

## Our Goals

3 GOOD HEALTH AND WELL-BEING



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



# Generate4Generations

“Renewable energy for generations to come”



## Our Team



**Project Aim:** To find a cleaner and cheaper alternative for producing electricity besides using fossil fuels etc. which can be used in a variety of locations

**Team:** Tanishq Ghadge, Anshuman Goculdass, Hriday Aggarwal, Carlos Simao and Jai Johnson

### Our Project

The project '**Piezoelectricity**' is a project using the Piezoelectric effect. Many piezo transducers will be used to create a small sheet of them that will be used to model a real-life situation. The experiment will estimate the amount of electricity that can be produced and stored with different pressure applied to the sheet. The project achieves the “**Sustainable Development Goals 3, 9, 12, 7, 11, 17**” these goals are achieved as energy is produced simply by the exerting of pressure on the transducer, which is a cleaner and cheaper source of electricity that if replicated to a big enough scale can be used in industry as well. Additionally, piezoelectricity creates a more sustainable city as the energy is from a clean source and not from fossil fuels. If a city implements this technology in places with a high density of foot traffic like a railway station, a lot of energy could be created that the city could use making a community or city more sustainable. As it is acting as a substitute to the fossil fuels it also results in people having better health

### Our Development

Our team consists of students of physics, chemistry and biology in a group. This project has profited all of us significantly as we had to accomplish various tasks and processes, such as many **brainstorming sessions** and **discussions** in our group, gaining **insights** from students with different expertise. To give a few examples, we learnt how to solder, as well as gained **additional knowledge** of physics and the economics behind energy production and delivery. Furthermore, our **social skills** also improved due to frequent communication with people from

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7 AFFORDABLE AND  
CLEAN ENERGY



11 SUSTAINABLE CITIES  
AND COMMUNITIES



17 PARTNERSHIPS  
FOR THE GOALS



## Community

To increase the awareness for our project we used various social media platforms such as **Twitter and Instagram**, posting and interacting with new followers to display our project, get feedback and mainly spread awareness about how important renewable energy is becoming and how we as a community could come up with tangible solutions for the future generations. We also demonstrated our project in **school** and held multiple assemblies to explain the motives and technical aspects of our project to fellow students from various age groups. We are extremely thankful towards the **teachers and GSL coordinators** which gave us valuable feedback during our feedback which was a great experience.

## Impacts and Outcomes

We first tested the individual transducers, gathering practical data on the voltage produced when **17.5N of force** is applied. Each individual transducer generated **19.07 mV** of electricity. Furthermore, after completing the complete sheet we conducted several experiments using the entire sheet of transducers, we found that if we assume an average person has a weight of **60kg**, each footstep of theirs shall produce **0.1 V** of electricity.



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## Experiences

