

Generate Electricity from Pizeoelectric

Uvaraj Mane¹, Om Sakpal², Akshay Shetye³, Yuvraj Lale⁴

Lecturer, Department of Mechanical Engineering¹

Students, Department of Mechanical Engineering^{2,3,4}

Bharati Vidyapeeth Institute of Technology, Navi Mumbai, Maharashtra, India

Abstract: *Piezoelectricity, the phenomenon where certain materials generate an electric charge in response to mechanical stress, holds immense promise for sustainable electricity generation. This abstract delves into the foundational principles of piezoelectricity and its application in converting mechanical energy into electrical power. It explores diverse avenues such as integrating piezoelectric elements into infrastructure like roads and wearable technologies to harness vibrations and body movements, respectively, for energy generation. Emerging advancements in flexible and biocompatible piezoelectric materials offer enhanced efficiency and versatility, while scaling up these systems presents opportunities for renewable energy integration across various sectors. Despite challenges in material selection and device design, interdisciplinary efforts in materials science, engineering, and physics offer avenues for overcoming these hurdles and unlocking piezoelectricity's potential as a clean and sustainable energy source, shaping the future of electricity generation.*

Keywords: Piezoelectric materials, Mechanical energy harvesting, Energy conversion, Electric charge generation, Sustainable power generation

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