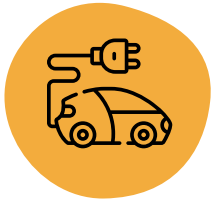
NexGen

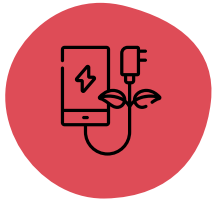
Idea ID: CID 44987
School Name: Sanskriti The Gurukul
Team Lead Name: Atharva Chokhani
Theme/Sector of Focus: Renewable Energy
Mentor Name: Dhiraj Chetri
Team Members: Atharva Chokhani, Maanvi Jalan, Divyam Agarwal

So what is our problem statement???



Electricity

Year by year, our electricity usage keeps on increasing, and it doesn't seem to slow down

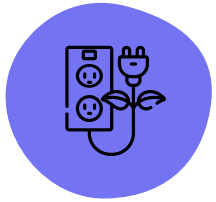


Sources

Even today, 61% of our energy comes from coal, a big contributor to climate change

Opportunities

Even today, many opportunities to generate electricity remain un tapped, leading to great wastage of potential



Solutions

We looked at drains, which are basically like small river, so why not generate power from them? This idea still remains un touched in our country

Our Solution

Generation
As water flows, it spins the dynamo, generating electricity

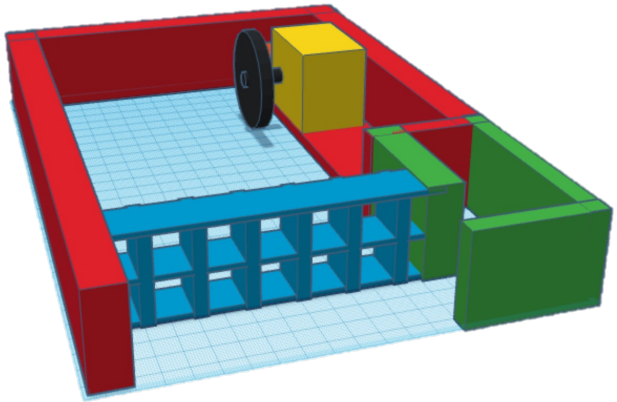
03

04

Storage
Each unit will have a interchangeable battery to store the energy generated

Filtration
Solids in the sewage such as plastics get filtered by the net, and collects in the duct

02



05

End collection
Periodically, the battery along with the waste collected will be cleared up, ensuring maximum efficiency

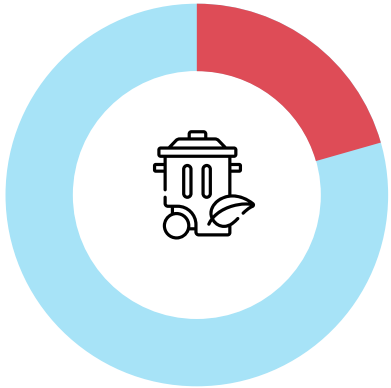
Water flow
Firstly, water starts flowing towards our contraption

01

06

Scale
Considering the relatively miniature size of the contraption, we can easily scale up throughout the country

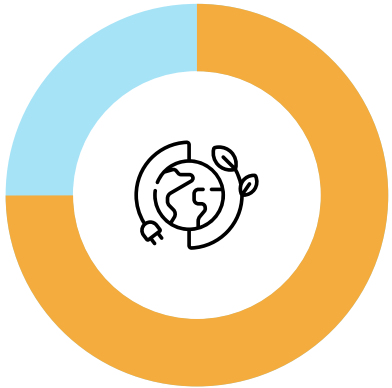
Target Audience



25%

B2C

We plan to have a B2C wing, which allows consumers to buy our technology and earn money by generating electricity



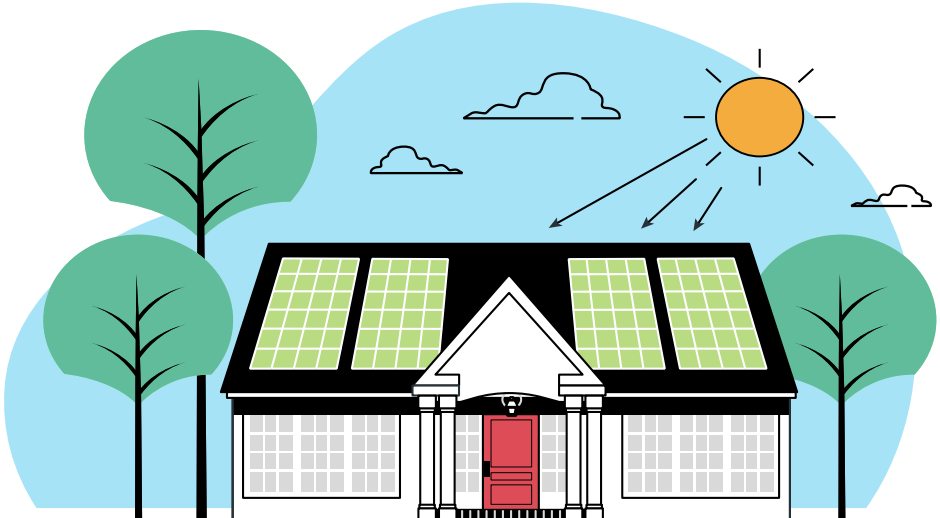
75%

B2G

Most of our business will be with governments, as they can install our technology in public drains, our main focus point

Existing solutions and our USP

Reality is that till today, this idea has not be applied at the large scale. Certain people use technologies running on the same principle at the small scale, but most of them come from developed nations. We aim to commercialize this idea in a nation like India, which could really benefit from such a system. Considering our early movers advantage and simplicity in design, we believe our product can succeed in our nation



Prototype Development

01

Prototype

Build a small-scale prototype, incorporating only the dynamo, and test it in real use cases

02

Data collection

Collect and analysis data, and assessing if they meet with calculations

03

Large Scale

Make a model which follows all the principals of the original design and test

04

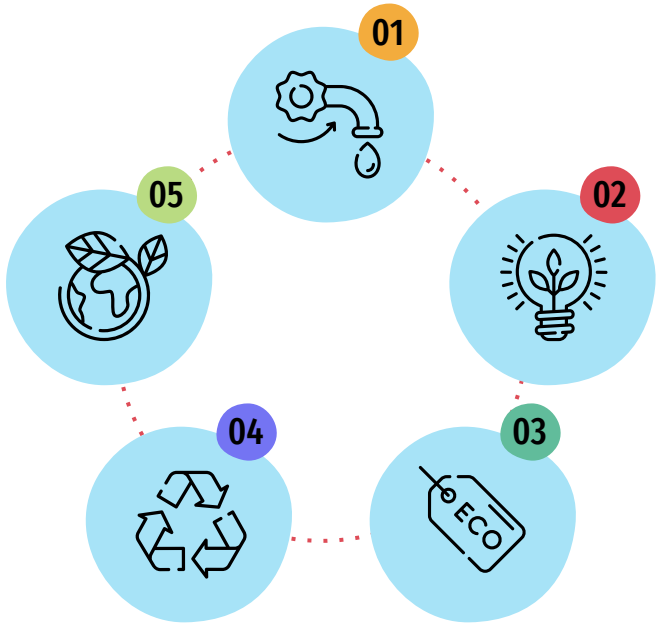
Scale

Build machines at the larger scale and set up proper processes for the same

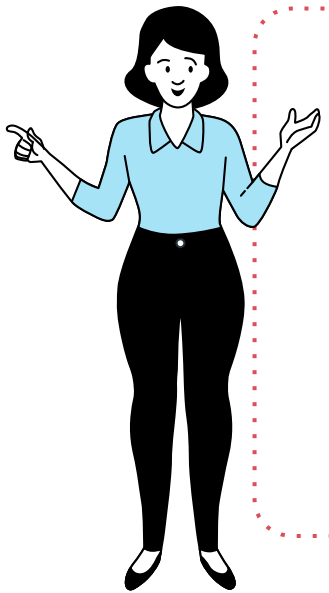
05

Commercialize

Develop an app for B2C business and start selling on platforms like Amazon



Resource mobilization



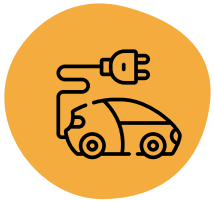
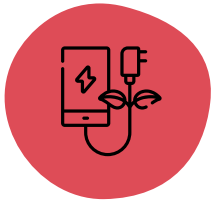
Financial

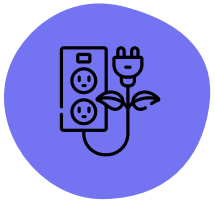
- Start a go fund me to collect funds from the public
- Get investors

Production

- Contact factories who make dynamo’s and other necessary components
- Start small scale factory (increase size as company grows)

Funding Required



Category	CAPEX	CAPEX	OPEX	OPEX
Item	Cost of one unit (B2G)	Cost of Installation	Cost of regular maintenance including duct cleaning	Any damage or repairs needed
Expenditure	30000 INR	20000 INR	5000 INR per unit per year	2000 INR per unit (average)

Principle of the product

Flow in drains

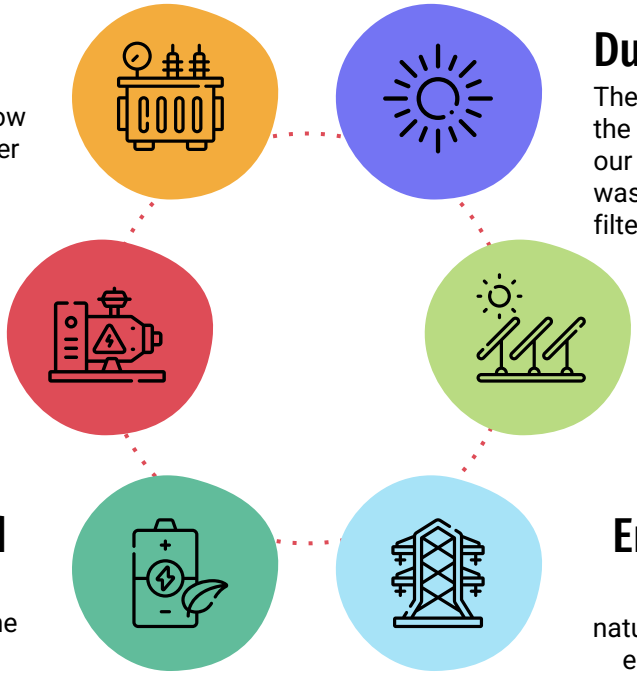
Generally drains have a flow of 1.3m/s, with this number increasing rapidly during the monsoons

Dimensions

Normally drains are 1m wide and 1.5m deep

Power generated

Using these value, assuming that our machine has an efficiency of 50%, we estimate 822 W generated per unit



Dual functionality

The net along with serving the purpose of protecting our machine from any solid waste, acts as a tool which filters sewage

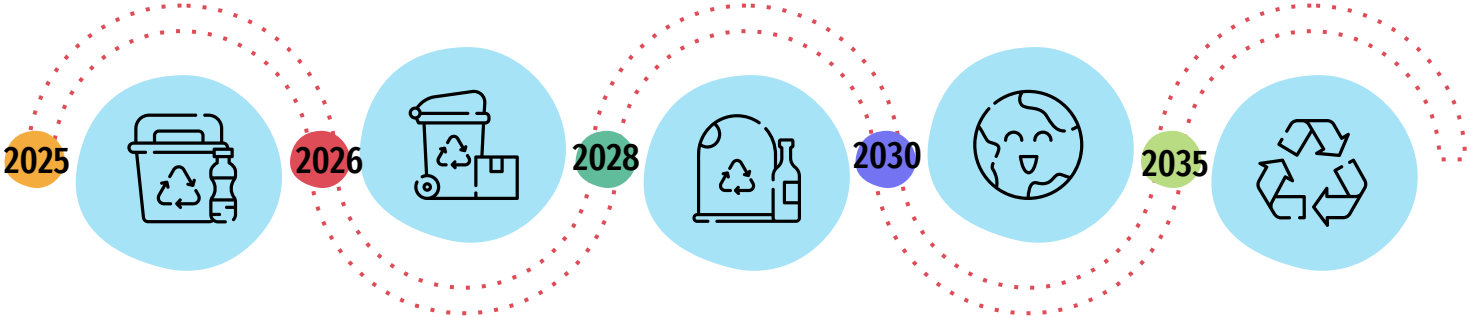
Low cost

Considering the fact that our model is simple and low cost, we can easily scale and mass produce

Emergency relief

Considering the simple nature of the product, it can easily be used in disaster management as a means of electricity generation

Timeline



Initiate

Launch the product for testing at a small scale

Feedback

Analyze the results and figure out if changes required

Scale

Scale the product, allowing better access to it

Expand

Expand it to the commercial sector, as a mean of extra earning

Innovate

Build on your current design for a better overall product

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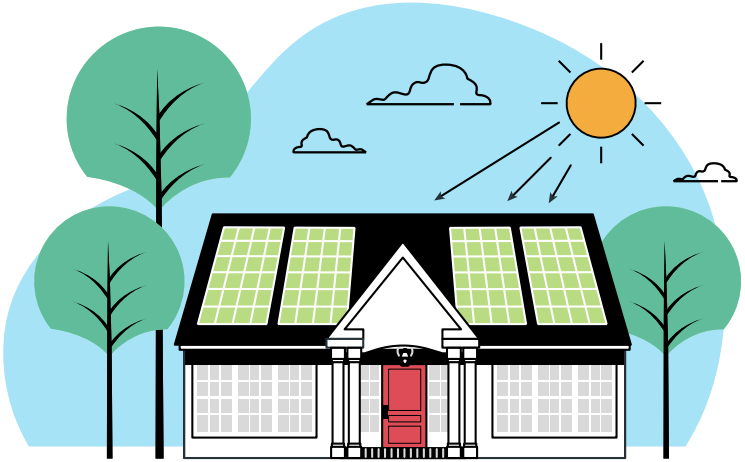
The Team

Hello! We are NexGen, a student run initiative from Sanskriti The Gurukul, Guwahati. We want to make the world a better and cleaner place by revolutionizing the energy sector in India. We hope to accomplish this by finding energy solutions in day to day activities.



Atharva

Brings a more practical and entrepreneurial vision to the country, helping evaluate finances

Divyam

Brings a essence of optimism and idea generation. Serves as a hardworking pair of hands ready for any challenge

Maanvi

Our science expert! Helps give us a technical look at things.

Thank You