



Australian Government

Department of the Environment and Energy



Australian Government

Department of Defence

MEMORANDUM OF UNDERSTANDING

**Memorandum of Understanding for
Defence Estate Climate Adaptation
Partnership**

between

Commonwealth of Australia as represented by
the Department of Defence

ABN 68706 814 312

(Defence)

and

Commonwealth of Australia as represented by
the Department of the Environment and Energy

ABN 34 190 894 983 **(Environment)**

Table of Contents

Table of Contents	ii
Details	1
Agreed Terms	2
1. Definitions and interpretation	2
2. Duration of MoU	5
3. General obligations of the parties	5
4. Provision of Services	5
5. Conduct at Defence's premises	6
6. Subcontracting	6
7. Personnel	7
8. Performance	7
9. Review	7
10. Defence Material	7
11. Intellectual Property Rights	7
12. Moral Rights	8
13. Payment	8
14. Risk	8
15. Confidentiality	8
16. Variation	9
17. Dispute resolution	10
18. Termination	10
19. Notices and other communications	10
20. Survival	11
21. Miscellaneous	11
Schedule 1 – MoU Details	12
Schedule 2 – Statement of Work	14
1. Description of the Services (clause 4)	14
2. Timeframes (clause 4)	14
3. Reports and meetings (clause 8)	14
Schedule 3 – Fees and expenses	15

1. Fees (clause 13)	15
2. Payment of Fees	15
3. Expenses and allowances (clause 13)	15
4. Invoicing requirements (clause 13.1)	15
5. Payment terms (clause 13)	16
Execution page	17
ATTACHMENT A	18

Details

Parties

1. Commonwealth of Australia as represented by the Department of Defence ABN 68706 814 312 (**Defence**).
2. Commonwealth of Australia as represented by the Department of the Environment and Energy ABN 34 190 894 983 (**Environment**).

Recitals

- A. The parties have agreed to enter into this Memorandum of Understanding (**MoU**) in relation to the provision of services by Environment to Defence.
- B. This MoU does not replace or revoke any other existing arrangement between the parties.
- C. Both parties are part of a single legal entity and accordingly all of the legal benefits and legal obligations under this MoU remain with the Commonwealth of Australia. This MoU operates as the understanding between the parties in relation to their respective administrative responsibilities and is not intended to be legally binding. The Parties, will operate in the spirit of fairness and cooperation and will abide by the terms of this MoU as if they were separate legal entities and as if this MoU constituted a binding contractual arrangement between them.

Agreed Terms

1. Definitions and interpretation

1.1 Definitions

In this MoU, except where the contrary intention is expressed, the following definitions are used:

Commencement Date	the date on which this MoU commences, as specified in Item 1 of the MoU Details.
Confidential Information	information that is by its nature confidential; and (a) is designated by a party as confidential; or (b) a party knows or ought to know is confidential, but does not include: (c) information which is or becomes public knowledge other than by breach of this MoU or any other confidentiality obligation.
Deliverable	any MoU Material or other item to be supplied by Environment under this MoU.
Defence Material	any Material provided to Environment by Defence.
End Date	the date specified in Item 2 of the MoU Details.
Fees	the fees payable to Environment in accordance with Schedule 3.
Intellectual Property Rights	all intellectual property rights, including the following rights: (a) copyright, patents, rights in circuit layouts, trade marks, designs, trade secrets, know how, domain names and any right to have confidential information kept confidential; (b) any application or right to apply for registration of any of the rights referred to in paragraph (a); and (c) all rights of a similar nature to any of the rights in paragraphs (a) and (b) which may subsist in Australia or elsewhere, whether or not such rights are registered or capable of being registered.
Item	an item in a schedule to this MoU.
Law	any applicable statute, regulation, by-law, ordinance or subordinate legislation in force from time to time in Australia, whether made by a State, Territory, the Commonwealth, or a local government.

Material	any software, firmware, documented methodology or process, documentation or other material in whatever form, including without limitation any reports, specifications, business rules or requirements, user manuals, user guides, operations manuals, training materials and instructions, data, metadata and the subject matter of any category of Intellectual Property Rights.
Memorandum of Understanding or MoU	this agreement between Defence and Environment, as amended from time to time in accordance with clause Error! Reference source not found. , and includes its schedules and any attachments.
Moral Rights	the right of integrity of authorship (that is, not to have a work subjected to derogatory treatment), the right of attribution of authorship of a work, and the right not to have authorship of a work falsely attributed, as defined in the <i>Copyright Act 1968</i> (Cth).
MoU Material	any Material that is: <ul style="list-style-type: none"> (a) created by Environment for the purpose of or as a result of performing its obligations under this MoU; or (b) Third Party Material created on or following the Commencement Date for the purpose of, or as a result of, Environment performing its obligations under this MoU.
MoU Period	the period specified in clause 2.
Personnel	in relation to a party, any natural person who is an employee, officer, agent or professional adviser of that party or, in the case of Environment, of a subcontractor.
Pre-existing Material	any Material, other than Defence Material, MoU Material or Third Party Material, which is created before the Commencement Date and made available by a party for the purpose of this MoU, on or following the Commencement Date, and includes: <ul style="list-style-type: none"> (a) error corrections or translations to that Material; and (b) modifications or derivatives of that Material where such modification or derivative work cannot be used without infringing the Intellectual Property Rights in the underlying Material.
Services	the services to be provided by Environment, as specified in the Statement of Work and include the supply of the Deliverables.
Specified Acts	(a) failing to attribute or falsely attributing the authorship of any MoU Material, or any content in the MoU Material (including without limitation

literary, dramatic, artistic works and cinematograph films within the meaning of the *Copyright Act 1968* (Cth));

- (b) materially altering the style, format, colours, content or layout of the MoU Material and dealing in any way with the altered MoU Material;
- (c) reproducing, communicating, adapting, publishing or exhibiting any MoU Material; and
- (d) adding any additional content or information to the MoU Material.

Third Party Material

Material owned or created by a third party that is:

- (a) included, embodied in or attached to the MoU Material; or
- (b) used as part of the performance of the Services.

WGE Act

the *Workplace Gender Equality Act 2012* (Cth).

1.2 Interpretation

In this MoU, except where the contrary intention is expressed:

- (a) the singular includes the plural and vice versa, and a gender includes other genders;
- (b) another grammatical form of a defined word or expression has a corresponding meaning;
- (c) a reference to a document or instrument includes the document or instrument as novated, altered, supplemented or replaced from time to time and any schedules, appendices or annexures to that document or instrument;
- (d) a reference to AUD, A\$, \$A, dollar or \$ is to Australian currency;
- (e) a reference to time is to the time in the place where the obligation is to be performed;
- (f) a reference to a party is to a party to this MoU, and a reference to a party to a document includes the party's executors, administrators, successors and permitted assignees and substitutes;
- (g) a reference to a person includes a natural person, partnership, body corporate, association, governmental or local authority or agency or other entity;
- (h) a reference to a statute, ordinance, code or other Law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them;
- (i) the meaning of general words is not limited by specific examples introduced by including, for example or similar expressions;
- (j) a rule of construction does not apply to the disadvantage of a party because the party was responsible for the preparation of this MoU or any part of it; and
- (k) headings are for ease of reference only and do not affect interpretation.

1.3 Priority of documents

If there is inconsistency between any of the documents forming part of this MoU, those documents will be interpreted in the following order of priority to the extent of any inconsistency:

- (a) Agreed Terms;
- (b) Schedules;
- (c) any attachments to the Schedules; and
- (d) documents incorporated by reference in this MoU.

2. Duration of MoU

This MoU begins on the Commencement Date and continues until the End Date unless terminated in accordance with clause 18 (**MoU Period**).

3. General obligations of the parties

3.1 Representatives of parties

Each party will immediately nominate a representative to manage the relationship between them pursuant to this MoU and may, from time to time nominate a new representative as necessary to perform this role. The details of the current representatives are set out in Schedule 1. Any change to these details must be advised in writing by the relevant party.

3.2 Co-operation

The parties will actively maintain a co-operative relationship (including by sharing all relevant information) in order to enhance the efficient and effective operation and administration of this MoU and of their respective portfolio responsibilities.

3.3 Compliance and audit

In relation to this MoU and its subject matter:

- (a) the parties will work co-operatively to ensure that effective compliance regimes are maintained and, where reasonably possible, will provide the other with relevant information to support compliance activity; and
- (b) each of the parties will advise the other of any audit or review function undertaken internally or externally. The parties, where reasonably possible, will provide assistance to each other in relation to any review or audit.

4. Provision of Services

(a) Environment must:

- (i) provide the Services as described in Item 1 of Schedule 2, in accordance with the timeframes specified in Item 2 of Schedule 2;
- (ii) provide the Services in accordance with all applicable Laws and Australian Government policy requirements including any obligations under the protective security policy framework;
- (iii) provide Defence with any MoU Material;

- (iv) act reasonably in performing its obligations and exercising its rights; and
 - (v) diligently perform its obligations.
- (b) Environment further undertakes that:
- (i) the Services will be complete, accurate and fit for their purposes;
 - (ii) the Services will be provided at a high professional standard and exercise skill, care and diligence;
 - (iii) the Services will be completed by appropriately qualified, skilled and experienced Personnel; and
 - (iv) all work will be carried out and completed in a proper and workmanlike manner and in the most cost-effective manner and using materials that are free from defects in design, performance and workmanship and suitable for the purpose.

5. Conduct at Defence's premises

Environment must, if using or accessing the Defence's premises or facilities, comply with all reasonable directions and procedures relating to occupational health and safety and security in operation at those premises or facilities whether specifically drawn to the attention of Environment or as might reasonably be inferred from the circumstances.

6. Subcontracting

- (a) Environment must:
- (i) Subcontract to Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Griffith University for the performance of certain services set out in Attachment A.
 - (ii) not subcontract any other aspect of the provision of the Services without the prior written approval of Defence, which will not be unreasonably withheld;
 - (iii) not, in any event, enter into a subcontract under this MoU with a subcontractor named by the Workplace Gender Equality Agency in a report to the Minister responsible for the WGE Act as an employer currently not complying with the reporting requirements of the WGE Act;
 - (iv) on request, provide Defence with the names of any of Environment's subcontractors and a copy of any contract relating to the Services and/or any Material relating to the engagement of the subcontractor;
 - (v) agree, and must ensure that any subcontractor agrees, that Defence may disclose the subcontractor's name publicly; and
 - (vi) ensure that any subcontractor complies with all applicable Laws and clause 11 (Intellectual Property Rights); and clause 15 (Confidentiality).
- (b) Environment is fully responsible for the performance of the Services even if Environment subcontracts any aspect of the provision of the Services.

- (c) Environment will regularly monitor standards of performance to ensure value for money, in consultation with Defence as required. Environment will implement service improvement measures where applicable.

7. Personnel

7.1 Replacement of Personnel and subcontractors

- (a) Defence may at any time request Environment to meet with Defence to discuss the performance of any of Environment's subcontractors or Personnel.
- (b) If Defence considers that the performance of any of Environment's subcontractors or Personnel is deficient or is unsatisfactory in any way, Environment must make all reasonable efforts to rectify the deficient or unsatisfactory performance.

8. Performance

8.1 Progress meetings

The parties will meet at the times set out in Schedule 2 (or otherwise as agreed in writing between the parties) to discuss any issues in relation to the provision of the Services. The parties must ensure that their representatives are reasonably available to attend such meetings and answer any queries relating to the provision of the Services raised by either party.

8.2 Reporting

Environment must provide Defence with reports in accordance with Attachment A (or otherwise as agreed in writing between the parties).

9. Review

The parties will jointly review the operation of this MoU on a quarterly basis or as otherwise agreed in writing by the parties. The first such review will take place in September 2018.

10. Defence Material

Environment must ensure that Defence Material is used strictly in accordance with any direction by Defence.

11. Intellectual Property Rights

11.1 Third Party Material

This clause 11 does not affect the ownership of Pre-existing Material or Third Party Material.

11.2 Environment to obtain copyright and intellectual property permissions

Environment will obtain all necessary copyright and other Intellectual Property Rights permissions before including any Third Party Material in the MoU Material or Environment Material or using Third Party Material as part of the Services.

11.3 Administration of MoU Material

- (a) Ownership of MoU Material vests in Defence.

- (b) Defence acknowledges, and Environment agrees, that Environment is responsible for the administration of Intellectual Property Rights in the MoU Material.

12. Moral Rights

To the extent permitted by applicable Laws and for the benefit of Defence, Environment must use its best endeavours to ensure that each of the Personnel used by Environment in the production or creation of the MoU Material gives genuine consent in writing, in a form acceptable to Defence, to the use of the MoU Material for the Specified Acts, even if such use would otherwise be an infringement of their Moral Rights.

13. Payment

13.1 Obligation to pay Fees

Defence will pay to Environment the Fees and expenses (if any) as set out in Schedule 3, subject to satisfactory performance of the Services and the provision of a correctly rendered invoice.

13.2 GST

Where GST applies, the invoice is to be a valid tax invoice complying with statutory requirements.

14. Risk

14.1 Each party bears their own risk

Each party bears their own risk in relation to:

- (a) their involvement in this MoU; and
- (b) the acts and omissions of their subcontractors and Personnel.

15. Confidentiality

15.1 Prohibition on disclosure

Subject to clause 15.2, a party must not, without the prior written consent of the other party, disclose any Confidential Information of the other party to a third party.

15.2 Exceptions to obligations

The obligations on the parties under this clause 15 will not be taken to have been breached to the extent that Confidential Information is:

- (a) disclosed by a party to its advisers, employees, officers, agents, professional advisers or subcontractors solely in order to comply with obligations, or to exercise rights, under this MoU;
- (b) disclosed by a party to the responsible Minister or a House or a Committee of the Parliament of the Commonwealth or is shared by a party internally or with another Commonwealth agency, where this serves a party's legitimate interests;
- (c) authorised or required by Law, including under this MoU, under a licence or otherwise, to be disclosed; or
- (d) in the public domain otherwise than due to a breach of this clause 15.

15.3 No reduction in privacy obligations

Nothing in this clause 15 derogates from any obligation which either party may have either under the *Privacy Act 1988* (Cth) as amended from time to time, or under this MoU, in relation to the protection of personal information.

16. Variation

- 16.1 Any change to this MoU, including adding or removing Services and changes to the scope of the Service must be recorded in writing and signed by each party (Variation).
- 16.2 In the event of a change affecting a party or the Service under this MoU, the parties will promptly and cooperatively review and determine any consequent changes to the MoU, execute and implement an appropriate Variation and use all reasonable endeavours to ensure continuity of the Service under the MoU and associated Fees.

17. Dispute resolution

The parties agree to use reasonable efforts to resolve by negotiation any problem that arises among them (**Dispute**). A party will not withdraw from this MoU until the following process has been exhausted.

- (a) if there is a Dispute between the parties concerning this MoU, either party may give written notice of the Dispute to the other party which will state that it is a notice under this clause and will specify the details of the Dispute concerned;
- (b) management representatives of each of the parties will endeavour in good faith to agree upon a resolution of the Dispute;
- (c) should management representatives fail to reach a solution within 14 business days of receipt of a notice of Dispute (or a time frame agreed in writing between the parties), the Dispute will be taken to Senior Executive Service (**SES**) representatives of each of the parties;
- (d) SES representatives will endeavour in good faith to agree upon a resolution of the Dispute;
- (e) should the SES representatives fail to resolve the Dispute within 10 business days (or other time frame agreed in writing between the parties), the Dispute will be taken to the:
 - (i) Assistant Secretary, Climate Policy Branch, Department of the Environment and Energy; and
 - (ii) Secretary of Defence, or delegate.

who will endeavour to reach agreement regarding the Dispute.

18. Termination

Either party may terminate this MoU by giving 30 days written notice to the other party. The termination will take effect on expiry of the notice or such later date as is agreed by the parties.

19. Notices and other communications

Any notice given by a party under this MoU must be in writing and hand delivered or sent by pre-paid post, or fax or email to the appropriate representative at the specified address.

20. Survival

Clauses 6(a)(ii) and (v) (Subcontracting), clause 11 (Intellectual Property Rights), clause 12 (Moral Rights) and clause 15 (Confidentiality) survive the expiry or termination of this MoU.

21. Miscellaneous

21.1 Assignment and novation

A party may only assign its rights or novate its rights and obligations under this MoU with the prior written consent of the other party.

21.2 Counterparts

This MoU may be executed in counterparts. All executed counterparts constitute one document.

21.3 Entire agreement

This MoU constitutes the entire agreement between the parties in connection with its subject matter and supersedes all previous agreements or understandings between the parties in connection with its subject matter.

21.4 Relationship

- (a) The parties must not represent themselves, and must ensure that their officers, employees, agents and subcontractors do not represent themselves, as being an officer, employee, partner or agent of the other party, or as otherwise able to bind or represent the other party.
- (b) This MoU does not create a relationship of employment, agency or partnership between the parties.

21.5 Disclosure of information

Notwithstanding any other provision of this MoU, Defence may disclose information about this MoU, including personal information, required to be reported by Defence.

Environment may disclose information about this MoU, including personal information, required to be reported by Environment with Defence's prior written agreement.

Schedule 1 – MoU Details

Item No.	Description	Clause reference	Details
1.	Commencement Date	1.1	The date this MoU is signed by the last party.
2.	End Date	1.1	30 June 2019.
3.	Defence details	Parties	<p>Name and ABN Commonwealth of Australia represented by the Department Defence ABN 68706 814 312</p> <p>Postal address N/A</p> <p>Physical address 26 Brindabella Circuit Brindabella Business Park Canberra Airport ACT 2609</p> <p>Contact person Director, Environmental Resource Management and Sustainability</p> <p>Phone s22</p> <p>Fax N/A</p> <p>Email s22</p>
4.	Environment details	Parties	<p>Name and ABN Commonwealth of Australia represented by the Department of the Environment and Energy ABN 34 190 894 983</p> <p>Postal address GPO Box 787, Canberra ACT 2601</p> <p>Physical address John Gorton Building, King Edward Terrace, Parkes ACT 2600</p> <p>Contact person A/g Director, Adaptation and Climate Science Policy</p> <p>Phone s22</p> <p>Fax N/A</p> <p>Email s22</p>
5.	Subcontractor details	6	<p>Name and ABN Commonwealth Scientific and Industrial Research Organisation ABN 41 687 119 230</p>

Item No.	Description	Clause reference	Details
			<p>Postal address PO Box 1700 Canberra ACT 2601</p> <p>Physical address Black Mountain Laboratories Clunies Ross Street Canberra ACT 2600</p> <p>Contact person s22</p> <p>Phone s22</p> <p>Fax N/A</p> <p>Email s22</p> <p>Name and ABN Griffith University ABN 34 190 894 983</p> <p>Postal address National Climate Change Adaptation Research Facility Griffith University Gold Coast Campus Queensland 4222</p> <p>Physical address Griffith University Gold Coast Queensland 4222, Australia</p> <p>Contact person s47F</p> <p>Phone s47F</p> <p>Fax N/A</p> <p>Email s47F</p>

Schedule 2 – Statement of Work

1. Description of the Services (clause 4)

- (a) The Services to be provided are described in Attachment A.
- (b) Environment must work with the sub-contractors to perform the Services to a high standard and in accordance with this MoU and the relevant best practice.

2. Timeframes (clause 4)

- (a) Environment must perform the Services as described in Attachment A.

3. Reports and meetings (clause 8)

3.1 Reports

- (a) Environment must provide reports as described in Attachment A.

3.2 Meetings

- (a) The parties agree to meet as described in Attachment A

Environment must participate in the meetings and if unable to attend the meeting must inform Defence at least five (5) business days prior to the meeting. The parties will then consult and mutually determine a more suitable time to hold the meeting.

Schedule 3 – Fees and expenses

1. Fees (clause 13)

1.1 Fixed fee basis:

The Fees are to be paid in accordance with the following table and must not exceed the total amount specified.

	Total (inclusive of GST)
Fees (fixed)	s47E(d)
TOTAL	

2. Payment of Fees

The Fees are payable by the following instalments and subject to Defence's acceptance of that part of the Services to which the Fee instalment(s) relate as described in Attachment A.

Date	Services to which Fee relates	Fee
November 2018	Participation in two Steering Committee Meetings and satisfactory completion of professional development and stakeholder workshops.	s47E(d)
May 2019	Final report provided to, and accepted by, the Department of Defence.	

3. Expenses and allowances (clause 13)

(a) No allowances or expenses are payable to Environment.

4. Invoicing requirements (clause 13.1)

(a) Invoices must meet the requirements of a tax invoice as set out in the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) and contain the following information:

- (i) MoU (reference title of the MoU)
- (ii) period covered by invoice;
- (iii) title and description of the Services;
- (iv) the amount of any allowances, costs and interest to be paid by Defence together with any substantiating material required;
- (v) details of Fees, travel or other expenses which are to be reimbursed; and
- (vi) any other information reasonably requested by Defence from time to time.

- (b) Invoices between Defence and Environment must to be sent to:
Director, Energy Efficiency, Environmental Resource Management and
Sustainability
Department of Defence
invoices@defence.gov.au

5. Payment terms (clause 13)

Fees and expenses will be paid 30 days from receipt by Defence of a correctly rendered tax invoice, subject to performance of the Services to Defence's satisfaction and substantiation of any expenses. If this 30-day period ends on a day that is not a business day, payment will be made on the next business day.

Execution page

Accepted and agreed to by the parties

SIGNED for and on behalf of the Commonwealth of Australia as represented by the **Department of Defence** by a duly authorised representative

Alison CLIFTON

Name of authorised representative (print)

s22

Signature of authorised representative

19 Sept 18.

Date

s22

Name of witness (print)

s22

Signature of witness

19 September 2018

Date

SIGNED for and on behalf of the Commonwealth of Australia as represented by the **Department of the Environment and Energy** by a duly authorised representative

Chris Johnston

Name of authorised representative (print)

s22

Signature of authorised representative

20.9.18

Date

s22

Name of witness (print)

s22

Signature of witness

20/9/18

Date

ATTACHMENT A

Description of the Services

ATTACHMENT A - DESCRIPTION OF SERVICES

Overview

This document provides an overview of the scope of work and initial activities covered by the Defence Estate Climate Adaptation Partnership (the Partnership). Further activities may be developed in due course if further work is identified. Any further activities will be subject to negotiation between the parties and variation of this MoU.

The Partnership focuses strongly on two Department of Defence requirements around climate change adaptation. These are policy development and, second, development of guidance material for stakeholders.

Environment will be the primary project manager for the Partnership and will have responsibility for setting due dates for key materials and activities, in consultation with Defence. Defence will have the final approval of materials and activities.

Services (Item 1 Schedule 2)

Environment will enter into contracts with Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Griffith University in relation to performing the Partnership Activities. Griffith University hosts the National Climate Change Adaptation Research Facility which works to support decision makers throughout Australia as they prepare for and manage the risks of climate change and sea level rise.

Environment will contribute to the outcomes of the partnership by providing advice and input on relevant climate change policy matters as needed. This may include advice on stakeholder engagement, advice on alignment with other relevant whole of government policies or initiatives, participating in consultation workshops, and providing input into materials and activities throughout the project. It is anticipated that Environment's role will require 0.3 of an EL1 position for the current scope of activities and timeframes.

Environment will complete a project plan for the Partnership to guide the implementation of activities by key dates. The project proposal including description of activities is at **Annex 1**.

Meetings

Environment will attend monthly project team meetings with relevant representatives from Defence, CSIRO and Griffith University. Meetings may be in person, or video/teleconference.

Environment will provide an SES Band 1 (or equivalent) employee to participate on the Project Steering Committee, which will meet quarterly. The Steering Committee includes SES Band 1 (or equivalent) representatives from Defence and Environment, and project leads from Griffith University and CSIRO. Meetings may be in person, or video/teleconference.

Travel

When undertaking domestic air travel required for the work of the Partnership, CSIRO and Griffith University will select the lowest practical fare, which is the lowest fare available at the time the travel is booked on a regular service (not a charter flight), that suits the practical business needs of the traveller. Similar considerations will be undertaken for booking accommodation.

Annex 1 – Project proposal and description of activities

Project to support Defence to consider climate risks and climate adaptation on the Defence estate

Adaptation Partnership Proposal

Outcome	Vision/aim	Roles	Activity #
Policy	Defence (Estate Group) develops a defensible policy to implement climate change adaptation for Estate Group	<p><i>Defence</i>: Lead development of policy</p> <p><i>DoEE</i>: Review and advise on Whole of Government approach</p> <p><i>NCCARF</i>: Provide support to Defence</p> <p><i>CSIRO</i>: Provide support to Defence</p>	1, 2, 11
Implementation framework Stage 1	Defence develops an end-user driven plan for adaptation guidance and implementation	<p><i>Defence</i>: Plan for stakeholder engagement</p> <p><i>DoEE</i>: support defence, review and provide input to information and resources.</p> <p><i>NCCARF</i>: Support Defence to engage stakeholders. Develop key information and resources for Implementation roll-out</p> <p><i>CSIRO</i>: Support Defence to engage stakeholders. Develop key information and resources for Implementation roll-out</p>	4, 5, 6, 7, 8, 9, 10,

Personnel & Rates

Organisation	Name	Professional classification	Daily rate (8 hours)	Key activities
Department of the Environment and Energy (DoEE)	s22	(A/g) Director/Assistant Director Experienced climate change policy officer.	-	Project management, review and input of materials as required, participation in workshop and other meetings.
DOEE	s22	Policy Officer Project manager and climate change policy officer	-	Project management, review and input of materials as required, participation in workshop and other meetings.
National Climate Change Adaptation Research Facility (NCCARF)	s47F	Director Highly experienced scientist, manager and communicator. Key expert in adaptation	s47E(d)	Oversight of NCCARF's role in the project, co-development of project materials, development and participation in workshops and other meetings
NCCARF	s47F	Senior Research Fellow Extensive experience in climate adaptation for all sectors, experience in knowledge development, synthesis and communication		Co-development of project materials and input, development and participation in workshops and other meetings
NCCARF	s47F	Research Fellow Engineer and risk assessment expert. Extensive experience in coastal zone management and risks.		Expert input to project materials as required
CSIRO	s22	Senior integration scientist exploring the theory and practice of implementation in complex adaptation projects. Over 15 years' experience managing research portfolios and projects		CSIRO Project lead, CSIRO project coordination, adaptation options, and monitoring and verification guidance

CSIRO	s22	Senior research scientist, focusing on climate change impacts within the natural and built environment and potential climate change adaptation strategies	s47E(d)	Contributing to user guidance on risk assessment and prioritisation requirements
CSIRO	s22	Experimental and Institutional Economist. focusing on economic theories of decision-making under risk and uncertainty to understand the factors that shape decisions and market outcomes		Contributing to risk assessment and prioritisation, and user guidance on costing and valuing requirements
CSIRO	s22	Principle research scientist, currently leading global research in the areas of resilience, adaptation pathways and transformation of social-ecological systems.		Contributing to adaptation options, and monitoring and verification guidance
CSIRO	s22	Senior agricultural and natural resource economist, focusing on the decision context for adaptation planning and action.		Contributing to user guidance on costing and valuing requirements

Activity 1: Summary table of changes and impacts

This activity will support the Defence Policy team identify relevant climate changes and impacts. The intention is for Defence to provide a template for the Partnership to contribute to and review based on articulating links between climate variables, derived climate changes, impacts, and vulnerabilities (or policy/program implications). Defence will undertake additional development of the table with the Partnership providing a limited mentoring role to that extension activity, including providing an initial list of key resources.

Costing:

Activity 1: Summary table of changes and impacts				
Task	Who	Due date	Effort (days)	Cost
Provide literature	CSIRO		0.5	s47E(d)
Develop draft based on literature	Defence		-	-
Advice on options	NCCARF			Built into Activity 2
Review and complete	CSIRO		1.0	s47E(d)
Total		Aug 2018	1.5 days	

Activity 2: Summary table of adaptation options

This activity will support the Defence Policy team identify relevant adaptation options. The intention is for Defence to provide a template for the Partnership to contribute to and review. Defence will undertake additional development of the table with the Partnership providing a mentoring role to that extension activity, including providing an initial list of key resources.

Costing:

Activity 2: Summary table of adaptation options				
Task	Who	Due date	Effort (days)	Cost
Provide literature	NCCARF		0.5	s47E(d)
Develop draft based on literature	Defence		-	-
Advice on options	CSIRO			Built into Activity 1
Review and complete	NCCARF		1.0	s47E(d)
Total		Aug 2018	1.5 days	

Activity 3: Professional development workshop to support Defence to develop policy

To support the Defence Policy team, the Partnership will provide a targeted professional development workshop. It will be designed to provide practical information to help move the Policy team further along the path of building their adaptation policy and implementation framework. The workshop materials will be delivered in a format that will enable the policy team to adjust and redeliver it internally. The workshop will be delivered the week of the Defence environment Conference (28th and 29th of August) to align travel expenses.

The workshop will cover the following two topics:

- a. Adaptation best practice:
 - o Best data/ web sources for climate change risk assessments (ready to use mapping)
 - o How best practice can be defined; what constitutes best practice; what best practice might look like in the Defence context; indicators for adaptation, and monitoring and evaluation of adaptation projects.
 - o Case studies from Australia and overseas relevant to the management of Defence assets under climate change; how these relate to the Defence context – exceptions and similarities.
- b. Building a stakeholder engagement strategy
 - o How to build buy-in and overcome scepticism; defining the purpose of engagement; importance of engagement and consultation at every stage of the adaptation process from identifying the risks through to deciding on an action; methods of engagement and consultation.

Costing:

Activity 3: Professional development workshop				
Task	Who	Due date	Effort (days)	Cost
Workshop design and development	NCCARF		2	s47E(d)
Contribute to workshop design and development	CSIRO		0.5	
Contribute to workshop design and participate	DoEE		-	
Travel and accommodation	NCCARF			
Workshop presentation	NCCARF	28 August	1	
Follow-up advice	NCCARF	Ongoing	0.5	
Total		August 2018	4 days	

Activity 4: Information transfer workshop

In order to support Defence, the Adaptation Partnership needs to gain an appreciation of Defence's key stakeholders (end users), products, services and risk management processes.

During the workshop Defence will inform the partnership about 5 key Defence estate end users, estimated to include:

1. Estate strategy (e.g. long term planning documents, including disposal)
2. Estate planning (e.g. short term planning projects)
3. Capital facilities and infrastructure (e.g. building facilities)
4. Estate facilities management and maintenance (e.g. emergency response)
5. Estate landscape training, planning and operations (e.g. training area management, environmental management)

For each end user, Defence will provide an overview of their business processes, including:

- A. Risk identification and prioritization process
- B. Risk adaptation options
- C. Risking costing process
- D. Risk monitoring and verification process

Activity 4: Information transfer workshop				
Task	Who	Due Date	Effort (days)	Cost
Prepare workshop	Defence	Sept 18	-	-
Attend workshop	DoEE	27 Sept 18	-	-
Attend workshop	CSIRO	27 Sept 18	2	s47E(d)
Attend workshop	NCCARF	27 Sept 18	2	
Travel and accommodation	NCCARF	-		
Total		Sept 2018	4 days	

Activity 5: Workshop preparation – Defence end user needs

Defence and the adaptation partnership plans to co-host 5 workshops (Delivered in Activity 6) with key end-users in order to:

- o Provide both an introduction to the Adaptation Policy, including an understanding of the rationale and science behind it.
- o To understand user requirements for implementation of the Policy, including their detailed requirements for supporting materials to enable them to carry out their own risk management process.

To prepare for the end user workshops, CSIRO will lead and NCCARF will contribute to performing the following for each 'user';

- o Take the impact tables (activity 1) and adaptation tables (activity 2) and adapt it to suit the individual end users
- o Identify and develop the best approach for incorporating risk management into the end users risk management processes, including:
 - A. Risk identification and prioritization process (including risk tools and different time frames and how they align with the emerging risks)

- B. Risk adaptation options
- C. Risking costing process
- D. Risk monitoring and verification process
- Co-design workshop processes; provide background understanding of the climate risks, test our understanding of stakeholder business processes; gain stakeholder views on (or 'test drive') the developed risk assessment processes; explore stakeholder requirements for additional support/guidance/tools.
- Prepare workshop materials. This will include both preparatory material and material to be used in the workshops (e.g. context-specific case studies, factsheets, and/or worked examples)
- Test the risk management process in small groups of stakeholders selected to be typical of the personas. One workshop may be held for each persona type, or one larger workshop may be organised with discussion tables organised around persona types.
- On the basis of the testing, make any necessary modifications, agree the risk management with Defence, and draft instructions/guidance for eventual inclusion in an adaptation manual (or adaptation section of an existing manual).

Activity 5: workshop preparation – Defence end user needs				
Task	Who	Due Date	Effort (days)	Cost
Develop impact tables for individual end users	CSIRO		4	s47E(d)
	NCCARF		4	
Develop risk management process	CSIRO		20	
	NCCARF		4	
Co-design workshop process	DoEE			
	Defence			
	NCCARF		2	
	CSIRO		2	
Prepare workshop materials	NCCARF		10	
	CSIRO		4	
	Graphic design		2.5 (20 hrs)	
Test and refine workshops with Defence	DoEE		-	
	CSIRO		1	
	NCCARF		1	
	NCCARF		Travel	
Review (for integration) and finalise risk management process	CSIRO		5	
	NCCARF		4	
Total		Oct 2018	63.5 days	

* Note CSIRO co-investment in this activity as it involves new thinking. Per day cost decreases from s47E(d) as a result (and this is lower than the previous activity because of the pay level of staff who will do the work).

Activity 6: Workshop Delivery – End users

Defence and the adaptation partnership plans to co-host 5 workshops with key end-users in Canberra. The adaptation partnership will analyse the data output from the workshops.

Activity 6: Workshop delivery – Defence end user needs				
Task	Who	Due Date	Effort (days)	Cost
Organise workshop logistics	Defence		-	-
Conduct five workshops	DoEE		-	s47E(d)
	NCCARF		5	
	CSIRO		5	
	Defence		-	
Travel and accommodation	NCCARF			
Analyse data	NCCARF		2.5	
	CSIRO		2	
Total		Nov 2018	14.5 days	

Activity 7: User guidance – A. risk assessment and prioritisation

Using the outcomes of the end user workshops, a detailed risk assessment and prioritisation summary will be developed to support the end user manual. Summaries will be developed by drawing on stakeholders' individual needs, case studies and good practice examples from around the world.

Activity 7: User guidance – adaptation monitoring and verification				
Task	Who	Due Date	Effort (days)	Cost
Prepare summaries of risk management processes for Adaptation Manual	NCCARF		5	s47E(d)
	CSIRO		5	
Draft final user needs report/manual	NCCARF		5	
	CSIRO		5	
Review and comment on drafts	DoEE		-	
Total		April 2019	20 days	

Activity 8: User guidance – B. Adaptation options

Using the identified end-users (personas) and risk assessment process, a menu of adaptation options will be developed to support the implementation process – this menu will build on the more generic one developed in Activity 2 to support policy development. Options will be developed by drawing on case studies and good practice examples from around the world.

Costing:

Activity 8: User guidance – adaptation options				
Task	Who	Due date	Effort (days)	Cost
Review of case studies and literature to identify relevant examples	NCCARF		4	s47E(d)
Develop menu of options	NCCARF		2	
Review and input to menu, with CRISP lens	CSIRO		2	
Review adaptation and provide advice on limits/barriers/ what's possible	Defence		2	
Review and advise on whole of government alignment if necessary	DoEE		-	
Finalise menu	NCCARF		2	
Total		April 2019	10 days	

Activity 9: User guidance – C. costing/valuing requirements

Using the outcomes of the end user workshops (activity 6), a method of costing/ valuing climate adaptation options will be developed to support the end user manual. The method will be developed by drawing on case studies and good practice examples from around the world.

To determine whether or not to address climate risks, a business case must often be mounted in which the benefit of engaging in different adaptation options relative to the cost can be gauged. This is most useful if it is scalable (i.e. can be used at a project level up to a simpler more overarching strategic level). Valuing investment in adaptation is not straightforward for a number of reasons, including challenges associated with assessing opportunity costs, valuing avoided loss, and valuing future benefits across multiple climate scenarios that may eventuate.

CSIRO in particular has some advanced thinking on appropriate valuation methods that extend beyond traditional cost-benefit analysis. This activity will thus consist of some time for the Partnership to further progress those ideas, collaborate with the Defence policy team to consider which might be practical for Defence Estate stakeholders to implement, and develop the methods to value adaptation within and across future scenarios. A key part of this will be instructions on how to cost the available options (developed in Activity 6) and compare these with the costs/values of the avoided impact. As this will always be context and situation-specific, generic costs will not be developed. The final approach could be based on a modified cost-benefit analysis approach or something more suited to multiple scenario decision-making. We propose the following steps:

- Augmenting existing literature review work done previously by CSIRO
- Drafting a short discussion paper to share best practice in light of recent developments in methods and understanding of pitfalls
- Co-design work between the Partnership Team and Defence to develop a recommended approach specifically for Defence based on current best practice
- Drafting instructions/guidance for using the recommended approach, intended to be included in an eventual adaptation manual (or adaptation section of an existing manual).

Note that only the initial development of the method and writing it up for a manual is planned at this stage. Preferably, additional work would include working with stakeholders to trial this valuation approach, refine the methodology, and produce a set of case studies to help others see how to use the approach.

Costing:

Activity 9: user guidance – costing/valuing requirements				
Task	Who	Due date	Effort (days)	Cost
Augment literature review	CSIRO		5	s47E(d)
Draft discussion paper	CSIRO		10	
Review and contribute to Drafts	DoEE		-	
Lead co-design of Defence approach	CSIRO		5	
Provide practical understanding to approach	Defence		1	
Draft practical approach for manual & revise following review	CSIRO		9	
Review (for integration) and input, co-development of manual content	NCCARF		5	
Contribute to building business case from Australian Government perspective	DoEE		-	
Total		April 2019	34 days	

* Note CSIRO co-investment in this activity as it involves new thinking (and cannot be done without it). Per day cost decreases from s47E(d) as a result, and this is lower than previous activities in which CSIRO co-invests because of the pay level of the staff who will do the work.

Activity 10: User guidance – D. Adaptation monitoring and verification

Defence seeks to incorporate in their climate risk planning process a method to evaluate adaptation success. Measures of adaptation success are not widely agreed upon - this is an active area of research with a lack of consensus because the time frames and nature of the outcomes (i.e. avoided risk) make it unsuited to traditional types of indicators. The Partnership have some advanced thinking on this but will need some dedicated time to progress ideas and determine which best apply to Defence and how.

This activity will thus consist of two parts, with the first part focusing on the development of rigorous, scientifically credible principles and guidelines in this area. This will be done through:

- Augmenting existing literature review work done previously by CSIRO
- Developing scientific consensus about the principles and guidelines for what success means and how it can be measured in the context of ongoing change
- Drafting a paper to share that scientific development

The Partnership will then work closely with Defence to understand what might already be measured that meets the required principles and guidelines, what other measures might be possible, and how they could be implemented in a Defence context. This would consist of:

- Initial meeting with Defence to scope what information is already collected and what might be possible, limitations and systems
- Co-design work between the Partnership Team and Defence to develop a recommended approach
- Drafting instructions/guidance for using the recommended approach, intended to be included in an eventual adaptation manual (or adaptation section of an existing manual).

The activity includes up to two iterations of the guidance to refine the preferred approach from a theoretical standpoint to a practical one. The final approach will be a simple, practical method that still aligns with science-based principles and guidelines.

Costing:

Activity 10: User guidance – adaptation monitoring and verification				
Task	Who	Due date	Effort (days)	Cost
Augment literature review	CSIRO		10	s47E(d)
Workshop to develop consensus	CSIRO		2	
Develop draft paper on principles	CSIRO		15	
Input to workshop & draft paper	NCCARF		4	
Scoping meeting & preparation for it	DoEE		-	
	CSIRO		2	
Scoping meeting	NCCARF		1	
	Travel			
Development of practical approach for & with Defence	DoEE		-	
	CSIRO		5	
	NCCARF		4	
	Defence		-	

Total		April 2019	43 days	s47E(d)
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* Note CSIRO co-investment in this activity as it involves new thinking (and cannot be done without it). Per day cost decreases from s47E(d) as a result.

Activity 11: Review policy and collate User Needs Manual

The intention is to provide a review from the perspectives of the scientific basis and the language used. The challenge is to be scientifically rigorous, precise and accurate, while using language that is accessible, and that research has shown may be most likely to stimulate action. It is likely that two review periods will be required: first, review of very early draft material and, second, later in the policy development process when the material is close to finalisation.

Costing:

Activity 11: user guidance – adaptation monitoring and verification				
Task	Who	Due date	Effort (days)	Cost
Develop policy draft	Defence	April 2019		-
Review – whole of Government lens	DoEE	May 2019	-	-
Review policy (twice)	NCCARF	May 2019	1	s47E(d)
Review policy (twice)	CSIRO	May 2019	1	
Total		May 2019	2 days	

APPENDIX - Costs and totals	Organisation	Effort (days)	Cost (\$)	Notes
Activity 1: Summary table of changes and impacts		1.50	s47E(d)	
Provide literature	CSIRO	0.5		
Develop populated template draft	Defence			Built into Activity 2
Review and complete	CSIRO	1		
Activity 2: Summary table of changes and impacts		1.50		
Provide literature	NCCARF	0.5		
Develop draft based on literature	Defence			
Advice on options	CSIRO			Built into Activity 1
Review and complete	NCCARF	1		
Activity 3: Professional development workshop		4.00		
Workshop design and development	NCCARF	2		
Contribute to workshop design and development	CSIRO	0.5		CSIRO will help develop, but not attend, the workshop.
Contribute to workshop design and participate	DoEE			
Travel and accommodation	NCCARF		Including 2 days at Defence conference	
Workshop presentation	NCCARF	1		
Follow-up advice	NCCARF	0.5		
Activity 4: Information transfer workshop		4.00		
Prepare workshop	Defence			
Attend workshop	DoEE			
Attend workshop	CSIRO	2		
Attend workshop	NCCARF	2		
	NCCARF		Travel and accommodation	
Activity 5: Workshop preparation – Defence end user needs		63.50		
Develop impact tables for individual end users	CSIRO	4		
	NCCARF	4		
Develop risk management process	CSIRO	20	* CSIRO Co-investment	

s47E(d)

	NCCARF	4	
Co-design workshop process	Defence		
	DoEE		
	NCCARF	2	
	CSIRO	2	
Prepare workshop materials	NCCARF	10	
	CSIRO	4	
Graphic design	NCCARF	2.5	20 hrs
Test and refine workshops with Defence	CSIRO	1	
	NCCARF	1	
	NCCARF		Travel and accommodation
Review and finalise risk management process	CSIRO	5	
	NCCARF	4	
Activity 6: Workshop delivery – Defence end user needs		14.50	
Organise workshop logistics	Defence		
Conduct five workshops	NCCARF	5	
	CSIRO	5	
	Defence		
	NCCARF		Travel and accommodation
	DoEE		
Analyse data	NCCARF	2.5	
	CSIRO	2	
Activity 7: User guidance – risk assessment + prioritisation		20.00	
Prepare summaries of risk management processes for Adaptation Manual	NCCARF	5	
	CSIRO	5	
Draft final user needs report/ manual	NCCARF	5	
	CSIRO	5	
Review and comment on drafts	DoEE		

Activity 8: User guidance – adaptation options			10.00	s47E(d)
Review of case studies and literature to identify relevant examples	NCCARF	4		
Develop menu of options	NCCARF	2		
Review and input to menu, with CRISP lens	CSIRO	2		
Review adaptation and provide advice on limits/barriers/ what's possible	Defence	2		
Review and advise on whole of government alignment if necessary	DoEE			
Finalise menu	NCCARF	2		
Activity 9: User guidance – costing/valuing requirements			34.00	
Augment literature review	CSIRO	5		* CSIRO Co-investment
Draft discussion paper	CSIRO	10		
Review and contribute to drafts	DoEE			
Lead co-design of Defence approach	CSIRO	5		
Provide practical understanding to approach	Defence	1		
Draft practical approach for manual and revise following review	CSIRO	9		
Review and input, co-development of manual content	NCCARF	5		
Contribute to building business case from Australian Government perspective	DoEE			
Activity 10: User guidance – adaptation monitoring and verification			43.00	
Augment literature review	CSIRO	10		* CSIRO Co-investment
Workshop to develop consensus	CSIRO	2		
Develop draft paper on principles	CSIRO	15		
Input to workshop and draft paper	NCCARF	4		
Scoping meeting & preparation for it	CSIRO	2		
Scoping meeting	NCCARF	1		
	NCCARF			Travel
Development of practical approach for and with Defence	CSIRO	5		
	NCCARF	4		

Activity 11: User guidance – adaptation monitoring and verification		2.00	s47E(d)
Develop policy draft	Defence		
Review – whole of Government lens	DoEE		
Review policy (twice)	NCCARF	1	
Review policy (twice)	CSIRO	1	
Total (excl. GST)		198.0	
NCCARF		75.0	
NCCARF GST			
CSIRO		123.0	
DoEE			
Total (incl. GST)		198.0	