

**IEEE YESIST12
WePOWER 2025 - Website Content**

**Theme: Innovations for Clean, Affordable, and Inclusive
Energy Solutions**

RULE BOOK



INTRODUCTION

In a world where energy and power dynamics significantly influence our daily existence, a pioneering initiative is poised to reshape the prevailing narrative. The "South Asia Gender and Energy" (SAGE) program, spearheaded by the World Bank, stands as a transformative endeavor. Central to this program is the visionary undertaking known as the "Women in Power Sector Network in South Asia (WePOWER)." This initiative serves as a beacon of change, aiming to reconfigure the landscape for women's participation in Science, Technology, Engineering, and Mathematics (STEM) education.

WePOWER doesn't merely aspire for change; it is a catalyst for a transformative shift in how society perceives and embraces women in the energy and power sector. Imagine a future where the clinking of hard hats and the hum of machinery are harmonized with the brilliance of women engineers and professionals, actively driving innovation and sustainability in the power domain.

The WePOWER track is designed to encourage women's participation in power and energy fields, driving innovation and contributing to a cleaner approach to energy generation. The overarching objective is to bring about significant changes in STEM education for women, ultimately addressing and eliminating hazards in power generation through environmentally friendly practices.

IEEE WePOWER aligns with these goals by dedicating itself to supporting the professional development and success of women in these industries. Additionally, the initiative seeks to cultivate diversity and inclusivity within the power and energy engineering community while actively promoting the concept of sustainable cities and communities.

KEY FOCUS AREAS :

1. **Clean Energy Technologies:** Innovations in renewable energy sources such as solar, wind, hydro, and bioenergy, along with advancements in energy storage and grid technologies.
2. **Affordability and Accessibility:** Strategies to reduce the cost of energy production and distribution, ensuring energy reaches underserved and remote communities.
3. **Inclusivity and Gender Equality:** Empowering women-led initiatives and fostering inclusive participation in the energy sector.
4. **Policy and Governance:** Frameworks and regulations that promote sustainable energy practices and investment.
5. **Digital Transformation:** The role of smart grids, IoT, AI, and blockchain in revolutionizing energy systems.
6. **Community-Centric Solutions:** Grassroots innovations that address local energy challenges and create sustainable impact.

OBJECTIVE

WePOWER aims to actively promote the adoption of clean energy systems, envisioning a future where they not only contribute to a safe environment for future generations but also position the renewable energy sector as an appealing and rewarding career option for women. Beyond individual empowerment, WePOWER is dedicated to actively contributing to the comprehensive development of inclusive, safe, resilient, and sustainable cities and human settlements. This commitment involves fostering positive environmental and societal changes by the increased participation of women in leadership roles within the power and energy sectors. To enhance efficiency, WePOWER will focus on targeted initiatives, partnerships, and advocacy efforts that advance the dual goals of clean energy promotion and women's leadership in sustainable development.

This theme places a primary emphasis on mitigating carbon footprints while ensuring the enduring availability of energy for future generations. The focus extends beyond mere reduction to embrace the development and promotion of sustainable energy solutions. By fostering innovation in clean and affordable energy, the WePOWER Track aspires to lead the way in creating a future where energy is not only environmentally responsible but also economically viable.

EXPECTED OUTCOMES

- Innovative prototypes and models addressing clean energy challenges.
- Knowledge-sharing on best practices and case studies from diverse regions.
- Networking opportunities for collaboration and mentorship.
- Empowerment of women in leadership roles within the energy sector.

WHO CAN PARTICIPATE?

Participants in the WePOWER Track 2024 are diverse and inclusive, encompassing a wide array of individuals who align with the theme of "**Innovations for Clean, Affordable, and Inclusive Energy Solutions**".

The team size can have a maximum of 4 members of which 1 member must be a girl student.

The platform welcomes:

Innovators and Creators:

Those who actively contribute to the development and promotion of sustainable energy solutions.

University Students:

Students from various universities are eligible to participate, providing a platform for the next generation of innovators to showcase their talents and ideas.

Graduate Members:

Individuals with graduate-level expertise who can offer solutions to the problem statements posed by the WePOWER Track. Their knowledge and skills contribute to the advancement of clean and affordable energy initiatives.

By bringing together this diverse range of participants, the WePOWER Track aims to create a collaborative environment where different perspectives and expertise converge to drive innovation in sustainable energy.

The focus is on following SDGs

SDG 5: Gender Equality

SDG 6: Clean Water and Sanitation

SDG 7: Affordable and clean energy

SDG 11: Sustainable cities and communities

SDG 13: Climate action

The WePOWER track invites the participants to submit projects related to the following topics.

Innovative Solutions for Energy Storage Efficiency: Projects that focus on

1. Hybrid Energy Storage Systems: Combining batteries and supercapacitors.
2. Solid-State Batteries: Research and implementation for enhanced energy storage.
3. Compressed Air Energy Storage: Small-scale, cost-effective systems.
4. Repurposed EV Batteries for Grids: Retrofitting retired EV batteries for renewable storage.
5. AI-Based Storage Optimization: Algorithms to maximize energy storage performance.
6. Hydrogen Fuel Cells: Efficient storage for surplus renewable energy.
7. Gravity-Based Energy Storage: Solutions leveraging mechanical energy for storage.

Digital Technologies (IoT and AI) for Energy Optimization: Solutions that can be related to

1. IoT which helps in utilizing clean and affordable energy
2. AI-Driven Load Forecasting: Predicting energy demand for better resource allocation.
3. IoT for Microgrid Management: Efficient real-time monitoring of distributed energy.
4. AI for Energy Theft Detection: Identifying inefficiencies or theft in underserved areas.
5. Renewable Energy Forecasting: AI for better prediction of solar and wind generation.
6. Virtual Power Plants: Coordination of distributed energy resources using AI.
7. Digital Twins for Energy Infrastructure: Simulation of energy systems for optimization.
8. AI-Powered Energy Distribution in Urban Slums: Addressing underserved areas effectively.

Community-Driven Renewable Energy Initiatives: Ideas, Projects that orient towards

1. Solar energy technologies which can be made more affordable and accessible to remote communities
2. Cooperative Solar Farms: Community ownership of renewable resources.
3. Renewable Energy Crowdfunding: Platforms for raising funds for community projects.
4. Energy Literacy and Training Programs: Educating communities on renewable energy benefits.
5. Shared Solar Grids: Models for equitable use of shared energy resources.
6. Community Biogas Plants: Small-scale biogas projects for rural communities.
7. Rural Renewable Energy Mentorship Programs: Empowering communities to manage local projects.

8. Agricultural Renewable Energy Cooperatives: Energy solutions specifically tailored for farmers.
9. Renewable Energy in daily life applications

Blockchain for Energy Transactions

1. Smart Energy Contracts: Automating transactions using blockchain technology.
2. Tokenized Energy Credits: Incentives for renewable energy producers and consumers.
3. Peer-to-Peer Energy Markets: Blockchain-based platforms for buying/selling renewable energy.
4. Renewable Energy Certificate Verification: Using blockchain for transparent certification processes.
5. Carbon Offset Tracking: Blockchain for tracking carbon reductions in renewable energy projects.
6. Decentralized Energy Billing Systems: Transparent and tamper-proof energy billing models.
7. Supply Chain Transparency for Energy Equipment: Ensuring sustainability in sourcing and manufacturing.

GUIDELINES TO THE PARTICIPANTS

1. The goal of this challenge is to create prototypes of products, services, and ideas related to the above topics
2. Abstracts should adhere to the track theme. The template can be downloaded from the website.
3. Multiple abstract submissions are possible.
4. Abstracts will be evaluated and the teams will be notified of their selection for finals.
5. elected teams should register through the link before the deadline in order to confirm their participation in the finals.
6. Only registered members of the team will be given certificates.
7. Mentor names should also accompany the team registration. They will also be provided with certificates.
8. Participants should present their work **IN PERSON** during the finals to the judging panel.
9. The decision of the committee/panel will be final.
10. Each individual participant or team member must accept the event regulations and grant consent for the handling of their personal information and for the use of video and other images.
11. The members of each team are to ensure that the personal information provided upon registration online is true and accurate and must unconditionally accept any and all decisions made by Hackathon organizers with regard to event organization.

RULES & REGULATIONS

1. Individual entry is not entertained.
2. Team size: Minimum of 2 members and Maximum of 4 members
3. Idea submission must be made by the Team Leader only.
4. Team members may come from different academic institutions/industries and from different countries.
5. The Team Name should be unique and must not be connected in any way with the names of their Organisation/ Institution or registered trademarks or use expressions that incite violence or are discriminatory, obscene, or represent any form of defamation.
6. If the information provided during online registration is found to be incomplete and/or inaccurate, the entire team concerned will be excluded from the competition.
7. Teams may not be changed once the competition has begun.

8. Teams are locked along with abstract submission, and no further changes to team members and mentors can be made after that.

9. Entries are to be sent only in the prescribed format, otherwise, they are bound to get rejected.

10. Each Team is solely responsible for its own cooperation and teamwork. Failure to comply with the regulation will result in disqualification.

JUDGES

The selection of teams will be done by a panel of expert judges, some of which will be members of IEEE along with other authoritative figures from the world of high-tech and innovation.

FAQs

1. Who is eligible to participate in the WePOWER Track?

Open to students, professionals, and innovators passionate about sustainable energy and technology.

2. What can be the strength of each team?

Each team must consist of 2-4 members, and at least one female participant is mandatory to promote gender diversity.

3. Is it compulsory that all the members in the group should be women?

NO. However, as the track promotes Women in Power, we encourage **at least one participant must be a woman.**

4. Should everyone in the team be an IEEE member?

Participants can be IEEE Members or Non-IEEE Members.

5. Would it be fine if the project idea is not related to the theme but with Power?

The Project must be related to the theme and motto of the WePower Track. It must have ideas mentioned in the Rule book of WePOWER track.

6. What should the project focus on?

The project must align with the theme: Innovations for Clean, Affordable, and Inclusive Energy Solutions.

Key focus areas include:

- Clean Energy Technologies
- Affordability and Accessibility

- Inclusivity and Gender Equality
- Policy and Governance
- Digital Transformation
- Community-Centric Solutions
- Gender Equality
- Clean Water and Sanitation
- Affordable and Clean Energy
- Sustainable cities and Communities
- Climate Action

7. What are the submission guidelines?

- Teams must submit an abstract and a detailed project proposal before the deadline specified on the YESIST12 website.
- The project proposal must include:
 - Problem statement
 - Proposed solution
 - Implementation strategy
 - Expected impact on clean and inclusive energy Access

8. Can I revise my abstract after I have submitted it?

The abstract will be moved to review once submitted within a stipulated time after which no revision to abstracts will be allowed post-submission.

9. What is the number of abstracts a team/ person can submit?

A participant can submit different abstracts which may contain different ideas.

10. How will the projects be evaluated?

Projects will be judged based on the following criteria:

1. Alignment with the theme.
2. Innovation and creativity.
3. Feasibility and scalability of the solution.
4. Potential impact on clean and affordable energy.
5. Quality and clarity of the presentation.

11. What is the fee structure for participation?

- There is no fee for abstract submission.
- Shortlisted teams for the Grand Finale must register and pay a fee which will be displayed in the website.

12. What is the presentation format for shortlisted teams?

- Shortlisted teams will deliver a 10-minute presentation, followed by a 5-minute Q&A session with the judges.
- Teams should ensure their presentation is clear, concise, and aligned with the project theme.

13. Is it mandatory that the project idea benefit women in one or the other way?

The WePower track encourages women participants in Power & Energy Sector innovations. The benefits of the project idea must address the betterment of humanity by supplying clean energy and it is not restricted to benefits of women alone. It is related to Clean, Affordable and Inclusive energy solutions.

14. Where to submit the abstract?

The abstract can be submitted in the link provided in **YESIST12 Website (Under WePower track)** before the deadline.

15. Why should I participate in the WePOWER Track?

- Contribute to solving real-world energy challenges.
- Collaborate with like-minded innovators.
- Gain global recognition and inspire change in the Power & Energy sector.
- Promote sustainable energy innovations for a better future.