

The Elsevier Foundation Chemistry for Climate Action Challenge

After 5 successful editions of the Elsevier Foundation Green & Sustainable Chemistry Challenge and receiving thousands of proposals from around the world on innovative chemical science research that helps the environment and low-resource communities, we are exploring a change of focus to the Challenge to Climate Action (SDG13).

Climate change is the most important challenge for the future of our planet, affecting every country on every continent, and it is essential that we take action. Climate change is not only causing rising sea levels and changing weather patterns, but is also disrupting national economies and affecting lives.

Chemical sciences play a critical role in developing a sustainable future: whether it's CO₂ reduction and utilization, cleaner production, energy conversion and storage, entire lifecycles of chemical products, or waste reduction.

UN SDG13, Climate Action, mentions the need to “[...] promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries, including focusing on women, youth and local and marginalized communities”. Over the years the Challenge has demonstrated excellent outreach in low-income countries and many winning projects that make a difference for local communities.

With a new focus on Climate Action, the Elsevier Foundation Challenge also aims to recognize the pivotal role women play in combating climate change. [UN Women reports](#) that globally, one fourth of all economically active women are engaged in agriculture, where they must contend with climate consequences such as crop failure, and also have the disproportionate responsibilities for collecting increasingly scarce water and fuel. Projects submitted to the Challenge must therefore take into consideration gender components such as addressing the role of women in adapting to climate shifts and participating in policy-making and leadership roles.

Challenge Criteria

Projects will be reviewed according to the following criteria:

- The proposal clearly describes the **urgency** of the problem. Provide a description of the project background and include a description of the broader context and highlight how the project links to the United Nation Sustainable Development Goals (SDGs), and more particularly how the project links to SDG13 Climate Action and the sub-targets of this SDG such as: strengthening resilience to climate-related hazards, improve education and awareness, address the needs of developing countries. Additionally, describe if and how the project interlinks with other SDGs (e.g. SDG3 Good Health and Well-being, SDG5 Gender Equality, SDG15 Life on Land, etc.), resulting in co-benefits.
- The project utilizes **innovative** green and sustainable chemistry and chemical sciences approach, for example:
 - o CO2 reduction and utilization, cleaner production, energy conversion and storage Reduces or eliminates the use or generation of one or more hazardous substances or materials
 - o More sustainable use of resources and cleaner low-energy production
 - o Increase reuse or recyclability of chemicals/product
 - o Designs a new business model related to circular economy.
- The project is **replicable, scalable, sustainable** (make sure to specify why), and sets a benchmark for innovation – new ideas or concepts in development will be given preference over more advanced projects.
- The proposal **highlights the novelty of your approach** and gives a **short literature overview** of what has been done before, both by you and others (“background”).
- The project is **applicable in and suitable for developing countries**. Describe the project’s social impact on local communities, including gender equality either in design or implementation.
- The project **must have an impactful gender component, clearly describing the sex/gender dimensions of the research**. To know more about best practices in designing and implementing sex/gender components into chemical sciences-related projects, please refer to the *‘Gender Road Map: Short guidance for a gender-responsive national chemicals policy’*, developed by the MSP Institute. Another helpful reference is *‘Toolkit for Integrating Gender-Sensitive Approach into Research and Teaching’*, developed by GARCIA in collaboration with a number of universities (i.e., Radboud University, University of Trento, Université Catholique de Louvain etc.). Additionally, Gendered Innovations (Stanford University) provides practical methods of sex, gender and intersectional analysis for scientists – and offers case studies as concrete illustrations of how this analysis leads to innovation.

- Include an **implementation plan of the project**. Please note that if the project has been developed in a high-income country, contextually appropriate knowledge transfer to the lower income country is needed to be demonstrated, for instance through a developing country implementation or research partner(s). If the idea presented is already patented, it will not be eligible.