2024

SPRERI
Striving for Excellence

SPRERI NEWSLETTER

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About Us

Sardar Patel Renewable Energy Research Institute (SPRERI) is an autonomous organization located in Anand, Gujarat. Since its inception in the year 1979, SPRERI is dedicated for renewable energy research, development, and commercialization and is well recognized both nationally and internationally for its innovative interventions in renewable energy technologies through fundamental research, pilot scale demonstration and technology commercialization.

Thrust Areas

The thrust areas include Renewable Energy, New and Alternative Energy Technologies, Energy Security and Environment. The four divisions of SPRERI

Divisions

Solar Energy

Bio-Chemical Conversion

Thermo-Chemical Conversion

Technology Transfer & Extension

viz the Solar energy division, Bio-chemical conversion division, Thermochemical conversions division and Technology transfer division are actively engaged in the research, development, demonstration and commercialization of cutting-edge technologies in numerous areas of renewable energy, environment and climate change. These include hydrogen technologies, carbon mitigation, solar thermal, solar photovoltaic, water remediation, biofuels, biomass to electricity and useful commodities as byproducts of energy conversion and bioconversion of waste to value.

SPRERI is also involved in government policy and program development, offering training, capacity building, extension support, consultancy services, business development, conducting testing, evaluation, and certification of renewable energy technologies.

Legendary founders, Late Dr. H. M. Patel and Late Mr. Nanubhai Amin

The institute is recognized as scientific and industrial research organization by Department of Scientific and Industrial Research (DSIR), Bureau of Indian Standards (BIS), National Accreditation Board for Testing and Calibration Laboratories (NABL) and empaneled with Tata Institute of Social Sciences (TISS).

Celebrating 20 Years of Leadership: Honouring Dr. Amrita Patel on Her Farewell

Dr. Amrita Patel
(Chairman 2004-2024)

SPRERI extends heartfelt gratitude and admiration as we bid farewell to an exceptional leader, Dr. Amrita Patel, who retired after serving as Chairman for two decades. During her tenure, Dr. Patel played a pivotal role in shaping SPRERI's growth and success. Her visionary leadership, unwavering dedication, and commitment to innovation and the upliftment of rural society have been instrumental in establishing the organization's reputation and impact. A mentor, role model, and steadfast advocate for SPRERI's values, Dr. Patel leaves behind a legacy of excellence and inspiration. As she embarks on this new chapter of life, we express our deepest appreciation for her remarkable contributions and wish her continued success and fulfillment in the years ahead.

Welcoming Er. Bhikhubhai B. Patel as the New Chairman of SPRERI

We are pleased to announce that Er. Bhikhubhai B. Patel has assumed the role of Chairman at SPRERI. Er. Patel brings extensive experience, a visionary perspective, and a strong dedication to advancing our mission. With his expertise and forward-looking approach, we are confident that SPRERI will continue to thrive and achieve new milestones under his leadership. We look forward to the exciting journey ahead as he guides the organization toward greater success and impact.

Er. Bhikhubhai B. Patel
Chairman - SPRERI

Vision

SPRERI will be an organization that will develop environment friendly Renewable Energy Technologies that are efficient and economically viable for society.

Mission

To achieve excellence in research, development, and commercial deployment of renewable energy technologies including education and training for the promotion of environmentally sustainable technologies with public-private cooperation for India and developing global economies.

Board of Management

Er. Bhikhubhai B. Patel Chairman	**Chairman**
Shri Manish S. Patel Vice President, Charutar Vidya Mandal, Vallabh Vidyanagar	Member
Mr. Sydney Lobo Sr Technical Advisor, Clean Tech Space, Mumbai	Member
Dr. Datta Madamwar Scientific Advisor, CHARUSAT, Changa, Anand	Member
Ms. Bhaktiben Shamal Joint Secretary EPD, Gujarat Government	Member
Dr. K. Narsaiah Assistant Director General (Process Engg.), Indian Council of Agricultural Research, New Delhi	Member
Dr. D.K. Tuli Former Executive Director IOC R&D; & CEO Indian Oil Technologies Ltd and Chair DBT Energy Bioscience	Member
Dr. Anuradda Ganesh Chief Technical Advisor and Director, Cummins Technologies India Ltd. and Ex-professor, Indian Institute of Technology, Mumbai	Member
Prof. Satish B. Agnihotri Professor, Centre for Technology Alternatives for Rural Areas (CTARA), IIT Bombay Associate	Member
Mr. Apoorva Oza Chief Executive, Aga Khan Rural Support Programme, Ahmedabad	Member
Mr. Vivek Amin CEO at Bomin Industries PVT. LTD Ahmedabad	Member
Dr. A. Mahesh Assistant Professor, C L Patel Institute of Studies and Research in Renewable Energy, Anand	Member
Dr. Anil Kumar Dubey Director, SPRERI, Vallabh Vidyanagar, Anand, Gujarat	Member Secretory

Research and Development

Field Demonstration of a 24 X 7 Solar Refrigerator

SPRERI, under the support of AICRP on EAAI, ICAR, has successfully developed an up-scaled solar PV-operated refrigerator with a storage capacity of 100 liters and integrated cold thermal energy storage of 23.5 MJ. This advanced system is designed for continuous 24 × 7 operation, leveraging its cold thermal storage for consistent performance. Equipped with a DC compressor, the refrigerator operates efficiently with minimal solar PV energy input, making it suitable for off-grid applications. The system was rigorously tested in-house for fish storage, using 35 kg of Rohu fish as the test load. After charging the cold thermal storage, the system maintained the fish at a temperature range of 0 °C to 2 °C for 4.5 days without additional power input. This performance demonstrates its capability for energy-efficient preservation of perishable commodities.

Field Testing and Demonstration

To assess its field performance, the refrigerator has been installed at a retail fish shop, M/s Abdul Fish Traders, in Anand. Initial demonstrations showcased the system's ability to form ice from stored water. Currently, the refrigerator is undergoing field testing for the storage of Surmayi (Kingfish) under real-time conditions. Photographs of the installed system and the shop owner provide a visual overview of the setup. The ongoing field trials aim to validate the system's efficacy and practicality for commercial use, particularly in areas with limited access to reliable electricity. This solution offers significant potential for enhancing cold storage capabilities in remote and off-grid regions.

Fish stored in refrigerator during in-house testing

Solar PV-operated refrigerator for fish storage at user-site

Empowering Rural Women With Sustainable Innovation: SPRERI's New Banana Fiber Processing Unit

SPRERI has established a banana fiber processing unit, making a progress towards sustainable innovation and rural development. This initiative focuses on transforming banana pseudostems, an agricultural byproduct, into eco-friendly products such as handicrafts and paper. The facility is equipped with advanced machinery, including a banana pseudostems cutting machine, a fiber extraction machine, and a setup for softening the extracted fiber. Plans are underway to integrate a paper-making unit to further diversify product applications. Beyond efficient utilization of agricultural residues, this initiative aims to empower rural women through training programs focused on income generation and entrepreneurship. Aligned with SPRERI's mission to promote sustainability and community development, this effort exemplifies the harmonious blend of science, environmental responsibility, and social impact.

SPRERI -RAC committee members at the banana processing unit

SPRERI and Chanderpur Works Pvt Ltd Signs MoA for Renewable Energy Technologies

SPRERI and M/s Chanderpur Works Pvt. Ltd. (CWPL), Haryana, have entered into an agreement for the transfer of two innovative technologies developed by SPRERI—the advanced Fluidized Bed Gasification System and the versatile Biochar Production/Torrefaction System. This collaboration aims to facilitate effective marketing and large-scale adoption of these cutting-edge solutions. The MoA was signed by the Directors of both organizations, marking a significant milestone in sustainable energy innovation.

Events

Research Advisory Committee Meeting

The Research Advisory Committee (RAC) meeting was successfully conducted at SPRERI on Oct 21, 2024. The event brought together esteemed RAC members and researchers to review ongoing projects, discuss strategic priorities, and provide valuable recommendations for future research directions. Key highlights included presentations on research initiatives, productive discussions on opportunities, and actionable insights to enhance the institute's impact in renewable energy. We extend our gratitude to the esteemed members and all participants for their invaluable contributions and commitment to advancing SPRERI's R&D program.

Events

Board of Management Meeting

The Board of Management meeting was held at SPRERI on Dec 6, 2024, bringing together the esteemed Board members to discuss the institute's progress and strategic plans. Key discussions focused on institutional growth, resource optimization, and upcoming initiatives to enhance research excellence. The board reviewed significant achievements and outlined actionable steps for future development. We thank all members for their guidance and dedication to the institute's mission

National Seminar

The Sardar Patel Renewable Energy Research Institute (SPRERI), with support from the Gujarat State Biotechnology Mission (GSBTM), hosted a one-day National Seminar on **"Opportunities and Challenges in the Production of Green Hydrogen from Biomass"** on **December 14, 2024.** The event, attended by 80 participants from universities, institutes, and industries, was inaugurated by Dr. K. B. Kathiria, Vice Chancellor of Anand Agricultural University, with Dr. Sunil Kumar Khare as the keynote speaker. It featured two technical sessions, a panel discussion, and a valedictory function. Experts discussed hydrogen generation pathways, challenges in the green hydrogen economy, government policies, cost reduction, and opportunities in bio-hydrogen production, storage, and transport. The seminar concluded with recommendations to develop robust policies, invest in R&D, establish guidelines for biomass management, and encourage collaboration between academia, industry, and government to advance green hydrogen production.

Inaugural Session

Panel Discussion

Upcoming Evets

47th Foundation Day of SPRERI

SPRERI, established on January 27, 1979, by the distinguished Dr. H M Patel, former Home Minister of India, and Shri Nanubhai Amin, an eminent industrialist and social worker, will be completing 46 years of dedicated work in the field of renewable energy. To commemorate this, SPRERI is organizing the Foundation Day Celebration on January 27, 2025, from 9:30 am to 1:00 pm at the Dr. Amrita Patel Conference Hall, SPRERI.

16th Open House Event

SPRERI is organizing its flagship annual event - **16th Open House** on **28th - 29th January, 2025** at Sardar Patel Renewable Energy Research Institute, Vallabh Vidyanagar, Anand, Gujarat 388120.

For more Details and Registration, please visit www.spreri.org

Let's work together to achieve net zero mission of country's future!

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