**APPLICATION GUIDELINE**

**SCGC-FIRST**

**SCGC** **F**und for **I**nnovation and **R**esearch in **S**ustainability and **T**echnology

2024-2025

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# Details of Award and Application Process

## Overview of Award

MPLS Division and [SCG Chemicals Public Company Limited (SCGC)](https://www.scgchemicals.com/th/home) are delighted to announce the launch of the annual **SCGC** **F**und for **I**nnovation and **R**esearch in **S**ustainability and **T**echnology (**SCGC-FIRST**). This internal University administrated fund aims to support visionary and imaginative solutions relevant to global challenges and opportunities of the 21st century.

ASEANS's leading innovation company in chemicals, SCGC, takes a special responsibility to tackle these challenges (e.g. global warming and plastic waste); towards this end, [SCGC has publicly committed](https://www.scgchemicals.com/en/sustainability/sustainability-approach/scgc-commitment) to achieve a low-carbon and environmentally friendly society by 2030, and achieve net-zero greenhouse gas emissions by 2050. SCGC believes strongly that innovations based on chemistry, materials, and novel processes are key to meeting these bold commitments. To this end, SCGC has made an initial commitment of £1 million to create a University fund, **SCGC-FIRST**, which will run over four years and support applications from across the University. Successfully executed projects may be considered for substantial follow-on funding directly from SCGC.

The creation of SCGC-FIRST builds on [a decade-long and highly productive strategic partnership](https://oxford.shorthandstories.com/scg-oxford-partnership/index.html) between the Department of Chemistry and SCGC, which resulted in the establishment of [the SCG-Oxford Centre of Excellence](https://scgcoe.mpls.ox.ac.uk/people). However, the magnitude of the current challenges requires a broader collaboration among a range of relevant disciplines within the University, including cutting-edge manufacturing technology and machinery, digital systems to control manufacturing processes, and a low environmental footprint approach to reduce greenhouse gas emissions with clean and renewable energy sources.

**SCGC-FIRST** is seeking to support innovative projects that demonstrate distinct advantages in cost and environmental footprint over competing approaches which are already available in the marketplace or opportunities for those to be adapted to the SCGC context below. Projects should be outcomes-driven, leading toward potential solutions or inventions.

**Broad areas and** **topics of interest to SCGC include,** **but are not limited to:**

**Energy and carbon reduction:**

Meeting decarbonisation targets requires reducing CO2 emissions from the difficult-to-abate chemical industry. Key areas include the development and implementation of advanced carbon capture, utilisation, and storage (CCUS) technologies, electrification of processes using renewable energy sources, and the advancement of green chemistry technologies. These green chemistry technologies encompass the use of alternative, non-fossil-based feedstocks, the development of energy-efficient catalytic processes, the implementation of bio-based production methods, and the utilisation of safer, environmentally benign solvents and reagents. Additionally, enhancing energy efficiency through the adoption of state-of-the-art process intensification and more efficient operations are critical. Proposed solutions include but are not limited to

* Carbon neutrality through reduction of GHG emissions, carbon capture, storage and utilisation, and emissions monitoring
* Reducing the cost of carbon capture and storage
* Electrification of processes using renewable energy sources
* Low cost, low carbon footprint hydrogen production
* Electrolyser technologies
* Photovoltaic (PV) cells and related materials; including encapsulation, electron transfer layer
* Sustainable supply chains and logistics
* Novel approaches to utilisation of energy sources
* Sustainable finance and carbon accounting tools for decision-making

**Decarbonising thermal process:**

Heat generation is a critical component of numerous industrial processes that produce chemicals, metals, minerals, paper, and food. Generating heat has typically relied on fossil fuels because of the high temperatures required, thereby making electrification challenging. Proposed solutions include but are not limited to

* Alternative heating technologies and fuels
* Waste heat management
* Combined heat and power systems
* Low or no heat technologies

**Future plastics:**

The future of plastics technologies is poised to transform how we produce, use, and recycle plastic materials, addressing critical environmental challenges and advancing sustainability. Proposed solutions include but are not limited to

* Circular economy of plastics: up-cycling of polymer materials and the creation of markets.
* Novel processes for cost-effective generation of hydrocarbon feedstocks from polymeric materials
* New materials for sustainable outcomes
* Client and consumer behaviour and novel interventions to influence change

**Materials for environmental sustainability, and product recovery and circularity:**

Solutions in the circularity space encompass material, design, and system dimensions. Approaches to evaluate material and product circularity are particularly of interest, particularly those that incorporate first principles and simulation-based tools. Systems-level initiatives that cut across industries are also relevant. Proposed solutions include but are not limited to

* Novel computational and experimental approaches to accelerated materials discovery

**Battery Technologies and Battery Recycling**

The transition to electric vehicles (EVs) requires large amounts of raw materials, such as lithium, nickel, cobalt, copper and graphite, to manufacture the batteries that power them. When these batteries reach end-of-life (EOL), it is important that the materials they contain are appropriately managed and their value maintained. Proposed solutions include but are not limited to

* New battery chemistry
* Battery recycling
* Battery separator materials

**Applications and implications of machine learning and artificial intelligence to sustainability in the chemical industry:**

Machine learning (ML) and artificial intelligence (AI) hold substantial promise for tackling climate and sustainability challenges in the chemical industry. These technologies can streamline processes, boost energy efficiency, and minimise waste, leading to reduced carbon emissions. This area of focus includes:

* Leveraging AI/ML to mitigate the chemical industry's environmental impact
* Devising strategies to lessen the ecological footprint of AI/ML technologies themselves.

**Environmental impacts, next generation sustainability assessments for carbon, water, and biodiversity:**

There is wide agreement that these are high priority topics for SCGC and society, but the accounting methods are nascent (for carbon and water) or non-existent (for biodiversity). Robust approaches for sustainability assessments are critical to measuring progress towards corporate and societal targets, as well as regulated and voluntary markets. There is a need for

* Carbon accounting methods that consider the complexities of implementing mitigation mechanisms across markets
* Water accounting methods that encompass scarcity and security
* Water and energy reduction, recovery, and reuse
* wastewater and effluent treatment prior to discharge
* Quantitative biodiversity metrics for flora and fauna, and improved allocation approaches for setting corporate science-based targets in line with global climate targets

**Innovation:**

Open call for applications on any topic of innovation relevant to SCGC but not covered in the topics listed above.

## **Introduction to SCG Chemicals Public Company Limited (SCGC)**

SCGC, a wholly-owned subsidiary of the [Siam Cement Public Company Limited (SCG)](https://www.scg.com/en/01corporate_profile/) located in Thailand, is one of the largest integrated chemical companies in Asia and a key industry leader. As such, it strives to become a “*Chemicals Business for Sustainability*”, responsibly addressing the impact of its business on the environment and society while adhering to a commitment of transparent and fair governance of its operations.

SCGC recognises the importance of [the circular economy](https://www.scgchemicals.com/en/sustainability/environment/circular-economy) as one of the keys to delivering on its [ESG commitments](https://www.scgchemicals.com/en/sustainability/sustainability-approach/scgc-commitment#:~:text=SCGC%20COMMITMENT,-Tanawong%20Areeratchakul&text=SCGC%20adapted%20to%20preserve%20resilience,groups%20and%20sectors%20of%20society.), with the concept having been introduced to its business operations to increase global competitiveness and [long-term sustainable growth](https://www.scgchemicals.com/en/articles/stories/1687243418).

## **Support** **Scheme**

**SCGC-FIRST** is looking to sponsor projects which may run for up to 12 months. For the 2024/25 application round, **SCGC-FIRST** will look to fund projects up to £80,000 each. Funding for a project exceeding the funding threshold may be considered but must be discussed with the SCG-Oxford University Centre of Excellence [Alliance Manager](mailto:gulcin.avul@chem.ox.ac.uk). The funding opportunity is open to researchers of all Divisions, and interdisciplinary collaborations between different departments and across-divisions are encouraged.

## Dates for SCGC-FIRST Call

**Call Open:** 9th September 2024

**Application Deadline:** by 4pm, 25th October 2024

# **Funding Terms & Conditions**

## Eligibility:

## You will need to meet the following criteria to apply:

* PIs must be Oxford University academic staff holding a contract of employment extending to at least the end of the proposed project and be hosted by a department of the University.
* Applications from Early Career Researchers who hold independent externally funded fellowships must have their fellowship funding extending to at least the end of the proposed project.
* Applicants seeking to establish independent research careers are encouraged.

## You are not eligible to apply if you are:

* Researchers holding honorary, visiting positions, and PDRAs.

## Additional notes on eligibility:

Applicants should clarify their eligibility with departments, and departmental approvers are required to check the eligibility of their applicants before advancing any applications.

## Application Review Process:

All proposals will be subject to confidential peer review. The SCGC-FIRST Prioritisation Panel will be chaired by the Director of the SCG-Oxford Centre of Excellence (CoE), [Prof Dermot O'Hare](https://scgcoe.mpls.ox.ac.uk/people). Membership of the Prioritisation Panel will be made available on the CoE website. The Panel reserves the right to seek additional expert opinion on a confidential basis if required. Oxford researchers supported by the SCGC-FIRST will be invited to meet SCGC staff when they visit Oxford to outline and discuss their projects.

## Assessment Criteria:

Awards will be assessed against the following criteria:

* Excellence and intrinsic merit of the innovative idea or concept
* Potential for realisable outcomes and long-term impact to SCGC and society
* A clear science-based, time-bound plan to achieve the project aims

## IP Rights

The University will own any IP that arises as a result of support from the SCGC-FIRST. SCGC will have rights of first refusal to take an exclusive option of the arising IP generated by the SCGC-FIRST and to support further research under a sponsored collaboration agreement (FCA 2.0) within six months of the completion of the relevant project. Additional support will be subject to a separate collaboration agreement between Oxford University and SCGC.

## National Security and Investment Act (NSIA)

SCGC acknowledges that the Arising Intellectual Property from each Project and any licence granted further to the Arising Intellectual Property may be a qualifying acquisition within scope of the National Securities and Investments Act 2021 (the “NSIA”), under which the UK Government could exercise its powers to make an order to void and invalidate any licence granted. As the acquirer of such an asset, SCGC will comply with the NSIA and consider all steps necessary to mitigate the risk of an acquisition being called in, including where appropriate by making a notification to the Investment Security Unit of the UK Government ahead of any licence being concluded.

## The project final report and financial statement

At the end of each project, the project team has one (1) month to submit a short account of the outcomes, publications, project highlights, and a financial statement. The project report and financial statement will be submitted to MPLS Division, reviewed by Prof Dermot O’Hare or his nominee, and then forwarded to the Vice President and Chief Innovation Officer, SCGC.

Oxford researchers should acknowledge support from the SCGC-FIRST in any scientific papers, trade articles or presentations that arise directly from the award. Follow-on projects that build upon the project should continue to acknowledge SCGC-FIRST alongside any additional sponsorship.

# **Costing an application**

All proposals must be accompanied by a proposed budget prepared using X5, with the budget details output onto the X5 Admin output (AO). In addition, the MPLS Division requires written evidence of departmental approval by the Head of Department for each individual costing (so this must be obtained for all the departments involved in an internal collaboration).

* All proposed investigator(s) need to seek approval from their respective Head of Department(s) (or nominee(s)).
* A trial costing should be created in X5, using the funder **SCGC-FIRST** (short name SCGC-F) and the **Generic** scheme. The Excel output must be attached. Investigator can be named in both proposal and X5 if necessary.

Please contact your department’s finance officer for a proposed budget prepared using X5. See [**Costing Guideline for Finance Officers webpage**](https://www.mpls.ox.ac.uk/research-funding/internal-research-funding/scgc-first/scgc-first-costing-guidelines-for-departments2019-finance-office) for details.

## Costing the Proposal

Awards will be made only for the directly incurred (DI) costs of research and DA Estates: Any unspent balances at the end of the grant period should be returned to the fund.

For clarity, the following costs are allowable:

**Directly Incurred costs (DIC) (staff and non-staff):**

* Salaries of postdoctoral researchers (full- or part-time)
* Consumables
* Minor equipment (equipment with a value of £10,000 or more would require clear justification)

**Directly Allocated costs (DA)**

* Estates costs

***Not Allowed****:*

* Department Overheads
* DA infrastructure technicians
* Principal Investigator and Co-Investigator’s time
* Honoraria
* Travel to conferences
* Students Stipends

*Note: The visa process for employing a PDRA without a current visa (right to work) can take approximately 3-4 months, so please take that into consideration when setting project start dates. To ask advice please get in touch with your department’s HR office or [the University Staff Immigration Service](https://staffimmigration.admin.ox.ac.uk/)*

*Any unspent balances at the end of the grant period should be returned to the fund.*

**6.2 Start date guidance**

PI’s may include the name(s) of any researcher(s) they plan to recruit on to the project if successful. If a new recruitment process is required then our advice to cost the project

on the basis of a start date of the 1st April 2025 to allow for the HR process and any visa applications.

# **How to Apply**

Applications for SCGC─FIRST funding should be made through the online [Internal Research Awards Management System (IRAMS)](https://irams.ox.ac.uk/), which can be accessed using your Single Sign-On (SSO) details. Once you are logged in, please choose the correct from the list to start your application. For the correct scheme, search “SCGC-FIRST”. If required, IRAMS guidance in the form of [quick reference guide (QRG) documents for applicants](https://unioxfordnexus.sharepoint.com/sites/ADMN-UASMosaicDocumentHub/Research%20Services/IRAMS_applicant_QRG.pdf?cid=d60c2f23-5e6e-4e75-b313-92e691384396) can be found on the [Research Support](https://researchsupport.admin.ox.ac.uk/applying/howto/irams) pages.

Applications must be reviewed online by departmental approvers and, where approved, submitted for review by the SCGC-FIRST Prioritisation Panel before **4.00pm on Thursday 31 October 2024**.

# **Enquiries**

Please email [scgcfirst@mpls.ox.ac.uk](mailto:scgcfirst@mpls.ox.ac.uk) and/or Ms Gulcin Avul [gulcin.avul@chem.ox.ac.uk](mailto:Gulcin.avul@chem.ox.ac.uk) with any enquiries.

*If you have a potentially impactful project* *that falls within SCGC’s research areas but does not fit with the SCGC-FIRST, please reach out* [*the SCG-Oxford Centre of Excellence*](mailto:scgcfirst@mpls.ox.ac.uk) *and/or* [*SCGC-Alliance Manager*](mailto:gulcin.avul@chem.ox.ac.uk).

1. **Notification**

The SCGC-FIRST Prioritisation Panel aims to meet mid/late December 2024 to review the proposal, with awardees expected to be announced in late December 2024.