SOIL CARBON MANAGEMENT: Call for research ideas

# OVERVIEW + INSTRUCTIONS FOR COMPLETING THE TEMPLATE

Overview

The NZAGRC is seeking research ideas to help develop a Research & Development (R&D) Plan for soil carbon management. This R&D Plan will support the NZAGRC’s Soil Carbon Science Strategy, which was developed with input from a wide range of stakeholders during late 2022. This was motivated by the NZAGRC’s existing soil carbon research programme coming to an end in June 2023. Future funding will be informed by this revised Strategy and R&D Plan.

The Strategy’s goal is to develop and support practical and science-based approaches for farmers and growers to protect and where possible enhance soil carbon stocks, while also meeting other land stewardship objectives. For more details, see the draft Strategy available on the NZAGRC website: <https://www.nzagrc.org.nz/news-and-events/>

The NZAGRC is calling for high-level research ideas that a future programme could focus on, including how the work will support greenhouse gas mitigation, what it is likely to cost and appropriate key skills required to undertake the work.

For the avoidance of doubt, we are not seeking specific research proposals, rather higher-level research areas that can be prioritised and costed within an R&D Plan.

Please submit your ideas on the attached template via email to [fund@nzagrc.org.nz](mailto:fund@nzagrc.org.nz) by 12pm, Monday 19 December 2022. Late submissions will not be considered.

How research ideas will be used

The research ideas will be used to inform the development of the R&D Plan and associated programme of work. This will cover basic and applied research, and practice change where applicable, and work necessary to support the development of effective policy. Basic research must demonstrate a strong link to the development of new and/or existing mitigation approaches.

The time horizon for investment is for research out to 2026, e.g. 3 years from 2023. However, the R&D plan will outline research programmes with a 10-year horizon, reflecting that much of the research necessary to develop and test implementable solutions will take more than 3 years, as well as the need to retain and further build necessary research capacity and capability.

Assessment of research ideas

All research ideas received will be assessed by a specially assembled soil carbon scientific advisory panel, drawing on the prioritisation framework set out in the Soil Carbon Science Strategy. The panel will comprise individuals with expertise in research (domestic and international), government, Māori and the primary sector.

The panel will recommend a draft R&D plan, based on successful ideas received. The R&D plan will comprise high-level areas of research, not individual projects. Such research areas may reflect, encompass and/or integrate several ideas submitted via this template. Inclusion of a research idea in the R&D plan does not guarantee that these ideas will be included in any subsequent research funding process, nor will the person or organisation that proposed a successful research idea necessarily be the individual or organisation that will be funded to carry out the research. Conversely, research ideas not included in the initial submission are not necessarily ruled out from future funding.

The draft R&D Plan will be shared with the NZAGRC’s Toihau and advisory groups for feedback, before being approved by the NZAGRC’s Governance Group. The R&D plan will be published and submitted to MPI and MBIE to inform their funding decisions for soil carbon.

Any subsequent investment decisions by the NZAGRC for soil carbon work are contingent on funding allocation from MPI and will follow NZAGRC’s standard processes for negotiated or competitive research investments, guided by the Soil Carbon Research Strategy and R&D Plan.

Writing instructions

Please read and complete this form alongside the draft Soil Carbon Science Strategy, in particular its goal, objectives, scope and prioritisation framework.

* Please complete in plain English and avoid jargon and acronyms
* Word limits will be strictly enforced and any text beyond the word limit will be deleted
* We are not seeking specific research proposals but ideas for higher-level research areas
* Submissions are due to [fund@nzagrc.org.nz](mailto:fund@nzagrc.org.nz) by 12pm, 19 December 2022 (New Zealand Daylight Savings Time). Late submissions will not be considered.

Ideas that contain commercially sensitive information can be requested to be withheld from publicly available R&D plan. If this is the case, please indicate this clearly in this template. The default assumption and approach is that all ideas submitted, or elements of ideas, can be made public as part of the R&D Plan.

NZAGRC will endeavour to answer any questions related to completing this template in a timely manner. Answers will be posted on the NZAGRC website.

# TEMPLATE FOR RESEARCH IDEAS

|  |  |
| --- | --- |
| 1. title Title will be used to refer to the research idea quickly. | Max 10 words |

|  |
| --- |
| 2. DESCRIPTION OF RESEARCH IDEA Provide a brief, high-level description of the research idea. Avoid scientific jargon and write in a way suitable for a lay audience. |
| Max 100 words |

|  |
| --- |
| 3. HOW much WILL THIS WORK realistically ENABLE FARMERS AND GROWERS TO PROTECT AND WHERE POSSIBLE ENHANCE SOIL CARBON STOCKS? Specifically address the prioritisation criteria of (a) scale of mitigation, (b) fit for purpose, and (c) economic considerations that are stated in the draft Soil Carbon Research Strategy (see prioritisation criteria 1-3 on pages 8-9 of that document). Proposals that score poorly on any one of those specific criteria are unlikely to be included in the R&D Plan. |
| Max 150 words |

|  |
| --- |
| 4. SCIENTIFIC HYPOTHESIS, EVIDENCE AND METHODOLOGY Explain the scientific basis for your hypothesis and demonstrate that your methodology can adequately test this hypothesis and deliver the promised outcome (see prioritisation criterion 4 on page 9 of the draft Soil Carbon Research Strategy). You may include up to five scientific references in section 4A below. |
| Max 150 words |

|  |  |
| --- | --- |
| 4A Bibliography Provide a bibliography of any references cited in Section 4 (maximum of five). |  |

|  |
| --- |
| 5. RESEARCH INFRASTRUCTURE/CAPITAL INVESTMENTS OF NATIONAL SIGNIFICANCE (optional) Complete this section only if the research idea includes investment in research infrastructure of national significance with benefits significantly beyond the specific research idea (e.g. respiration chambers for methane research).  If yes, briefly describe the identified broader need for and benefit of this infrastructure for soil carbon research in New Zealand. Make sure the estimated cost of this infrastructure investment is included in Section 8 below.  If no, please state “Not applicable”. |
| Max 75 words |

|  |
| --- |
| 6. ALIGNMENT WITH OTHER CORE AREAS Outline any other strengths your research idea has, particularly in (a) inclusion of te Ao Māori perspectives and Te Tiriti principles; (b) being reflective of end-user needs; or (c) building capability, capacity, engagement and collaboration (see prioritisation criteria 5-7 on page 9 of the draft Soil Carbon Research Strategy).  It is not expected that all proposed research ideas will address all those criteria and aspects listed in the draft strategy. Rather, the information you provide here will be used to inform the development of a balanced research portfolio that addresses those criteria collectively. Nonetheless, ideas that are strong on several of those criteria are more likely to be included in the R&D Plan.  Please also state briefly if this work builds on and extends successful work to date, and/or how it aligns with or critically depends on work that may be funded under other mechanisms. |
| Max 200 words |

|  |  |  |
| --- | --- | --- |
| 7. duration State the anticipated start and finish dates for the research idea, noting that the assumed default start date is 1 July 2023. | Potential start date |  |
| Expected finish date |  |
| Total number of years |  |
| If the proposed duration of research is more than 3 years, please explain briefly why a longer-term funding horizon is necessary and provide a suitable measure of success after 3 years. Also note if there are any constraints (completion of other research, critical human capacity, etc) to starting the research. | | |
| Max 100 words | | |

|  |  |  |  |
| --- | --- | --- | --- |
| 8. COST State the indicative minimum total cost of this idea to ensure a viable activity, and the estimated cost per annum for the first 3 years (excluding GST). Estimates are sufficient, but they should include indicative personnel, research and overhead costs. Specify if your idea includes capital investment of national significance (see Section 6) and if your idea relies on funding research/researchers overseas.  Focus here on the minimum funding necessary to achieve a viable activity; Section 10 below allows you to describe whether and how this idea could be scaled up, subject to the total amount of funding available for the soil carbon research portfolio.  Please do not include any anticipated co-funding. That is covered in Section 9 below. | Breakdown of total cost | Cost breakdown | Value (excl.GST) |
| Estimated costs (personnel, research, overheads) | $ |
| Capital investment (Section 6) | $ |
| Overseas research costs | $ |
| TOTAL COST | $ |
| Estimated per annum cost during the first three years | $/yr | |

|  |  |  |
| --- | --- | --- |
| 9. Co-FUNDING Indicate if you expect your research idea to attract co-funding. If yes, state the approximate amount and source/s. If the research entails significant in-kind contributions that are difficult to quantify (e.g. time and access offered by a farmer), please describe this contribution qualitatively. | YES  NO | Max 50 words |

|  |  |  |
| --- | --- | --- |
| 10. SUGGESTED TEAM and key skills required Please provide names and affiliations for key researchers and practitioners (as applicable) with key skills to lead/undertake this research. Indicate indicative number of postgraduate students and postdocs. By naming specific individuals you confirm that you have obtained their consent to be listed as part of this proposed research idea. | | |
| Name | Organisation | Key skill/S for RESEARCH IDEA |
| Add more rows as required |  |  |
|  |  |  |
|  |  |  |

|  |  |
| --- | --- |
| 11. SCALEABILITY Outline whether the research idea could be scaled up if additional resources (beyond the funding level indicated in Section 8) were available for this idea, and if so, how e.g. how would this increase the scale of mitigation, accelerate the timing of delivery, or increase the chance of success, or improve and extend evaluation of co-benefits and trade-offs? Indicate scaled-up research costs and personnel requirements. | |
| Max 100 words | |
| Additional cost of scaled up research State the *additional* cost only compared to the core funding needs indicated in Section 8 (excluding GST). | $ |

|  |  |  |  |
| --- | --- | --- | --- |
| 12. Key contact person | | | |
| Name (title, first name, last name) |  | Organisation name |  |
| Position/Job Title |  | Postal address |  |
| Email address |  | Telephone |  |