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RHNo G2, Kasliwal Vishwa,
Parvatinagar, Ulkanagari,
Aurnagabad, Maharashtra,
431005, INDIA

SKILLS

- Engineering Design
- Analysis and research abilities
- Technical problem-solving
- Manufacturing Process
- Product Testing and Validation
- Product development & Quality Management

SOFTWARE

Ansys-Fluent, CFX

Solidworks

Microsoft Office

Autodesk MouldFlow

Final Cut Pro

INTERNSHIPS

Research Intern
The Indian Institute of

Akshansh Kataria

HEAD- RESEARCH AND DEVELOPMENT

ABOUT ME

With over 6 years of experience as a Mechanical Engineer specializing in fluid and thermal (Combustion) sciences, I have consistently demonstrated my ability to deliver results, as a Research and Development Head, I possess a strong background in sustainable energy solutions. Additionally, I am a CII-certified expert in sustainable waste management, reflecting my commitment to environmentally conscious practices. With a forward-thinking approach, I excel and thrive in solving complex problems. I firmly believe that technology can be leveraged to create value and drive long-term sustainable changes for a better world. A results-driven and experienced Cookstove Carbon Project Developer with a strong background in sustainable energy solutions and carbon offset projects in biomass cookstoves.

WORK EXPERIENCE

HEAD-Research & Deveplopment
Ecosense Appliances / Aurnagabad / Sep 2019 - Present

Cookstove Carbon Project

- Managed cookstove carbon projects in collaboration with local communities, government agencies, and non-profit organizations.
- Conducted feasibility studies and assessed the potential of cookstove carbon projects in various regions, considering factors such as local cooking practices, fuel availability, and social and environmental impact.
- Led project teams to design and implement cookstove interventions, including the distribution of improved cookstoves and the promotion of behaviour change towards clean cooking practices.
- Established partnerships with carbon offset buyers, negotiated contracts, and ensured compliance with relevant carbon standards and certification requirements.
- Developed monitoring and evaluation frameworks to measure project performance, carbon emission reductions, and the socioeconomic benefits achieved by the cookstove carbon projects.
- Prepared comprehensive project reports and presented findings to stakeholders, including donors, investors, and government officials, to secure funding and support for project expansion.
- Collaborated with interdisciplinary teams to conduct research, analyze data, and prepare reports on the environmental and economic impacts of cookstove interventions and other sustainability initiatives.
- Advised clients on policy and regulatory frameworks related to carbon offsets and renewable energy, keeping abreast of the latest industry trends and best practices.

Developing Cleaning Cooking & Spacing Heating Solution for Himalayan Household (Uttarakhand and Nepal)

- Conducted On-field Pulmonary Clinical Testing of the natives.
- Installation of HEP Emission sensor, data collection and analysis of the traditional kitchens in the Himalayan region.
- Designed a solution based on data and ran a pilot project at Agora village.
- Validation of designed product and product development as per user feedback mechanism.

Computational Fluid Dynamic Study of Improved Forced Draft Biomass Cookstove (TLUD)

- To understand the airflow in the TLUD cookstove, conducted a hydrodynamic study.
- To establish the optimal air-fuel ratio of a biomass cookstove, homogenous and heterogeneous combustion studies were made.
- Thermal efficiency increased by 14%, to 52% using the CFD tool.

Science
Bangalore
Feb 2015 - May 2015

Research Itern
CNRS Labs
Nantes, France
Feb 2016 - Jun 2022

PRODUCTS DEVELOPED

- ZEROPAD- Sanitary Napkin Incinerator
- FDI- Force Draft Mask Incinerator
- Animal Incinerator
- Umang- Natural Draft Cookstove
- Space heating Devices
- Jet flame- Converting natural draft to force draft cooking

SPEAKER

Energy Summit-2022
Dehradun, Uttarakhand
Nov 2022

Indian Bioenergy and Climate Change Forum 2022
Aurangabad, Maharashtra
Sep 2022

PERSONAL DETAILS

Date of birth
12th September 1991

Nationality
Indian

Marital status
Married

Designing Experimental Setup For Biomass Cookstove Testing

- To study various secondary to primary air to achieve fewer emissions.
- Reduced Carbon monoxide and PM emissions by 25%.

Designing A Multi-Fuel Cookstove (Pellets, Coal, Woodchips, Briquettes)

- Responsible for providing optimized design for prototyping.
- Complete Root Cause Analysis on issues observed in product development and testing.
- Completed quality and quantitative on-field product testing.

Developing Starter Pellet Recipe
Formulated recipe using wax, wood shavings and sawdust (in various concentrations and densities) for quick ignition of biomass cookstove along with IIT-Delhi under Rutag funding. Researched work publishing in **The American Society of Thermal and Fluid Engineers.**

Additional Responsibilities:

- Managing and developing the CFT team for overall product development.
- Collaboration with prestigious institutes on various clean cooking research initiatives and writing research papers.
- Establishing a long-term relationship with clients and various stakeholders through smooth communication skills.
- Developing various biomass-based technologies for clean energy access.
- Responsible for product emission testing and certification(BIS & IWA).
- Actively involved in vendor/supplier development and tool designing.
- Assisting marketing team with online marketing and sale of biomass cookstoves.
- Product development with partner institutes. (Prototype to mass manufacturing stage)
- Building a strong network in the industry with senior business leaders and senior scientists on conceptualising new projects and solutions.

Team Leader-Research and Development
Ecosense Appliances / Aurangabad / Feb 2017 - Aug 2019

New Product Development ZEROPAD- Sanitary Napkin Incinerator
Leading cross-functional team of Design engineer, Electronic Engineer, Quality and handling operations.

- Generating roadmap from concept to final product (Ready for Production).
- Resource and Budget management planning for project.
- Responsible for product emission testing and certification.

EDUCATION

Master of Science
Ecole Polytechnique De l'Universite De Nantes / Nantes, France / 2016

Thermal Engineering & Energy Studies

Master's Degree
University Of Petroleum And Energy Studies / Dehradun, India / 2016

Master of Technology: Computational Fluid Dynamics

Bachelor of Technology
G.H.Raisoni College Of Engineering / Nagpur, India / 2013

Bachelor's of Mechanical Engineering

LANGUAGES

English

Hindi

French

Marathi

PUBLICATIONS

Computational Fluid Dynamic Study of Biomass Cook Stove-Part 2: Devolatilization and Heterogeneous Combustion
Industrial & Engineering Chemistry Research. / Oct 2020

Patent- Sanitary Napkin And Similar Products Disposal Device
Patent no-405295 / Aug 2022

Development of ignition pellets for biomass cookstove
7th Thermal and Fluids Engineering Conference (TFEC-2022- 40854)), Las Vegas, USA

ASSOCIATIONS

Himalayan Clean Cooking Research Group

Developing a cookstove for Himalayan region for clean cooking and space heating in collaboration with KIT- Nepal, MIT- Cambridge, UPES- Dehradun & ICT, Mumbai.

Energy Group
Institute of Chemical Technology, Mumbai

An active member of Research Energy Group with the objective of developing energy-efficient devices for cooking.

Himalayan Rocket Stove Pvt Ltd- Research Consultant
Parwanoo, Himachal Pardesh / May 2022 - Present