

# Competition Brief 2024-2025

4TH EDITION

## UNIVERSITIES FOR **GOAL 13** COMPETITION & AWARD

A **Student Competition and Award for Climate Solutions** hosted by Siemens Energy in Collaboration with the UN Sustainable Development Solutions Network (SDSN)



## Table of Contents

◆ Overview	Pag. 3
◆ SDG 13: A Key Goal to Achieve the 2030 Agenda	Pag. 4
◆ About the Competition	Pag. 5
◆ Benefits for Students	Pag. 6
◆ Testimonials	Pag. 7
◆ About the Solutions	Pag. 8
◆ The Challenge: Supporting the Energy Transition	Pag. 9
◆ Solutions from Previous Editions	Pag. 11
◆ Timeline and Milestones	Pag. 12
◆ Resources	Pag. 13
◆ About the Organizers	Pag. 14

The purpose of this brief is to provide all relevant information about this competition and help participants frame their project and design their solution.

**We look forward to receiving your proposal!**



# Competition Overview

Sponsored by Siemens Energy and in collaboration with the United Nations Sustainable Development Solutions Network (SDSN), 'Universities for Goal 13' is an annual competition and award to recognize students' talent and their critical role in the quest of new technology and innovative solutions to combat climate change and its impacts. We aim to foster practical solutions for achieving SDG 13 on Climate Action, from multi-disciplinary perspectives and in a collaborative way.

**Who can participate?** Open to undergraduate and graduate students from universities of the [SDSN global network](#) that have been selected to participate.

**How to enter?** The competition starts with a Call for Solutions launched by each participant university in October 2024. The Application Forms must be submitted to the university focal point by mid December. Teams will pitch their project in front of a jury in June 2025. Maximum of three proposals from each university will be selected. Check the [Rules & Guidelines](#) document for more information.

**What Are We Looking For?** We aim to identify solutions that address SDG 13, from the perspective of energy transition, emerging from our network of universities. The proposals will be evaluated on criteria such as innovation, feasibility, impact, and alignment with the SDGs.

**What's in It for You?** Selected teams will benefit from mentorship given by staff from Siemens Energy, with experience in engineering, finance, compliance or project management, to help students refine their proposals from technological, legal, spatial, and social perspectives. The winner will be awarded with a USD 10,000 cash prize, and opportunities for further development and networking. All teams receive a certificate of participation. Check pages 6 and 7 for more details on the benefits.

**Stay tuned!** Follow SDSN social media ([X](#) and [Linkedin](#)) for updates and the latest news.

**Have Questions?** Write to [info@unsdsn.org](mailto:info@unsdsn.org) or contact your university's focal point.



## SDG13: A Key Goal to Achieve the 2030 Agenda

Climate change, driven by human activities, has become one of the most urgent challenges of our time. It threatens the way we live and the future of our planet. This urgency is reflected in the [Agenda 2030 for Sustainable Development](#) and the Paris Agreement, both adopted in 2015 by the United Nations. These agreements are considered among the most ambitious and important global commitments in recent history. **All nations pledged to take urgent action to combat climate change and its impacts**, particularly through the Paris Agreement by keeping the global temperature rise below 1.5 degrees Celsius.

For the first time, all countries recognize the need to peak global greenhouse gas emissions “as soon as possible” and to fully decarbonize their economies during this century to reach carbon neutrality. The 2030 Agenda and its [17 Sustainable Development Goals](#) (SDGs) must be implemented by all countries. They represent a framework not only for governments and public administrations, but also for businesses, universities, civil society, as well as **young people to make the transformation to net-zero emissions societies a reality!**

The path to a sustainable world is just now being sketched out, but the next two decades will be crucial. Our energy systems account for roughly 75% of the world's greenhouse gas emissions. Therefore, **decarbonizing our energy use is paramount in the fight against climate change**. Energy transitions will succeed globally when resource availability, manufacturing capacity, installation capabilities, financing, and skilled labor are all aligned. And as part of that we are currently on the road to electrify many high-emitting industries, like the transportation sector, so more electricity will be needed going forward to feed our energy demand. That’s why the challenge requires a multidisciplinary approach. We need technicians, economists, natural scientists, and those who understand how human societies really work.

While focusing on the cross-cutting Goal 13 that calls for enhanced multilateral cooperation transcending national boundaries, the competition and award requires that the projects align with the SDGs. These global goals recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.



## About the Competition

The climate emergency requires urgent measures. With this team competition, Siemens Energy and SDSN hope to provide an opportunity for students and young change-makers to be curators of the next generation solutions. Check the key features of this fourth edition!

### Eligibility

The competition and award is open to all undergraduate and graduate students currently enrolled in the participating universities. Participants must be students at the time of submission. Former participants may reapply as long as they fulfill the relevant criteria.

### Mentorship and Support

Selected candidates receive support from university faculty and mentors from Siemens Energy to enhance their proposals throughout the contest.

### Project Requirements

The projects require a multidisciplinary approach, essential for transforming towards a carbon-free economy, especially the energy sector. Teams should consist of at least 3 students, preferably from different fields of study (technological, legal, economic, social).

### Award

The winning solution is awarded USD 10,000 for further development and implementation and the finalist project will be presented alongside SDSN's high-level events during the UN General Assembly in New York, USA.

The students will undertake a self-assessment of how their solutions will affect the Global Goals with SDSN's [SDG Impact Assessment Tool](#).



## Benefits for Students

The competition aims to empower university students to become an innovative driving force in achieving the Sustainable Development Goals (SDGs) by making meaningful contributions to a global issue: climate change.

Participants selected for the competition will benefit from:

- **Being part of a global initiative** under the umbrella of the United Nations Sustainable Development Solutions Network (SDSN).
- **Mentorship** with top professionals from Siemens Energy.
- **Funding** for the winning solution (USD 10,000 prize).
- **Certificate of participation.**
- **Dissemination** of the solution on SDSN's communications channels.
- **Support from university staff** to design and develop the solution.
- **Enhance their professional development** by expanding their knowledge, building a professional network, and gaining practical experience and visibility.



2023 Competition Winner at the Award Ceremony in New York

## Testimonials

Read what SDSN and Siemens Energy Leadership as well as our participants have to say about their impactful journeys in Universities for Goal 13:



“Universities for Goal 13” is making sure that this innovation process continues in a dynamic way right into the new young engineers and leaders of the coming generation. Thanks to this competition, students from universities in all parts of the world receive excellent mentorship to work on practical problem solving exactly directed at the challenges we face.”

**-Jeffrey Sachs, President of SDSN**



“For the young people participating in this competition, climate change is not a theory, let alone a hoax, nor is it a throw-away line in campaign speeches. It is a reality they have always known. We encourage them to turn their passion for the green transition into action.”

**-Maximilian Schnippering, Siemens Gamesa**

“Participating in this initiative has enhanced our university's visibility and provided valuable, engaging activities for our students, offering insights into climate change and collaboration opportunities with SDSN and Siemens Energy.”

“The students’ teams have found the experience invaluable, especially the support from the mentors who have been providing quite inspirational.”

**-Comments from University Focal Points**

“Winning the contest was an incredible honor. Our team was able to gain invaluable resources and recognition, and with the prize, we have been able to advance our project and take it to the next level.”

“The competition has been a unique experience to expand my knowledge and skills while being supported by a team of real-life experts. One of the greatest benefits was having a platform to showcase our projects.”

**-Comments from students**



## About the Solutions

We are looking for solutions that fulfil the following requirements:

- Are innovative
- Have a disruptive potential
- Are technically feasible
- Are aligned with the SDGs

The solutions **must address [SDG 13](#)**, with a focus on innovative strategies to support the energy transition. More details on the specific areas in which ideas can be presented can be found in the next section (The Challenge).

The **proposals are evaluated** according to their novelty, disruptive potential, feasibility, alignment with the SDGs, plus the quality of the presentation.

The solutions **can be at any development stage**. They can be an idea, a pilot project, or an existing project that needs further development. They do not necessarily have to be unpublished.

The potential **outcomes of students' work** should include: analysis of needs, potentials, barriers, and opportunities to utilize the capabilities of business and industry offerings. They should enhance understanding of technical, legal, economical, or sociological aspects of how the solutions can support the development of the region. They can also design, analyze, and suggest concrete solutions for narrowing, slowing, and/or closing resource loops, minimizing energy demand and use, regenerating resources and materials, and creating, supplying and using data.

During **past three editions of the competition**, students presented varied and ground-breaking solutions that addressed issues such as the use of biofuels, mapping energy networks, sustainable land use, generating sustainable energy through solar, wind and hydro power, public policy recommendations for wind powered energy, community participation in climate change, among other. Learn more in the section featuring Solutions from Previous Editions!



# The Challenge: Supporting the Energy Transition

Experts say we can limit global warming to 1.5°C with a new clean energy economy, like wind, solar and electric cars. Green technologies have grown fast in the last two years, but we still face many challenges to make the energy transition sustainable.

We need to solve these problems with innovative technology, economic schemes and policy decisions, as well as new partnerships, and students can play a key role with their groundbreaking proposals.


**The 2025 competition welcomes solutions from an array of disciplines that can viably support the energy transition. Here are some ideas!**

**How to make renewable energy reliable and resilient?** We need to improve how we generate, transmit, distribute and store electricity. We also need new solutions for electricity storage and grid enhancement, to ensure a stable and low-carbon electricity system for all.

**How to use a circular economy approach for the energy transition?** We need to develop industrial systems that use renewables and are decarbonized and sustainable. We need to reuse and recycle the materials from the production to the end-of-life of the products.

**How to reduce the environmental, social, and economic impacts of clean energy technologies?** We need to improve the products and materials we use to make them. We need to find enhanced ways of making raw materials such as concrete, steel, fibers, and polymers, and lowering their impacts.

**How to secure the supply of critical materials for clean energy technologies?** We need metals and minerals to build solar plants, wind farms and electric vehicles. They make up a significant portion of the costs required for these technologies. As clean energy technologies become more popular, the demand for these materials increases. But some materials are only produced or processed in a few countries and this can cause price changes and supply risks. We must track the material flows and diversify the supply sources.



**How to create stable policies for clean energy?** We need clear and effective policies to support clean technologies around the world. This will help attract the investments needed for the energy transition. We also need to stop subsidizing fossil fuels. Policies need to link finance, labor, materials, manufacturing and installation.

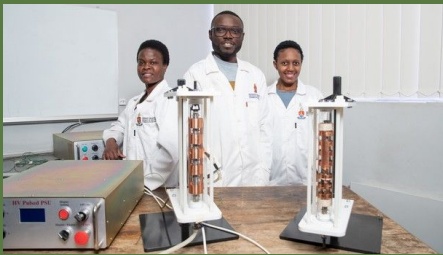
**How to train the green workforce?** To fight climate change, we need to keep improving our technologies by prioritizing innovation. We need more workers with the right skills for the clean energy sector. We need to invest in education and training to close the skills gap.

**How to deploy green energy solutions without harming the environment and society?** We need to consider the impact of solar and wind farm installations on communities and the biodiversity of those areas. They can cause problems if not created properly, not only in the installation, but also in the supply chain and the extraction of raw materials. The energy transition is also a chance to act sustainably in terms of human rights.

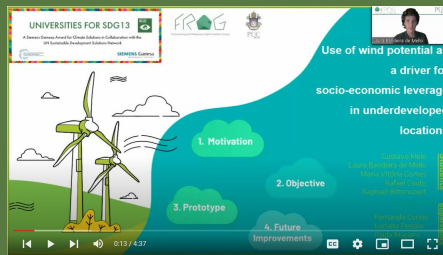
**How to further develop digital technologies to accelerate the transition to clean energy?** The systemic change required for the energy transition needs to go hand in hand with a sustainable digital transformation to maximise efficiency and cost reduction, optimise designs and processes and extend the lifetime of assets, while addressing the issue of cybersecurity.



Learn about the solutions that student teams presented in previous editions. All the pitch videos from the 2024 edition are available here.



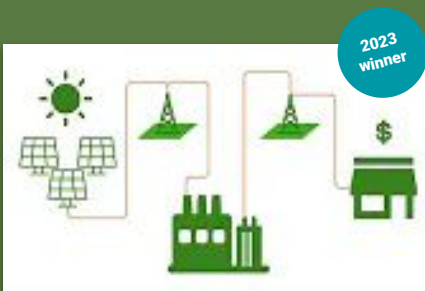
Students from the University of Pretoria in South Africa designed a solar-powered non-thermal plasma technology for water treatment in rural communities, aimed at developing easily-operated small-scale water purification systems that work without chemicals. More in the [news](#).



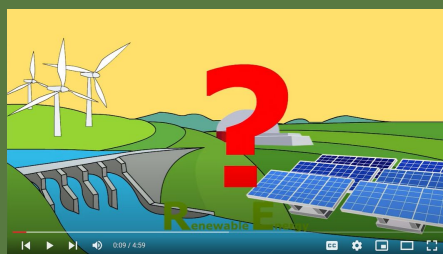
Students from PUC-Rio University in Brazil worked on the use of wind potential as a driver for socio-economic leverage in underdeveloped locations.



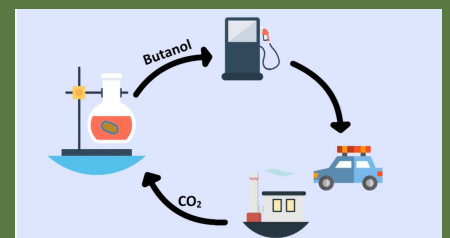
Students from Tsinghua University in China proposed a blockchain-based system to monetize the carbon sink potential of tropical rainforests by converting carbon flux into carbon credits. More info [here](#).



E-Gora: The Energy Marketplace, created by students at Case Western Reserve University in the USA, seeks to provide a user-friendly platform that allows users to find information quickly and easily about renewable energy projects near them that they can participate in.



The team from Arizona State University in the USA proposed a solution for a sustainable management of wind turbine blades, providing a circular economy methodology for this sector.



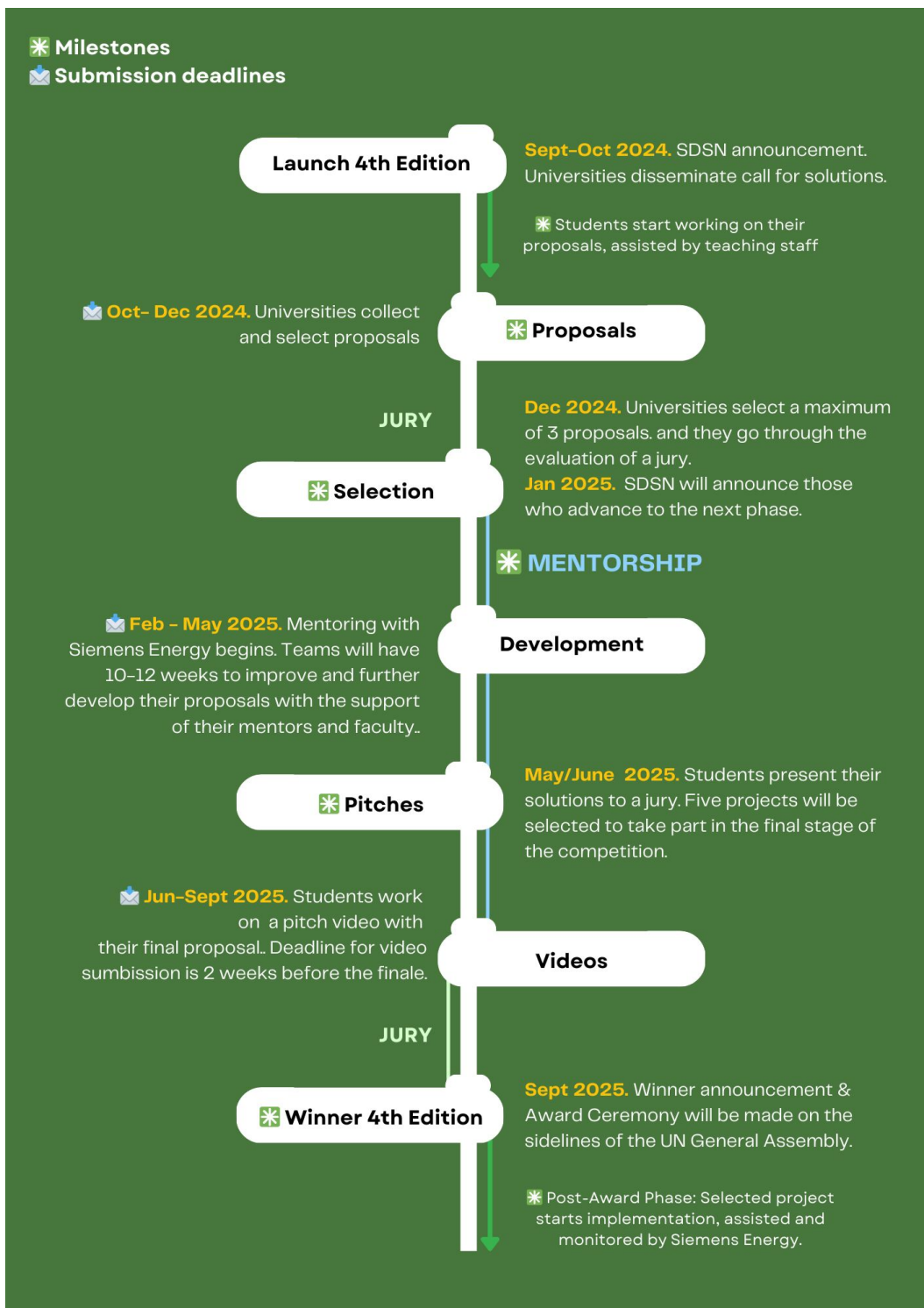
The team from Göttingen University in Germany designed the solution 'From Waste Gas to Fuel,' thus providing sustainable biofuels with bacteria.

The HotBox project, developed by students from Nelson Mandela University in South Africa, provides a controlled environment for agricultural cultivation, while maximizing resource utilization and overcoming the limitations of traditional farming methods.

Reducing Carbon With Carbon, created by students at Shanghai Jiaotong University, addresses the issue of graphite waste from lithium batteries, which will represent 32% of all combustion emissions worldwide by 2030.

# Timeline and Milestones

The competition extends over one academic year. In the following visual timeline, you will see the key milestones of the competition:





# Resources



## Videos

### [Introducing Sustainable Development](#)

Presented by Jeffrey Sachs,  
President of the SDSN

### [What is Climate Change?](#)

Presented by The SDG Academy

### [The Basic Science of Climate Change](#)

Presented by Jeffrey Sachs

### [Business Solutions for Climate Change](#)

Presented by the SDG Academy

### [Video Lectures on Climate Change](#)

The SDG Academy (full playlist)

## Readings

### [The Sustainable Development Agenda \(FAQ\)](#)

United Nations

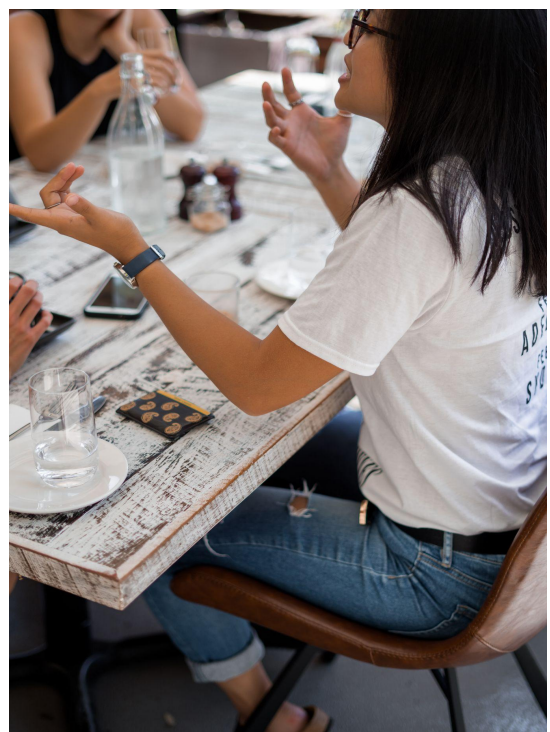
### [The Paris Agreement](#)

UN Climate Action

## Websites

### [Sustainable Development Solutions Network \(SDSN\)](#)

### [SDG Impact Assessment Too](#) SDSN Northern Europe



## About the Organizers

### **The UN Sustainable Development Solutions Network (SDSN)**

The UN Sustainable Development Solutions Network (SDSN) works under the auspices of the UN Secretary-General to mobilize the world's universities, think tanks, and national laboratories for action on the Sustainable Development Goals (SDGs) and the Paris Agreement; empower societies through free online education; and translate scientific evidence and ideas into solutions and accountability.

Established in 2012 by the former UN Secretary-General, Ban Ki-Moon, and world-renowned economist and professor, Jeffrey Sachs, the SDSN promotes integrated approaches to implement the SDGs and the Paris Agreement, through education, research, policy analysis, and global cooperation.

For more information please contact us at [info@unsdsn.org](mailto:info@unsdsn.org)

### **Siemens Energy**

Siemens Energy drives the transformation of the energy industry. With over a century of experience, they are at the forefront of innovation, working to address the world's most pressing energy challenges. Their global team of more than 90,000 professionals is dedicated to making sustainable, reliable, and affordable energy accessible globally. As leaders in the energy sector, Siemens Energy offers a comprehensive portfolio that includes conventional and renewable energy solutions such as gas and steam turbines, hybrid power plants, and power transmission systems. Their commitment to excellence and collaboration with partners has resulted in the successful deployment of cutting-edge technologies that power homes, industries, and communities worldwide. Siemens Energy's worldwide implementation ensures that their advanced energy solutions are making a significant impact in diverse markets and regions around the world.

For more information please contact [rocio.millan-almonte@siemens-energy.com](mailto:rocio.millan-almonte@siemens-energy.com)



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