Climate Change and International Development Research Project Tracker: Methodology
Version: February 2025

1.0 Introduction

The UK Collaborative on Development Research (UKCDR) has developed a tool (henceforth "the tracker") to track investments that focus on climate change research and address priorities in Low- and Middle-Income countries (LMICs). The aim of the tracker is to act as a live database of funded climate change research projects with a focus on LMICs supporting funders and researchers deliver a more effective and coherent response to the global challenges presented by climate change.

The UK is committed to being a leader in several areas, including tackling climate change, addressing international development challenges, and promoting global science. These commitments are reflected in key and recent policy documents such as the 2021 Integrated Review[1], the 2022 International Development Strategy[2], and the 2023 International Development White Paper[3] which outline several ambitions, including to double the UK's International Climate Finance (ICF) contribution by 2026. Additionally, UK funders have a long history of supporting high-impact research on climate change and international development. However, the urgency and complexity of the climate crisis require a need to adopt more coordinated approaches at a research funding level.

The tracker expands on UKCDR's previous work in data mapping, analysis, and foresight. Examples of this include: the development of tools to visualise investments in COVID-19 research[4]; a 2021 report examining the strengths, weaknesses and impacts of UK ODA and Wellcome-funded research in climate change and international development research[5]; a variety of analytical outputs that were produced examining the global research funding response to the COVID-19 pandemic. This work has helped inform the design of key research funding calls, the outcome of such calls, and shape international symposia; and have been recognised by intergovernmental organisations, such as the World Health Organization and the United Nations, for facilitating collaborative activities informed by data.

This document outlines the methodology used to shape the Climate Change and International Development Research Project Tracker.

2.0 Project Taskforce

To test the feasibility of such a project (before any potential upscaling), the tracker was piloted as a proof-of-concept whose scoping and development were guided by a (time-bound) taskforce comprising of representatives from UK research funders, international coordination mechanisms, and multilateral organisations.

To confirm the scope and high-level methodology of the project, the taskforce was convened on multiple occasions to consider various aspects of the project and whether any steps should be taken

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[1] https://www.gov.uk/government/publications/global-britain-in-a-competitive-age-the-integrated-review-of-security-defence-development-and-foreign-policy
[2] https://www.gov.uk/government/publications/uk-governments-strategy-for-international-development
[3] https://www.gov.uk/government/publications/international-development-in-a-contested-world-ending-extreme-poverty-and-tackling-climate-change
[4] https://ukcdr.org.uk/data-tool/covid-19-research-project-tracker-by-ukcdr-glopid-r/
[5] https://ukcdr.org.uk/publication/uk-funded-research-on-climate-change-and-international-development/

to narrow the scope of this work either at the proof-of-concept stage or more generally for the tracker. These are summarised in table 1, along with the decisions made by the taskforce.

Table 1

Item	Description	Taskforce Decision
Data fields to collect	Defining the data fields to capture for the tracking tool.	See section 3.1.2
Geographies	Whether the tracker should limit its geographic scope to consider projects focussing on / done in collaboration with stakeholders in specific geographic regions.	Any climate change project with a specific focus on LMICs are to be included in the tracker – accompanied by a tag indicating location(s) (country level, region level, etc.).
Location of research funders	Whether data should be limited to funders based solely in the UK.	Acquisition of data from any funder irrespective of geographic location.
Methods for data collection	Whether grants data should only be sourced directly from funders, from online sources, or using a combination of approaches.	Data obtained using a combination of acquiring data directly from funders and online resources (depending on the funder).
Nature of climate change activity	Whether the tracker should limit its scope to consider one aspect of climate change (e.g., adaptation, mitigation, impacts, etc.).	Not limiting projects by the type of climate change research, but instead tagging/coding individual projects by the type of climate change activity.
Thematic area	Whether the tracker should limit its thematic scope to consider the intersections of climate change and international development research with another thematic area (e.g., health, agriculture, education, etc.).	All research projects relevant to climate change and international development (no further refinement) – but with the ability to tag projects against thematic areas – such as the Sustainable Development Goals.
Time period	The time period (according to the start dates of projects) to consider for inclusion.	Incorporation of data from the five most recent full financial years (namely between 2018/19 and 2022/23) to ensure the capturing of grants prior to COVID-19 pandemic and cuts to ODA.

With the scope of the project confirmed, members of the taskforce additionally facilitated data acquisition (where relevant), reviewed the quality of data tagging (where relevant; see section 3.3), and provided multiple rounds of feedback on the interactive dashboard during its development.

After successfully demonstrating the feasibility of the tool to the taskforce, the project was approved for upscaling in 2024. Both the proof-of-concept and final version of the tracker follow the same data processes (outlined in the below sections).

3.0 Data flow overview

Figure 1 (below) represents the flow of events for project data.

Figure 1

| Data acquisition | Data cleaning | Eligibility checks | Data tagging | Preparation for dashboard visualisation | Interactive, user-freindly dashboard |

3.1 Data acquisition

3.1.1 Keywords to support data acquisition

UKCDR staff acquired data from multiple funders either directly or from online resources. To support both routes of data acquisition, an initial set of keywords relevant to climate change was developed. Rather than creating an entirely new set of keywords relevant to climate change, UKCDR assessed and adapted existing lists of keywords there were deemed appropriate to assess research projects. Specifically, the lists of climate change keywords developed by UKRI[6], the United States Environmental Protection Agency[7], and Haunschild et al. 2018[8] were assessed. This was done by two team members separately running tests on a sample dataset of ODA-funded research projects using these keywords (and combinations of keywords) to identify the most robust keywords with the highest likelihood of being associated with research projects featuring a substantial focus on climate change.

A final list of 20 keywords were produced and then used to query online sources when acquiring data online and was also offered to stakeholders within funding organisations to search their own databases (though several were able to take advantage of their own internal methods and categorisation system to obtain relevant data). If using the keyword method, the grant records of projects with any mention of any of the keywords were then collected for further assessment against eligibility criteria as the use of this method is not sufficient on its own in determining if a project has a substantial focus on climate change (see section 3.2.1). The keywords used were:

- Adaptation
- Biodiversity
- Carbon
- Changing climate
- Clean energy
- Climat*
- Climate change

- Deforest
- Ecosystem
- Emission
- Environment
- Extreme weather
- Global average temperature

- Global temperature
- Global warming
- Greenhouse gas
- Mitigation
- Net zero
- Renewable
- Sustainable energy

3.1.2 Data fields

As part of the data collection process, as many of the following data fields as possible were requested from funders or obtained using online resources:

Table 2

Data field	Explanation
Project title*	The title of the research project
Project ID/reference number	Identifier of the research project (unique for each funder).

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[6] UKRI developed their own internal list of keywords relevant to climate change for the purposes of analysing their own portfolio. This list was shared with UKCDR.
[7] https://19january2017snapshot.epa.gov/climatechange/glossary-climate-change-terms_.html
[8] Haunschild, Robin & Leydesdorff, Loet & Bornmann, Lutz & Hellsten, Iina & Marx, Werner. (2018). Does the public discuss other topics on climate change than researchers? A comparison of networks based on author keywords and hashtags.

Data field	Explanation
Amount awarded	Total amount awarded (committed) by the responsible funder for the duration of the research project.
Currency	Currency used by funder to fund the projects.
Start date*	Start date of research project.
End date	End date of research project.
Lead institution	The name of the organisation that holds the grant and is leading the research.
Co-investigating institutions	The name of the organisation where any co-investigator is based.
Country research is taking place in	A list of all countries in which the research teams are conducting the research.
Country of focus	A list of all countries identified as primarily benefitting from the project and/or location where funded activity takes place.
Project abstract*	Scientific summary of the project.
Technical summary*	Scientific summary of the project.
Lay summary*	Non-technical summary of the project.
Impact summary	A summary of the intended socioeconomic and/or environmental benefits of the project and pathways to achieving them.

While there is no requirement for all grant records to contain all the information listed in table 2 and acknowledging that the level of completeness varies between different funders, for projects to be included in the database, there would need to be, at a minimum, a record of an individual research project noting the start date as well as a title and/or some form of description (denoted in the table with *).

Notably, there was no requirement for grants records to contain details on the amounts awarded (see section 3.5.1).

3.1.3   Research Funders

At the initial proof-of-concept stage, it was originally proposed to limit the acquisition of grants data to funders based in the UK. However, in response to feedback received from the taskforce, it was decided to widen the scope of the data acquisition process at the proof-of-concept stage by incorporating grants data from funders based in other countries. The rationale behind this was to provide a better assessment of the feasibility of data acquisition considering the project's ambition to incorporate data from funders around the world beyond the proof-of-concept stage.

The **February 2025** version of the tracker features data from the same set of 19 funders whose data were obtained during the initial proof-of-concept stage. These are primarily comprised of UK-based funders (several of which are members of the project's taskforce) as well as a selection of prominent international research funders (who were selected based on a strategy of obtaining data from large public funders based in each continent). It is intended to obtain data from a greater number of research funders with subsequent updates to the tracker.

One of the intended main features of the tracker was the inclusion of grant data from different types of funding organisations in addition to those from public funders to provide a more comprehensive overview of the research funding landscape. Data was therefore sought from other sectors, including

non-profit, philanthropy, industry, etc. based on suggestions made by members of the taskforce and UKCDR's own desk-based research, subject to data availability/accessibility.

In the case of philanthropic funders of research, UKCDR additionally consulted a 2023 Devex report[9] listing the top ten foundations funding international development. Data were included from these philanthropic/charitable funders if they fund research and if award data could be obtained.

It is intended to obtain data from a greater number of research funders with subsequent updates to the tracker.

3.2 Eligibility Criteria

To be considered for inclusion in the tracking tool, research projects were required to meet the following inclusion criteria:

- **Research projects with a clear and substantial focus on climate change:** Defined as research that investigates questions in relation to a "change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods"[10]. See section 3.2.1.
- **Research projects with a focus on international development:** Defined as research that addresses global challenges and results in political, economic, social, health, or environmental change for the benefit of, or in collaboration with partners in, LMICs or regions and/or the global community[11]. See section 3.2.2.
- **Research projects that were first awarded funds during the five-year financial year (FY) period between 2018/19 – 2022/2023**[12].

3.2.1 Climate change

The keyword approach outlined in section 3.1.1 is not sufficient on its own in determining whether a research project has a substantial focus on challenges related to climate change. To assess their eligibility further, a number of sub-criteria using an expanded keyword approach were tested and developed. The sub-criteria were developed while being conscious of the notable variation in the level of grant detail / amount of information made available by different research funders around the world[13] against which to perform these keyword-based tests. On that basis, seven different lists of keywords (table 3) and associated sub-criteria were created.

To perform these eligibility tests, each project had (where available) their titles and abstracts combined into a single field and were deemed relevant to climate change if **ANY** of the following conditions were met:

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[9] https://www.devex.com/news/money-matters-the-top-10-foundations-funding-development-105268

[10] Definition developed by UNFCCC (https://unfccc.int/resource/ccsites/zimbab/conven/text/art01.htm) and agreed to by project taskforce.

[11] Definition developed by UKCDR (https://ukcdr.org.uk/publication/the-landscape-of-development-research-impact-an-analysis-of-ref2021-impact-case-studies/) and agreed to by project taskforce.

[12] The 2018/19 – 2022/23 period was selected for this version of the tracker (v February 2025) as this featured the most recent five full financial years when the project's taskforce was first convened.

[13] Based on UKCDR's experience of mapping and analysing grants data from hundreds of funders around the world. This includes the COVID CIRCLE initiative where data from more than 21,000 research grants awarded by over 360 funders globally were collected and analysed.

-   The sum of the number of occurrences of the words from List A **or** List B **or** List C is greater than or equal to 5% of the total word count of the combined text. For List C, these words must also be used in addition to the term 'climat'.
-   The combined text contains at least three different words from either List A **or** List B **or** List C (<u>excluding</u> the word 'environment'). For List C, these words must also be used in addition to the term 'climat'.
-   The combined text contains at least two instances of any individual word from List A.
-   The title of the project contains any word from List D.
-   The combined text has any reference to the terms from List E.

Table 3

List A	List B	List C	List D	List E	List F	List G
• alternative energ	• Adaptation	• changing environment	• alternative energ	• climate action	• Adaptation	• anthropogenic
• anthropogenic	• Biodiversity	• disaster	• Changing climate	• COP?2	• alternative energ	• Changing climate
• Changing climate	• Carbon	• early warning	• Climate change	• COP2	• Biodiversity	• Climate change
• Clean energy	• Climat	• early-warning	• climate fund	• IPCC	• Carbon	• climate fund
• Climate change	• Ecosystem	• food security	• climate model	• nationally determined contribution	• changing environment	• climate justice
• climate fund	• Emission	• hazard	• Extreme weather	• Paris Agreement	• Deforest	• climate model
• climate justice	• Environment	• resilien	• Global average temperature	• Paris climate agreement	• disaster	• environmental change
• climate model	• glaci	• sustainable	• Global temperature	• SDG?13	• early?warning	• Global average temperature
• Deforest	• Mitigation	• vulnerab	• Global warming	• SDG13	• Ecosystem	• Global temperature
• environmental change	• paleoclimatolog		• green energ		• Emission	• Global warming
• Extreme weather	• Renewable		• greenhouse effect		• Environment	• Greenhouse effect
• Global average temperature	• sea?level		• Greenhouse gas		• Extreme weather	• Greenhouse gas
• Global temperature			• Net?zero		• food security	• Net?zero
• Global warming			• Sustainable energy		• glaci	• warming climate
• green energ					• green energ	
• greenhouse effect					• hazard	
• Greenhouse gas					• Mitigation	
• Net?zero					• Renewable	
• Net-zero					• resilien	
• Sustainable energy					• sea?level	
• warming climate					• sustainable	

List A	List B	List C	List D	List E	List F	List G
					• Sustainable energy • vulnerab	

Notes:
- *For several of the key terms above, a question mark (?) was used as a wildcard character to capture variations that may occur in the spelling of certain terms – including differences in the use of hyphens and spaces.*
- *For several of the key terms above, only a partial term was used as opposed to the full spelling of that term. This was used to capture related terms derived from the same root term (e.g., 'climat' to capture 'climate', 'climatic', 'climatology', etc.)*

As mentioned above, in instances whereby projects offered only a small amount of qualitative data (e.g., titles only, single sentence abstracts, etc.), additional tests were created for projects whose combined title and abstract totalled less than 50 words. If these projects with combined titles and abstracts totalling less than 50 words were not already designated as being relevant to climate change following the above set of sub-criteria, they could still be designated as such if **ANY** of the following additional conditions were met:

- The combined text contained any of the terms from List F <u>in addition to</u> the term 'climat'.
- The combined text contained any mention of the terms from List G.

Projects with a combined text of less than 50 words that were not already included were then assessed manually for inclusion if they contained at least one term from List A or List B.

Any grant that was provided as part of a specially curated list of projects submitted directly by a funder would not be required to undergo the tests outlined above and would therefore be considered relevant to climate change.

3.2.2   International development

To determine a project's relevance to international development, a single sub-criterion using a keyword approach was tested and developed. For this, a list of 245 keywords made up of terms related to international development (103 words) and the names of countries on the OECD DAC list of ODA recipients[14] (142) was created[15].

To perform these eligibility tests, each project had (where available) their titles, abstracts, and any geographic information combined into a single field and were deemed relevant to international development if the combined text contained at least one mention of any of the 245 keywords.

Research projects with a global focus relevant to LMICs were considered eligible for inclusion (e.g., global food security).

Given that the inclusion threshold for the set of international keywords is less strict than that for climate change (section 3.2.1), it is therefore acknowledged that projects may be tagged as being as related to international development even with only an incidental reference to any of the relevant countries and/or keywords (such as for scene setting purposes).

Any grant that was provided as part of a specially curated list of projects submitted directly by a funder would not be required to undergo the tests outlined above and would therefore be considered relevant to international development.

3.2.3   Research

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[14] https://www.oecd.org/en/topics/sub-issues/oda-eligibility-and-conditions/dac-list-of-oda-recipients.html

[15] See supporting documentation for complete list of keywords.

Due to the inclusion of data from funders whose portfolio may include non-research activities, a small number of keywords were created to determine the likelihood of a project having a research component. Projects were determined to be relevant to research, and therefore eligible under this criterion, if the combined title and abstract of projects awarded by non-research-specific funders included at least one mention of any of the terms from the set keywords[16].

- Research
- Examin
- Analy
- University

- Study
- Studie
- Innovati
- Scien

Any grant that was provided as part of a specially curated list of projects submitted directly by a funder would not be required to undergo the tests outlined above and would therefore be considered relevant to research.

3.3 Data tagging and categorisation

To add value to the collected data, a small number of tags and categories were assigned to each project (using a semi-automated approach). These were:

- Any relevant (13 of 17) UN Sustainable Goal
- Geographic tags (countries, regions, income group, small islands and developing states)
- Climate change adaptation and climate change mitigation

3.3.1 UN Sustainable Development Goals

To demonstrate the interlinkages and multi-/inter-/trans- disciplinarity of climate change research with other disciplines, it was decided to assign project with thematic areas. The UN Sustainable Development Goals (SDGs) was selected as an appropriate thematic framework as it is widely recognised and understood internationally while being highly relevant to international development.

While there were no limits to the number of SDGs that an individual project could be assigned, projects were only categorised against 13 of the 17 SDGs. The four SDGs not considered for inclusion were:

- SDG 1: No Poverty
- SDG 10: Reduced Inequalities
- SDG 13: Climate Action
- SDG 17: Partnerships for the Goals

SDGs 1, 10, and 17 were not considered for inclusion as their respective targets and indicators all heavily reference notions of international development and would therefore be relevant to all projects that meet the eligibility criterion on international development (section 3.2.2).

SDG 13 was not considered for inclusion as this goal is dedicated to the challenges of climate change and would therefore be relevant to all projects in this tracker.

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[16] For several of the listed key terms, only a partial term was used as opposed to the full spelling of that term. This was used to capture related terms derived from the same root term (e.g., 'scien' to capture 'science', 'scientific', 'scientist', etc.)

It was decided against assigning each project against SDGs 1, 10, 13, and 17, as this would skew any resulting visualisation for the remaining 14 SDGs making it more difficult to draw out key messages from the data clearly.

To make this process sustainable for the tracker, a semi-automated method to assign SDGs was developed using a keyword-based approach. The development of an appropriate list of keywords was done by existing sets of keywords produced by Monash University[17], the University of Auckland[18], the University of Leicester[19], the University of Toronto[20], previous UKCDR projects[21], as well as official UN documentation on the targets and indicators of the SDGs[22]. Each proposed term and associated parameter were tested and refined against a sample of the projects in the overall dataset and then manually assessed by members of the team. A final list of 1,300 keywords were developed across the 13 SDGs in consideration[23].

A number of criteria were developed for any project to be deemed relevant to a given SDG – the precise parameters of which varied depending on the SDG. After combining the titles and abstracts, projects were assigned an SDG if **ANY** of the following conditions were met (with no limit to the number of SDGs that an individual project may be tagged against):

- Three different keywords of a given SDG are mentioned in the combined text.
- Any of the keywords of a given SDG is mentioned at least five times in total (including instances of specific keywords being used multiple times) in the combined text.
  - This threshold was set to a total of four, following testing, for SDGs 8, 9, and 12.
- Any mention of 'priority keywords' of a given SDG – that is, keywords where a single mention would be sufficient to be associated with an SDG. These words are primarily the names and codes of a given SDGs.

Projects were additionally allocated any SDG that had already been assigned by funders, as well as any relevant SDGs based on whether a funder has a specific thematic remit (e.g., health).

Projects with a combined text of less than 50 words that were not already assigned an SDG were then assessed manually.

The allocation of SDGs was additionally offered for review to the data handlers/providers within the funding organisations from whom data was acquired.

3.3.2 Geographic tags (countries, regions, income group, small islands and developing states)

As the country of focus/research location is not typically a separate field in the grants databases of funders, a method was developed to extract the country information from the titles and abstracts of research projects using a keyword approach. A total of 333 keywords were tested and developed based on country names and demonyms. A project was assigned against a country if the combined

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[17] https://ap-unsdsn.org/webinar-mapping-university-contributions-to-the-sdgs/compiled-keywords-for-sdg-mapping_final_17-05-10/

[18] https://www.sdgmapping.auckland.ac.nz/

[19] https://figshare.le.ac.uk/articles/dataset/SDG_Research_Publication_Keywords/12839519

[20] https://sustainability.utoronto.ca/inventories/sustainable-development-goals-sdgs-keywords/

[21] https://ukcdr.org.uk/publication/uk-funded-research-on-climate-change-and-international-development/

[22] https://sustainabledevelopment.un.org/content/documents/11803Official-List-of-Proposed-SDG-Indicators.pdf

[23] See supporting documentation for complete list of keywords.

text contained any single mention of a term from that country's list of keywords. There are no limits to the number of countries that could be assigned to a given project.

It is acknowledged that, due to the automated nature of this process, projects may be tagged against a specific country despite that country not being the subject of the research and may have only been referenced within the text for scene-setting purposes.

With this generated country data, additional tags were applied to indicate the geographic regions of projects (as defined by the UN Statistics Division[24]), income group (as defined by the OECD DAC[25]), and whether they are classified as part of the Small Islands Developing States, or SIDs (as defined by the UN[26]).

3.3.3   Climate change adaptation and climate change mitigation

Two further tagging systems were created to indicate whether a given research project was related to climate change adaptation and/or climate change mitigation. This was done to provide further insights into the type of climate change research that is being funded.

It is fully acknowledged that climate change research encompasses many other aspects beyond adaptation and mitigation. However, for the purposes of this project, tagging was limited to these two major types of strategies that are used to address the climate crisis.

The process that was used to tag projects against climate change adaptation and/or mitigation followed a similar approach whereby a set of keywords for both climate change adaptation and climate change mitigation were developed and tested. To develop these lists, a review of existing lists of keywords relevant to adaptation and mitigation, respectively, was conducted. However, none of the lists reviewed were considered comprehensive enough to use as a starting point. Additional literature was then reviewed to produce initial sets of keywords which were then tested against a sample of data that had been manually coded as being relevant to climate change adaptation / climate change mitigation. Further testing and refinement were then conducted on the wider database.

In total, a list of 99 different keywords were developed for climate change adaptation and 201 different keywords were developed for climate change mitigation[27]. In both cases, the keywords were separated into different lists using a similar approach outlined in section 3.2.1.

Projects had their titles and abstracts combined and were tagged against climate change adaptation and/or climate change mitigation, where relevant, if any of the following conditions were met:

Climate change adaptation
- Any mention of keywords from a priority sub-list in the title of a project
- Any mention of keywords from a priority sub-list for projects whose combined text had a word count of less than 50 words

Climate change mitigation[28]
- Any mention of keywords from a priority sub-list in the title of a project
- Any mention of keywords from a priority sub-list for projects whose combined text had a word count of less than 50 words

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[24] https://unstats.un.org/unsd/methodology/m49/
[25] https://www.oecd.org/en/topics/sub-issues/oda-eligibility-and-conditions/dac-list-of-oda-recipients.html
[26] https://www.un.org/ohrlls/content/list-sids
[27] See supporting documentation for complete list of keywords.
[28] Projects that were categorised against SDG 7 as part of the process outlined in section 3.3.1 were also tagged against climate change mitigation.

- Any individual keyword from a sub-list mentioned three times in the combined text
- Any of the keywords are mentioned at least four times in total (including instances of specific keywords being used multiple times) in the combined text.
- Two different key terms mentioned in the combined text
- Any keywords from a sub-list mentioned twice in the combined text along with the term 'adapt'

- Any individual keyword from a sub-list mentioned twice in the combined text
- Any of the keywords are mentioned at least six times in total (including instances of specific keywords being used multiple times) in the combined text.
- Three different key terms mentioned in the combined text

It is possible for individual projects to be tagged against both climate change adaptation and climate change mitigation. It is also possible for projects to be tagged against neither climate change adaptation nor climate change mitigation as research projects may investigate other aspects of climate change.

It is acknowledged that, due to the automated nature of this process, projects may be erroneously tagged against either climate change adaptation and/or climate change mitigation projects (false positive). Equally, the automated nature of the process may mean that relevant projects are not tagged against either climate change adaptation and/or mitigation (false negative).

3.4 Currency

The grant amounts of the different projects had their currencies converted into British Pounds using the average monthly exchange rate recorded by HM Revenue & Customs[29] based on the start date of the project.

For projects where only the start years were available (but still within the eligible time period), an annual average was used.

3.5 Data limitations

Given the variety of sources used to acquire the data, the key limitation of the data in the tracker is the varying levels of quality, standardisation, and completeness.

3.5.1 Financial information

This is particularly the case for data on financial information where, for instance, this was available for only 60% of projects at the proof-of-concept stage. It was decided that projects without financial information on their respective grant amounts awarded would still be included (rather than setting a stricter eligibility criterion around data completeness) as this would otherwise lead to an underrepresentation of funded activity as well as a misrepresentation of the key non-monetary aspects of the research landscape – including thematic areas, funders, geographies, and partnerships. Furthermore, experience from previous UKCDR projects shows that, for a variety of reasons, data on projects awarded by LMIC-based funders were more likely to lack financial information. The exclusion

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[29] https://www.gov.uk/government/collections/exchange-rates-for-customs-and-vat

of research projects without financial information would therefore have an adverse impact on this international development-focussed project.

It is important to note that the financial information provided reflect grant amounts that were committed to the lead institution managing the grant. While the lead institution may then disburse funds to partner institutions, including those in other countries (crucially, the countries of focus of a research project), it is not possible to obtain figures on this type of financial flow and in-country expenditure, and should not be interpreted as such, as this is not presently collected systematically across funders.

3.5.2 Qualitative Data

Another key consequence of the varied levels of data completeness is the potential implication that a lack of qualitative data (e.g., abstracts) has on the accuracy of any of the semi-automated processes that were performed on research projects. It is therefore acknowledged that the use of such semi-automated techniques may result in relevant projects failing to meet the eligibility criteria, the inclusion of unrelated projects, and/or the mislabelling of included projects against certain tags. The semi-automated nature of these tagging and classification processes may also lead to projects being tagged incorrectly – either by being assigned a non-relevant tag (false positive) or not being assigned a relevant tag (false negative). These processes are being continuously revisited and refined.

3.5.3 Country-level data interpretation

Relatedly, the lack of completeness in the geographic data necessitated the use of a semi-automated process to extract country-level data from research projects (section 3.3.2). As a result, country-level data should be interpreted with caution as the indicated countries could refer to the location of the lead institution, the location of the research, the country of focus of a research project, and/or the country is mentioned in a project's abstract (in addition to the stated caveat that a country may have been mentioned strictly for scene setting purposes).

4.0 Data Outputs

The core dataset is prepared and processed (including deduplication, disambiguation, tagging, etc.) in Microsoft Excel (Office 365 version) for use in Power BI to visualise the data via an interactive dashboard.

It is intended for the tracker to be updated on a six-monthly basis[30] with additional data (including new projects from funders already included in the database and additional funders whose data have not yet been captured).

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[30] This interval was agreed to by the project's taskforce.