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### GENERATION OF ELECTRICITY USING WATER PIPELINE

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#### ABSTRACT

There is lot of kinetic energy flowing through domestic water pipeline; this energy can be used in generation of electricity. The turbine can be fitted inside the pipelines by coupling it with generator. Due to the kinetic energy of water the turbine rotates and electricity is generated by the generator. The energy generated by this process is totally pollution free, and it has no hazards to the environment. It also does not affect the flow of water because of gravitational energy. It does not require fuel and it is totally ecofriendly. Abundant energy can be obtained by this process.

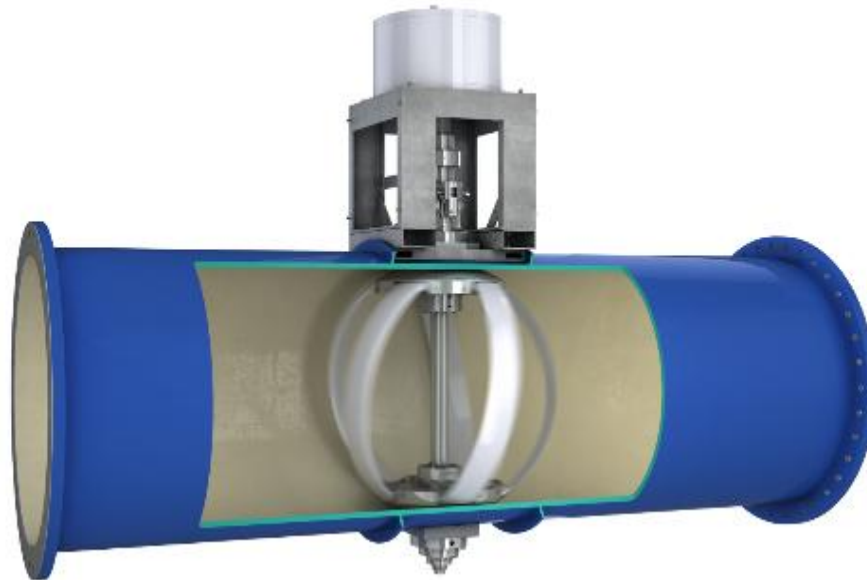
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#### INTRODUCTION

In today's modern age the pollution is increasing and nonrenewable resources are also decreasing, so there is need to discover new sources of energy, such a new method is generation of electricity by use of water pipelines. There is abundant network of water pipelines in our country. The energy of this flowing water can be used for generation of electricity. The turbines can be fitted inside the water pipelines which are coupled with the generator, the flowing water rotates the turbines and it is coupled with the generator and due to this the electricity is generated. This generated electricity is collected from all the turbines by collector circuit and this energy can be distributed all over the city. This generation of electricity is totally pollution free and does not require any type of fuel. The water flow also does not get disturbed due to gravitational force. It is eco-friendly energy source. By this method we can generate large amount of electricity and satisfy our increasing need of electricity.

#### MATERIALS AND METHODS

The domestic pipelines of water supply play important role in electricity generation, the turbines are fitted inside the water pipelines and high pressure water flows due to gravitational force and kinetic energy. The generator is coupled to the turbine and due to the rotation of turbine the electricity gets generated. The DC supply is sent through hybrid board through which power can be captured from one or more turbines. The power from turbines is converted into electrical energy and stored in battery for future use.



*Fig. Generation of electricity using water pipeline*

## **RESULT AND DISCUSSION**

The kinetic energy of water is used for rotation of turbine and thus generator is rotated hence electricity generation takes place. The wasted energy of water is consumed, this generation is pollution free and no harm occurs to environment. Large amount of energy can be generated by this method which is pollution free and does not require any fuel.

## **ACKNOWLEDGEMENTS**

Our prototype takes the energy of the flowing water coming out of the submersible pump and from its travel through our turbine is converts that kinetic energy into electrical energy. Our prototype is not a scaled representation. However it displays the functionality and feasibility of using a turbine to create electrical energy. Our prototype did an excellent job of demonstrating this and proving that the energy flowing through water mains can be captured. The successful completion of this water turbine project shows that there is energy in our everyday lives that can be captured and used to our advantages. With the forecast of energy becoming hard to find in the coming years, it is important that we do what we can to be resourceful. This water turbine project is a perfect example. We are capturing surplus energy that would otherwise be wasted and turning it into usable electrical energy. The project is an excellent example of an interdisciplinary project involving electromechanical engineering and renewable energy.

## **REFERENCES**

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