The Elsevier Foundation Chemistry for Climate Action Challenge

Location: Global, applications focus on challenges in developing countries.

Target group: Researchers

Budget: $55,000 a year (2018-2020), $28,000 a year (2021-2023).

Related Goals

Primary outcome

The Challenge awards projects that use green and sustainable chemistry solutions to tackle some of the developing world's greatest challenges identified by the UN Sustainable Development Goals.

Overview

Climate change is the most important challenge affecting the future of our planet as underscored by the latest Intergovernmental Panel on Climate Change (IPCC) reports. The need for sustainable ideas to tackle global issues is now more pressing than ever, and chemistry can play a key role in finding practical solutions to urgent challenges and advance the achievement of the UN Sustainable Development Goals agenda.

After 5 successful editions of the Elsevier Foundation Green & Sustainable Chemistry Challenge, and thousands of proposals from around the world, the Challenge was relaunched with a new focus on Climate Action (SDG 13). Jointly run with Elsevier Chemistry journals, the Chemistry for Climate Action Challenge aims to raise awareness and build networks around how chemistry can help us make crucial progress towards the UN SDGs. The Challenge invites applicants from around the world to submit ideas for chemistry solutions to address sustainability challenges– energy, water, waste reduction, recyclability, chemistry, agriculture, medicine and more in low-income countries.

In addition to SDG13 Climate Action, the Challenge also supports SDG5 Gender Equality, recognizing the pivotal role that women play in combating climate change. Projects submitted to the Challenge must integrate a gender dimension (such as addressing the role of women in adapting to climate shifts and participating in policymaking and leadership roles) into their projects. The winning projects will receive a prize of €25,000 each.

Goals

- Highlight innovative green chemistry projects that address issues in developing countries with a strong emphasis on climate resilience.
- Encourage sustainability science, international collaboration, and scientific exchange in developing countries.
- Create visibility for an emerging field in the chemistry world.
- Support the integration of sex and gender dimensions in chemistry research.

Milestones

- In 2021, a total of 106 proposals were received from 48 countries.
- The top 5 finalists pitched their projects at the virtual Elsevier Green & Sustainable Chemistry Conference in November 2021.

Spotlight on: 2022 winners

The 2021 winners demonstrated how green and sustainable chemistry offers tangible ways to support Climate Action (SDG13) in their local communities.

- **Brenya Isaac**, from Ghana received €25,000 for his project "Biodegradable building and packaging materials made from coconut waste" which supports the manufacturing of biodegradable building materials from coconut waste, helping to reduce CO_2 footprint and deforestation in Ghana while supporting local communities.
- **Dr Hong Pham and Dr Dinh Van Khuong**, from Vietnam also received €25,000 for their project "Producing Nano filter and bio-degradable plastics from rice straws" which found a practical use for another form of organic waste that has caused serious pollution in Southeast Asia, i.e., rice straws.

Level of evidence

1. Quasi-experimental
2. Pre-post ot cross-sectional
3. Point-in-time study
4. Performance metrics/stats
5. Anecdotal evidence

Future plans

The 2022 edition of the Challenge was launched in March 2022 and prizes will be awarded during the 2022 Elsevier SDG Inspiration Day in October 2022.

"What I cherish about chemistry is how it makes it easier to solve complex contemporary and future problems. As a researcher, I love to come up with alternative solutions that solve pertinent problems for people and society." — BRENYA ISAAC, 2021 Winner, Ghana

"Involving women in sustainable development activities is very important because it will empower [...] and transform the idea of *leaving no one behind* into a reality. Integrating sex and gender dimensions in sustainability research will foster women participating in leadership and decision-making, or involving them in income-generating activities which would protect them from violence, poverty and sexual harrassment." — HONG PHAM, 2021 Winner, Vietnam

Main photo: Dr. Hong Pham, 2021 Chemistry for Climate Action Challenge winner. Below: Brenya Isaac (left) and Dr. Dinh Ban Khuong, Chemistry for Climate Action Challenge winners.