

## Letter of Motivation

I am writing to express my keen interest in the Master's program in Mechanical Engineering with the specialization in "Sustainable Energy Systems and Circular Process Engineering" at Ruhr University Bochum. My decision to specialize in this field stems from a profound interest in mechanical engineering, coupled with a growing passion for sustainability and innovative energy solutions.

From an early age, I was captivated by machines and mechanics-related subjects, which led me to pursue a Bachelor's degree in Mechanical Engineering. As I delved deeper into the core concepts, I realized the vast potential and complexity of this field. My initial goal was to secure a position at a reputable engineering firm in my home country upon graduation. However, as my knowledge and interests expanded, I recognized the importance of pursuing advanced studies to explore new horizons and contribute meaningfully to the field of engineering and sustainable energy.

During my undergraduate studies, I developed a strong foundation in mechanical systems, machinery, and innovative technologies, consistently excelling in my coursework with a commendable CGPA of 8.84. Additionally, my proficiency in mathematics, physics, and chemistry contributed to a strong grasp of core subjects. Throughout my undergraduate studies, I developed a keen interest in sustainable energy solutions. My coursework, particularly in thermodynamics and advanced energy engineering provided me with a solid foundation in understanding the complexities of energy production and resource management.

For my final year project, I focused on the topic "Design and Analysis of Coronary Stent". This project involved studying the impact of strut thickness and connector shape on the expansion characteristics of the stent, aiming to determine an optimal stent design with minimal risk of restenosis. I'm pleased to share that I successfully completed this project and received appreciation from my professors. Engaging in this project provided me with valuable hands-on experience with software tools such as SolidWorks, Ansys, and Minitab.

From my third year in college, I began working as a subject matter expert at Chegg India Pvt Ltd, contributing my knowledge for over two years. To deepen my understanding and gain more experience, I pursued an internship as a CAE Engineer at the Product Development Center of Simulation Lab-Scientific

Research and Development Center. During this internship, I actively engaged in research to investigate the effect of a specific feature on the wing flap of a subsonic aircraft, aiming to enhance aerodynamic efficiency.

My aspiration to pursue a Master's degree in "Sustainable Energy Systems and Circular Process Engineering" at Ruhr University Bochum is driven by the university's outstanding academic reputation, innovative research opportunities, and commitment to sustainability. The program's focus on designing circular processes, managing carbon cycles, and evaluating energy systems aligns perfectly with my career goals.

The international profile of the program and the opportunity to collaborate with a diverse student body are particularly appealing. I am eager to engage with peers from different cultural and academic backgrounds, enriching my global perspective and enhancing my cross-cultural communication skills. Germany's vibrant engineering culture and its strong industry connections offer an ideal environment for acquiring practical experience and establishing valuable professional networks.

I am confident that the specialized training and research opportunities at Ruhr University Bochum will equip me with the expertise needed to drive sustainable innovations in the energy sector. I am enthusiastic about contributing to research initiatives at the university, and I am committed to actively participating in the university's dynamic academic and cultural environment.

Thank you for considering my application. I look forward to the opportunity to further discuss how my background, skills, and aspirations align with the goals of the "Sustainable Energy Systems and Circular Process Engineering" specialization. I am excited about the prospect of joining a community dedicated to pioneering solutions for a sustainable future.

Faithfully,

**Sharun Dinesh**