor must grant the licence set out Clause 4.1 in good faith and in a timely fashion following such a licence being requested by the Commercial Licensee.
- 4.3 The Commercial Licensee must at all times when using the Pledged Patents and/or Experimental Data comply with all Laws.
5. Pledgor Know-How
- At the request of a Licensee, the Pledgor undertakes to negotiate in good faith with any Licensee regarding a non-exclusive licence in the Field under any Know-how owned by such Pledgor that is necessary for a Licensee to use the technology covered by the Pledgor's Pledged Patents. Such licence may be for research or commercial purposes as agreed between the Pledgor and Licensee.
6. Termination
- 6.1 The Pledgor may terminate any licence it grants to an Experimental Data Licensee and/or Research Licensee under this Pledge in the event that such Licensee:
- (a) materially breaches the terms of such licence or this Pledge; or
  - (b) breaches any Laws in its use of the Experimental Data or Pledged Patents (as applicable).
7. Transfers of Pledged Patents and/or Experimental Data
- The Pledgor undertakes to make any future assignment of the Pledged Patents and/or Experimental Data to any other party (the "Recipient") conditional on the Recipient (and any successor in title) agreeing to be bound by the terms of this Pledge.
8. No Warranty
- The Pledgor provides the Pledged Patents and the Experimental Data on an "as is" basis. The Pledgor makes no express or implied warranty or representation concerning the Pledged Patents or Experimental Data including but not limited to non-infringement or to the accuracy or completeness of the Pledged Patents or Experimental Data.

9. Compliance with Laws

For the avoidance of doubt, nothing in this Pledge operates to require a Pledgor, Licensee or Signatory to do any acts or grant any rights that do not comply with Laws.

10. Further Publication or Licensing

For the avoidance of doubt, nothing in this Pledge operates to restrain a Pledgor from publishing or licensing any Experimental Data or Pledged Patents more widely or on more permissive terms than those described herein.

11. Governing law and jurisdiction

This Pledge (including any non-contractual disputes or claims arising in connection with this Pledge) will be governed by and construed in accordance with the laws of England and Wales and the parties irrevocably submit to the exclusive jurisdiction of the courts of England and Wales.

**Part 1 of Annex A: Definitions**

1. In this Pledge, unless the context otherwise requires, the following definitions shall apply:

<b>Experimental Data</b>	means data generated by or on behalf of the Pledgor relating to the Field and identified by the Pledgor for inclusion in the Pledge pursuant to Clause 1.2;
<b>Field</b>	means approaches for intentionally altering the Earth system through solar radiation modification, modification of ocean circulations, modification of cloud properties, surface engineering works, or weather modification;
<b>Know-how</b>	means the information, methods, formulae, processes and/or applications which may or may not be documented and which enable the use of the technology covered by the Pledged Patents;
<b>Law(s)</b>	means any applicable law, statute, bye-law, regulation, order, regulatory policy, guidance or industry code having the force of law, rule of court, delegated or subordinate legislation in force from time to time;
<b>Licensee</b>	means any Commercial Licensee, Research Licensee or Experimental Data Licensee;
<b>Pledge</b>	means the commitments in relation to patents, know-how and data set out in this pledge document;
<b>Pledge Repository</b>	[TBC]
<b>Pledged Patents</b>	means patents or patent applications owned by the Pledgor relating to the Field and identified by the Pledgor for inclusion in the Pledge pursuant to Clause 1.1;
<b>Signatory</b>	means any party who has agreed to be bound by the terms of this Pledge; and
<b>Submission Guidelines</b>	means the guidelines governing the submission of Experimental Data and details of the Pledged Patents to the Pledge Repository, as amended from time to time.