



# Review of the National Environmental Science Program

**Program performance of phase 1**  
**Program implementation of phase 2**

Public summary  
Dr Greg Terrill June 2023

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# INTRODUCTION

The National Environmental Science Program (NESP) is the Australian Government's primary program to deliver applied science which supports environment decision making. NESP and its predecessors are an important if relatively small part of national science, research and innovation initiatives.<sup>1</sup> NESP's emphasis upon applied science in combination with strong user involvement, as well as its multi-disciplinary and multi-institutional character, distinguishes it from other Australian Government environment research programs.

NESP and its predecessors<sup>2</sup> have emphasised development of biophysical knowledge, though two previous programs had socio-economic hubs. Both NESP 1 and 2 have placed increasing emphasis upon Indigenous participation.

The overall impact of NESP and its predecessors is difficult to overstate.<sup>3</sup> They have:

- Ensured that Australia can model climate change for its continent and oceans, underpinning climate projections and carbon accounting.
- Made fundamental contributions to the management of protected areas and natural resources on land and in the marine environment, including the Great Barrier Reef and Australia's extensive marine parks network.
- Developed decision tools used widely in cities and towns across Australia.
- Helped create the data necessary to understanding the environment, addressing a long running concern of Australian Government State of Environment reports.

The then Department of Agriculture, Water and the Environment, now the Department of Climate Change, Energy, Environment and Water, commissioned a Review to assess how well the first phase of NESP met its key aims and contributed to Australia's environmental science capacity, and how the second phase can best provide rigorous evidence to support environmental management and policy decisions (see Terms of Reference, appended).

The Terms of Reference for the Review were broad and inclusive. Indigenous engagement in NESP was reviewed in 2019-20, too late for impact upon NESP 1 though influential in the design of NESP 2. Implementation of the review findings remained underway when this Review commenced. Accordingly, the Terms of Reference for this Review note Indigenous issues should not be examined except where expressly identified.

The Review was conducted between February and July 2022 by Dr Greg Terrill.<sup>4</sup> The Review was formally independent of the Department and all conclusions are those of the reviewer alone. The Review was conducted in a consultative manner with the Department, with early identification of concerns, workshopping of issues and regular updates. The review included discussions with over 100 people including current and former NESP hub leaders, steering committee chairs, staff and researchers; external research sector and environmental NGO leaders; and departmental research users and program administrators. The reviewer was granted unrestricted access to departmental program management documentation.

This document provides a public summary of the Review.

# RECOMMENDATIONS RELATED TO NESP 2

*The Reviewer heard overwhelming support for NESP 2 as a critical asset in reversing Australia's environmental decline. At the same time there was a strong message that the program needs improvement. The following recommendations identify directions for reform.*

## Focus

**Recommendation 1: NESP 2 focus on national priorities and target users critical to achieving national priorities.**

## Clarify

**Recommendation 2: Clarify key roles:**

- a. Hub steering committees provide strategic research direction in accordance with national priorities and ensure the alignment of activities and research to user needs.
  - Hub steering committees are strategic not governing committees and should not endorse hub financial reports.
- b. Hub leaders lead translation of national priorities to projects and are unambiguously responsible for hub performance including cross-hub activity.
  - Hub leaders determine what, if any, role the initiatives should play.
- c. Hubs leaders to avoid any perception of conflict of interests if leading projects.
  - When engaging, the department clarify whether it is as a research user, a custodian of broader interests or as program manager.

**Recommendation 3: Reform the following processes:**

- a. Emerging priorities to fund only urgent projects, require a set-aside by hubs of 5% of NESP funds and enable approval of projects by the department.
- b. Enable and document the process for hubs to receive additional funding from outside NESP.
- c. Extend the period during which hubs may undertake projects to mid 2027.

## Measure

**Recommendation 4: Develop a performance framework that:**

- a. Covers all levels of the program.
- b. Defines expectations and articulates criteria for success.
- c. Informs adaptive management.
- d. Provides insight on how best to maximise shorter- and longer-term impacts, including the scale and transfer of project outcomes.
- e. Meets the Commonwealth Performance Framework requirements.

## Lead

**Recommendation 5: Leadership on strategic research directions, the involvement of users and in relation to projects should come from the leaders employed by the program:**

- a. Hub steering committees providing strategic research direction, including definition of national priorities.
- b. Hub leaders leading research planning, codesign & project delivery.
- c. Chairs of hub steering committees jointly updating the minister 2-3 times per year on strategic issues, opportunities and risks.
- d. A Strategic Leadership Committee, led by hub steering committee chairs and with hub leaders and senior departmental program leadership as members, created to:
  - Commission and agree a fit for purpose performance framework.
  - Oversee continuous improvement of the program.
  - Address longer term structural challenges including clarity about goals and users, scaling and transferring knowledge projects to other locations, domains or users; pathways to impact beyond direct user involvement.
  - Drive implementation of this Review.

**Recommendation 6: The department focus upon its three leadership roles:**

- a. Senior departmental program leadership to champion the program internally including setting internal expectations, building systems and fostering a culture to benefit from research.
- b. Line areas to systematically identify policy and program needs and, where these are translated into projects, engage in projects with senior executive support.
- c. The program administration team to lead delivery of the administrative requirements of the program as outlined in the grant guidelines and: revive the NESP 1 philosophy of 'earned autonomy' for hubs; maximise engagement and direct impact through knowledge brokering and communications; automate reporting to lower the administrative burden on hubs; revise guidance to incorporate the recommendations of this Review; investigate a curated knowledge portal; and support hubs and steering committees.

# NESP 1

## OVERVIEW

NESP 1 was the Australian Government's flagship applied environment science program, running from 2014-2021. It provided \$145 million, supported by matching contributions from research institutions.

The program objective was 'to improve our understanding of Australia's environment through collaborative research that delivers accessible results and informs decisions'. Intended outcomes were:

- Enhanced understanding of, and capacity to manage and conserve Australia's environment.
- Improved climate and weather information for Australia through a greater understanding of the drivers of Australia's climate.
- Timely research that is used by policy and decision-makers to answer questions and provide solutions to problems.
- Research outcomes that are communicated clearly to end-users and the general public, and stored in a manner that is discoverable and accessible.<sup>5</sup>

NESP 1 was delivered through six hubs:

- Clean Air and Urban Landscapes Hub, \$8.88 million.
- Earth Systems and Climate Change Hub, \$23.9 million.
- Marine Biodiversity Hub, \$24 million.
- Northern Australia Environmental Resources Hub, \$23.88 million.
- Threatened Species Recovery Hub, \$29.98 million, plus \$2 million additional funding for bushfire recovery science.
- Tropical Water Quality Hub, \$31.98 million.

Each hub was a consortium bringing together research institutions and other organisations and was assisted by a steering committee with stakeholder and departmental representation.

There is strong evidence for the impact of research and successful administration of the program. The Reviewer heard repeated testimony that NESP 1 was the 'high point' in design and implementation of the environment department's applied environmental science programs. Overall the program made a fundamental contribution to Australian Government environment policies and programs and to other users.

## Impact

NESP 1 made fundamental contributions, including to:

- The Commonwealth's marine protected area program, including bathymetry mapping and biodiversity sampling in 15 marine parks, measuring changes in the way people experience and value the marine environment and developing monitoring and evaluation systems (Australian Marine Parks cover 45% of Australia's waters, 11 million km<sup>2</sup>).
- Control of runoff and other threats to the Great Barrier Reef such as crown of thorn starfish.
- Management of protected areas and threatened species including through tools such as the Threatened Species Index.
- Local councils improving urban environments, such as tools to determine the best trees to reduce urban heat in the context of a changing climate.
- The science underpinning climate projections.

The most significant impacts from NESP 1 were often made by groups of projects with clearly defined users tackling a complex problem, often at a regional scale.

More broadly, NESP 1 together with its predecessor programs have helped transform the research landscape:

- Indigenous issues. NESP 1 made some breakthroughs in relation to integrating Indigenous understanding and participation with western science. The model has inspired work elsewhere.

- Science based upon user needs and codesign. NESP 1 has engaged hundreds of researchers in the codesign of research plans and projects based upon user needs. Again, it has inspired other organisations to adopt a stronger user focus.
- The 2021 Australian Government State of Environment report for the first time had adequate data to enable an authoritative national overview of biodiversity, with NESP playing a strong role in overcoming previous data inadequacies.

NESP 1 products have been used by communities, businesses, NGOs and local, state and territory and the national government.

## Program delivery

NESP 1 continued successful elements from its predecessors including the hub structure, multistakeholder advice and governance, knowledge brokering and a departmental support team. Each of these components worked together well. All were able to adapt flexibly to major challenges presented by the 2019-2020 bushfires and covid.

The bulk of program guidance and performance measures were developed by the department and applied to the hubs. At the same time, the majority of comment from the 2017 mid term evaluation, continuing a pattern in previous programs reviews, relates to the challenges faced by the department in engaging strategically and deriving maximum value from the program.

## Earned autonomy

NESP 1 was regularly cited in interviews as the 'high point' in design and implementation of the environment department's applied environmental science programs.

A phrase that was often used to describe the approach was 'earned autonomy'. Earned autonomy refers to a philosophy of program implementation. The philosophy was not documented but encompassed efficient and empowering program management.

The following phrases were employed in interviews to summarise the concept:

- 'as much process as needed, no more than required'
- 'hands off where possible, engaged where needed'
- 'setting clear directions then letting hubs get on with it'
- 'trust and verify rather than red tape and restriction'
- 'as much science as possible, as little paperwork as able'.

## Improvements

The main areas in which the program could have been improved relate to addressing structural challenges including clarity about goals and users (more pronounced as programs have become more user-focussed); scaling and transferring knowledge from a project to other locations, domains or users; knowledge and data capture, storage and accessibility; and measuring impact. Parts of the department derived considerable value from the program, notably Parks Australia, but overall engagement was inconsistent.



## FINDINGS

The following section outlines findings (plain text) according to terms of reference (italics).

### Program outcomes

*Does the program meet the needs of research users?*

*What benefits did the program provide to research users (departmental and other government agencies, community, public)?*

*Considering these benefits, was the program an effective use of public money?*

Overall, NESP 1 made a fundamental contribution to Australian Government policies and programs and to other users. It delivered a large number of projects to a broad range of users, with a focus upon the department. There were a number of signature project packages which made major advances on complex issues.

The benefits provided to users could have been enhanced through:

- Clear identification of the target audience.
- Concentration upon larger and more complex problems rather than many projects thinly spread.
- Collection of performance information to better understand conditions for projects to scale and transfer, and to understand impact beyond the immediate users of project outcomes.
- Continued, if lower level, communication of the benefits of projects already completed.
- Enhancing the science literacy of the department to better utilise research to underpin policies and programs.

The program was an effective use of public money.

### Research priorities

*How appropriate were the research priorities identified and processes used to determine these?*

The NESP 1 research priorities and related processes were collaborative, iterative and considered by users to be appropriate.

The alignment of research priorities and projects to Australian Government policies and programs was not generally explicit, limiting understanding of their strategic appropriateness.

### Research design

*How adequate was research co-design under the program?*

Research collaboration was active and successful and enhanced by personal relationships between users and researchers.

The performance framework did not address the adequacy of collaboration or how it might have been enhanced.

*Is data management and accessibility appropriate to ensure on-going benefit from research outputs?*

NESP 1 had well crafted data management and accessibility guidelines which were followed by hubs and monitored by the program administration team. In many cases information has been deposited in ongoing tools or repositories, though for some projects information is not accessible. Though not subject to the data management and accessibility guidelines, information about the administration of the program was limited.

## Research impact

*How well have research outputs and data from phase 1 of the program been communicated by hubs and the department?*

Research outputs were extensively communicated by hubs and the department through tools specific to NESP as well as broader knowledge repositories.

*How well have research users made use of outputs and data from phase 1 of the program?*

*Is the suite of products produced from research fit for purpose, well utilised and being effectively used to inform evidence-based policy development?*

The evidence indicates that NESP 1 products were fit for purpose and were well used. The performance framework did not engage with impacts over the extended period in which they may take place.

*Has NESP research been used to generate a range of products (i.e. not just peer reviewed papers)?*

*Are there synthesis products or tools that could make outputs of the program more usable?*

NESP 1 hubs used a range of approaches, including NESP-specific and broader products and tools, to successfully communicate project information. Projects were developed collaboratively, increasing the likelihood that outputs were suited to the needs of direct users. The final period of the program included an explicit focus on developing synthesis products to draw together knowledge across multiple projects. There is little evidence about how accessible broader users found NESP research products.

## Building capacity amongst researchers

*Has the program enhanced Australia's environmental research capacity?*

NESP is the Australian Government's largest dedicated environmental research program. It has enhanced Australia's environmental research capacity through the relative stability of the funding it provided, the particular emphasis upon applied research developed collaboratively with users.

*How can the program improve capacity building of Australia's environmental researchers, including Indigenous researchers?*

The capacity building of Australia's environmental researchers could have been enhanced through greater certainty about program continuation, stability of research from one program to the next and thematic continuity within the program. The resultant stability would have enhanced capacity building through retention of researchers within Australia's community of applied environmental research scientists.

There was significant innovation and development during NESP 1 to deepen Indigenous engagement. This included the development of guidance materials, allocation of significant resources to Indigenous projects, Indigenous researchers engaged in and in some instances leading projects and briefings and workshops where Indigenous researchers presented the findings of their research to decision makers.

The capacity building of Indigenous researchers was considered in detail in the review undertaken towards the end of the program. The review came too late to have any effect upon the capacity building of Indigenous researchers though it did influence the design of NESP 2.

## Partnerships and collaboration

*How well have researchers and research users leveraged collaboration to develop research both within and cross hubs, with community and other users?*

There was successful collaboration in NESP 1 across hubs, between researchers across disciplines and between researchers and end-users.

*Has the department adequately addressed the recommendations from the 2020 review of Indigenous engagement under the program?*

Given the timing, there was little practical opportunity for either hubs or the department to adjust their approach to NESP 1 as a result of the 2020 review of Indigenous engagement. The impact of the review is best assessed in relation to the design of NESP 2, which builds upon NESP 1 and incorporates stronger Indigenous participation.

## Program delivery

*Is the program well administered by the department?*

The department's administration of the program benefitted from the experience of previous programs and changes to NESP 1 administration were made to reduce reporting requirements and to increase knowledge brokering and communications activities.

Many people interviewed with experience across the programs considered that NESP 1 was the high point of program design and implementation across all programs, the Commonwealth Environment Research Facilities program, National Environmental Research Program, NESP 1 and NESP 2. The design was effective and the program administration team was supportive. A highlight was the philosophy of 'earned autonomy' which enabled hubs to maximise their potential to deliver for users.

Few changes appear to have been directly made as a result of the 2018 mid term evaluation though there was an increased emphasis upon communications and the evaluation appears to have influenced the design of NESP 2.

*Could governance of the program be enhanced?*

Program-level governance built upon experience from previous programs and was strong. It could have been supplemented by better prioritisation, program alignment and coordination processes within the department.

## Agility and flexibility

*How effective was the program's response to the 2019/20 bushfires and are there lessons to be learnt?*

NESP hubs and their predecessors had built a strong record of bushfire related knowledge and expertise. The emerging priorities process provided a vehicle for rapid response and the program responded rapidly and effectively to the government's decision to commit funds to bushfire research.

*How well were the department and research hubs able to meet Emerging Priorities and react flexibly to new research needs?*

The emerging priorities process provided a useful vehicle to expedite funding for projects related to the 2019-20 bushfires. It is not clear that emerging priorities projects were always both new and high priority requiring funding outside the regular project planning processes.

Hubs and the department responded flexibly to the considerable challenges posed by Covid.

# NESP 2



## OVERVIEW

NESP 2 is the Australian Government's flagship applied environment science program. It provides \$149m program, is supported by matching co-contributions and is scheduled to run to mid 2027.

The program objective is to deliver applied science 'to support environmental commitments made by all levels of Government and other end-users.'<sup>6</sup>

The program outcomes are:

- 'Credible peer reviewed, timely research that is used by decision-makers to answer questions and develop solutions to problems.
- Research findings and practical guidance for decision-makers, stored in a manner that is discoverable and accessible, and where appropriate integrated into end-users' databases and decision support tools.
- Enhanced environmental science and research capability amongst researchers, end-users and Indigenous Australians.<sup>7</sup>

The program is delivered through four hubs:

- Climate Systems, \$38 million.
- Marine and Coastal, \$47 million.
- Resilient Landscapes, \$47.08 million
- Sustainable Communities and Waste, \$17 million.

Each hub is a consortium bringing together research institutions and other organisations, assisted by a steering committee with stakeholder representation. The scope of the hubs is deliberately broad to cover all environment and climate science research needs.

NESP 2 retains many of NESP 1's most successful features, including:

- A focus on practical, applied science across many environment domains.
- A national research presence delivered through hubs with strong partnerships.
- Annual processes to determine projects combined with flexible, shorter term approval processes.
- Steering committees combining independent and government voices.
- A program administration team within the department.

Innovations in NESP 2 include:

- Greater emphasis upon user needs and co-design.
- Initiatives to drive cross-cutting research.
- Stronger Indigenous participation (outside the scope of this Review).
- More attention to knowledge and data-related issues.

NESP 2 started later than planned.

## FINDINGS

The Reviewer heard overwhelming support for the program as a critical asset in reversing Australia's environmental decline. At the same time there was a strong message that the program needs improvement.

### Focus

NESP 2 lacks focus.

The program is for 'all levels of Government and other end users', covers almost all environment science domains and faces many more demands than it can meet. This risks dilution of impact through research that is spread thinly across users, issues and locations.

By contrast, the most significant impacts from NESP 1 and previous programs were often from groups of projects with clearly defined users tackling a complex problem, often at a regional scale.

#### **NESP 2 should focus on national priorities.**

- Some national priorities will be defined by Australian Government commitments, policies and programs. State and territory policies and programs may provide specificity to broader Australian Government aspirations. Where the Constitutional role of the Australian Government is limited, state and territory policies and programs may form the core of national priorities.
- National priorities should remain relatively stable across annual research planning cycles and be reviewed periodically.
- The focus on national priorities will help define success for the program. It will create a framework for defining projects which cumulatively address the goals.

#### **NESP 2 should target users critical to achieving national priorities.**

- Almost all Australian Government commitments, policies and programs depend upon actions by others for their success. Codesign with external stakeholders is critical to impact.
- There are partial exceptions with regard to Parks Australia, and the climate science community is best able to determine climate science priorities, informed by national priorities.
- NESP 2 cannot meet all demands. The program needs to both target users critical for success and to 'scale and transfer' project outcomes to further users, locations and domains.

### Clarify

Two years after the program commenced and over a year since host institution contracts were signed, key roles in NESP 2 remain unclear.

**Hub steering committees** have terms of reference which empower them to provide strategic research direction and ensure the alignment of activities and research to user needs. Steering committees are well placed to identify national priorities, defined by Australian Government commitments, policies & programs and state & territory equivalents where they have the constitutional role. In doing so they would support hub leaders to deliver projects that address national priorities and manage the pressure to undertake smaller projects which lack strategic context.

Hub steering committees are strategic not governing committees and should not endorse hub financial reports.

**Hub leaders** are critical to the success of the program. Their role is challenging and remains contested. Hub leaders should be unambiguously responsible for hub performance including research planning, project delivery, cross-hub activity and internal hub operations. This is consistent with their roles outlined in the NESP 2 guidelines.

The program employs some of Australia's best researchers and the experience of NESP 1 shows that it works best when they have scope to lead research – based upon users (including but beyond the department) identifying their policy and program priorities and through a codesign approach.

Hubs leaders need to avoid any perception of conflict of interest where they lead projects.

Considerable energy has been spent establishing a role for the initiatives and issues persist. Hub leaders should determine what, if any, role the initiatives should play.

The **emerging priorities** process can be streamlined. Hubs are currently required to set aside 10% of their annual NESP funding. This is a significant proportion which risks negatively affecting program delivery for marginal gain. The emerging priorities process should be reserved for high value and urgent projects, the set-aside should be reduced to 5% and the department enabled to approve projects.

Hubs have been offered **additional external funding** to be used under the NESP umbrella. The power of the NESP model would be realised if hubs were able to receive additional external funding, manage it through NESP processes, and acquit it with the external funding source. The processes to achieve this should be documented.

The question has arisen whether the **end date for project activities** should be extended, not least to compensate for initial delays and enable more time to deliver projects which respond to the needs of the new government.

The option to extend the period for projects and other activities to June 2027 should be offered to hubs on a voluntary basis. This would require no change to financial appropriations. There would be no additional funding and all activities would have to cease by 20 June 2027.

## Measure

NESP 2 performance documentation does not meet the requirements of the Commonwealth Performance Framework. The draft monitoring and evaluation plan focusses on hub and project level inputs, activities and outputs.

**NESP 2 needs a fit for purpose performance framework** which:

- Covers all levels of the program.
- Defines expectations and articulates criteria for success.
- Informs adaptive management.
- Provides insight on how best to maximise shorter- and longer-term impacts, including the scale and transfer of project outcomes.
- Meets the Commonwealth Performance Framework requirements.

Developing a robust performance framework will take time. It is an opportunity to define success, set expectations, support adaptive management and inform greater impact.

## Lead

NESP 2 needs strategic leadership. Challenges have been left unresolved for too long, there are risks to be addressed and longstanding structural issues need to be progressed. There needs to be a shift of emphasis in leadership of the program and the program needs a group to lead strategic program directions. The minister should be provided regular, independent and whole of program updates.

Leadership on strategic research directions, the involvement of users and in relation to projects should come from the leaders employed by the program:

- Hub steering committees providing strategic research direction, including definition of national priorities.
- Hub leaders leading research planning, codesign & project delivery.
- Chairs of hub steering committees jointly updating the minister 2-3 times per year on strategic issues, opportunities and risks.
- A Strategic Leadership Committee, led by hub steering committee chairs and with hub leaders and senior departmental program leadership as members, to:
  - Commission and agree a fit for purpose performance framework.
  - Oversee continuous improvement of the program.
  - Address longer term structural challenges including clarity about goals and users, scaling and transferring knowledge projects to other locations, domains or users; pathways to impact beyond direct user involvement.
  - Drive implementation of this Review.

The department has three critical roles:

- **Senior departmental program leadership** needs to champion the program internally including setting internal expectations, building systems and fostering a culture to benefit from research.
- **Line areas** to systematically identify policy and program needs and, where these are translated into projects, engage in projects with senior executive support.
- The **program administration team** needs to deliver the administrative requirements of the program as outlined in the grant guidelines and, now that the program is well underway, revive the NESP 1 philosophy of 'earned autonomy' for hubs; maximise engagement and direct impact through knowledge brokering and communications; automate reporting to lower the administrative burden on hubs; revise guidance to capture recommendations of this Review.

# APPENDIX: TERMS OF REFERENCE

## National Environmental Science Program (NESP) Review

### Terms of Reference

#### Program Performance [NESP (2015-2021)]

#### Program Implementation [NESP (2021-2027)]

### Overview

NESP is a long-term commitment by the Australian Government. The program funds environment and climate research. The first phase invested \$145 million (2014-15 to 2020-21) into 6 research hubs. The second phase is investing \$149 million (2020-21 to 2026-27) into 4 new research hubs.

This review is intended to assess how well the first phase of the program met its key aims and contributed to Australia's environmental science capacity, and how the second phase can best provide rigorous evidence to support environmental management and policy decisions.

As Indigenous engagement in NESP was reviewed in 2019-20, these matters should not be covered in this review, except where expressly identified below.

### Terms of Reference for Review of NESP Phase 1

#### Program outcomes

- Does the program meet the needs of research users?
- What benefits did the program provide to research users (departmental and other government agencies, community, public)?

- Considering these benefits, was the program an effective use of public money?

#### Research priorities

- How appropriate were the research priorities identified and processes used to determine these?

#### Research design

- How adequate was research co-design under the program?
- Is data management and accessibility appropriate to ensure on-going benefit from research outputs?

#### Research impact

- How well have research outputs and data from phase 1 of the program been communicated by hubs and the department?
- How well have research users made use of outputs and data from phase 1 of the program?
- Are there synthesis products or tools that could make outputs of the program more usable?
- Is the suite of products produced from research fit for purpose, well utilised and being effectively used to inform evidence-based policy development?



- Has NESP research been used to generate a range of products (i.e. not just peer reviewed papers)?

### **Building capacity amongst researchers**

- Has the program enhanced Australia's environmental research capacity?
- How can the program improve capacity building of Australia's environmental researchers, including Indigenous researchers?

### **Partnerships and collaboration**

- How well have researchers and research users leveraged collaboration to develop research both within and cross hubs, with community and other users?
- Has the department adequately addressed the recommendations from the 2020 review of Indigenous engagement under the program?

### **Program delivery**

- Is the program well administered by the department?
- Could governance of the program be enhanced?

### **Agility and flexibility**

- How effective was the program's response to the 2019/20 bushfires and are there lessons to be learnt?
- How well were the department and research hubs able to meet Emerging Priorities and react flexibly to new research needs?

## **Terms of Reference for Review of Phase 2 design and establishment**

### **Research and Priorities**

- Are current research priorities and related processes effective?
- How can the department more effectively and strategically identify research priorities for the program?

- How can the hubs and the department improve the use of research outputs and data under phase 2 of the program?

- How can the department better align research planning and long-term strategic development?

### **Partnerships and collaboration**

- How can the hubs and the department improve research co-design under phase 2 of the program?
- Is the design and implementation of phase 2 of NESP, including the mission structure, well placed to deliver enhanced collaboration and partnerships under the program?

### **Flexibility**

- How well are the department and research hubs able to meet emerging priorities and react flexibly to new research needs?

### **Governance**

- Are the governance arrangements well-placed to deliver the program?

## **Final Report**

The Review should deliver a Final Report that:

- Discusses findings against the above Terms of Reference.
- Provides advice on the performance of the first phase of the program.
- Develops recommendations on the continuing implementation of the second phase of the program.

## REFERENCES

- 1 2021 National Research Infrastructure Roadmap pp20-21 <https://www.dese.gov.au/national-research-infrastructure/2021-national-research-infrastructure-roadmap>. Further environmental research funding is documented in AIMS Annual report 2020-21 figure 9, [https://www.aims.gov.au/sites/default/files/2021-10/AIMS%20Annual%20Report%202020-21\\_web.pdf](https://www.aims.gov.au/sites/default/files/2021-10/AIMS%20Annual%20Report%202020-21_web.pdf); <https://www.barrierreef.org/what-we-do/reef-trust-partnership> and <https://www.dcceew.gov.au/climate-change/policy/ocean-sustainability>
- 2 NESP comprises NESP 2 (2020-21 to 2026-27, \$149 million) and NESP 1 (2014-15 to 2020-21, \$145 million) and has two direct predecessors, the National Environmental Research Program (\$89m, 2010-14) and the Commonwealth Environment Research Facilities (\$100m, 2005-10).
- 3 There is considerable further information on achievements including <https://www.dcceew.gov.au/science-research/nesp/publications/nesp-outcomes> and NESP 1 hub websites (via <https://www.dcceew.gov.au/science-research/nesp/phase-1>)
- 4 Dr Greg Terrill was a former senior executive in the Commonwealth environment portfolio over much of the period 2005-19. He has been the CEO of the peak business body in Solomon Islands, worked for the secretariat to the United Nations Framework Convention on Climate Change and consulted to the World Bank and UNESCO.
- 5 NESP 1 Guidelines 2014 p1-2, <https://www.dcceew.gov.au/sites/default/files/env/pages/2f561690-b47e-4bf2-b028-d18739b3486f/files/national-environmental-science-programme-guidelines.pdf>
- 6 NESP 2 Guidelines p6, <https://www.communitygrants.gov.au/sites/default/files/documents/2022-06/3193-national-environment.pdf>
- 7 NESP 2 Guidelines p6

