ROUND SQUARE

SHIV NADAR SCHOOL
Education for Life

# Project Urja

## Progress Report

DC
EDUCATION SINCE 1870

K.C. PUBLIC SCHOOL
तमसो मा ज्योतिर्गमय
DARKNESS TO LIGHT

EXCELLENTIA
جيمس مودرن أكاديمي
GEMS Modern Academy

MARIA'S PUBLIC SCHOOL
TRUTH DETERMINATION PERSEVERANCE

DUTY · DEVOTION · DISCIPLINE
Estd. 1972

# Introduction

*"Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek." – Barack Obama*

Firstly, we are extremely grateful to the Round Square community for providing us with such a vibrant network of schools to collaborate with, on this truly unique project. Project Urja - 'Urja' is a Sanskrit term for energy – is an entirely student led initiative, and a collaboration between six Round Square schools: Daly College Indore, GEMS Modern Academy, K.C. Public School, Maria's Public School, Sunbeam School Lahartara, and Shiv Nadar School Noida.

Our vision for Project Urja is ambitious yet practical: to harness the power of clean energy and provide a sustainable solution to meet the energy needs of our school classrooms. By building a clean energy system from scratch, we aim to demonstrate the viability and benefits of clean energy sources while raising awareness about the importance of environmental stewardship.

The inspiration for this project came from a series of discussion around the memoir of William Kamkwamba, The Boy Who Harnessed the Wind. It narrates the story of a young boy, William, who is from Malawi, one of the poorest nation landlocked in Southeastern Africa. The 13-year-old boy is thrown out of the school he loves when his family can no longer afford the fees. Unable to attend school, he used his resourcefulness and a library book to teach himself about wind turbines. With his newfound knowledge, he built a windmill from scrap materials to generate electricity and pump water, transforming his village's prospects.

# Schools We're Collaborating with

School: Daly College, Indore
Teacher Mentor: Avinash Moyde

School: KC Public School
Teacher Mentor: Surbhi Mahajan

School: GEMS Modern Academy
Teacher Mentor: Priya Isaac

School: Maria's Public School
Teacher Mentor: Sushmita Chakraborty

School: Sunbeam School Lahartara
Teacher Mentor: Aparajita Srivastav

School: Shiv Nadar School, Noida
Teacher Mentor: Vinita Sharat & Abhinav Dutta

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# Fundraising Team

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# DALY COLLEGE, INDORE

The fundraising team successfully organised their first fundraiser during the 2023 DCMUN conference. The team set up a stall selling iced tea and chocolates to delegates from various schools. The total cost of the materials amounted to ₹3,000 and generated a total revenue of ₹8,500. The total profit from the fundraising campaign (₹5,500) will be used to fund the research and development team to empower them to prototype new and innovative devices that can generate clean energy. The fundraiser was hugely successful and helped the team in gaining valuable experience, which we will use to improve our next fundraisers.

# K.C. PUBLIC SCHOOL

Our first fundraiser had the following stalls:

- **Photo Booth**
- **Activity Stall**: In this children would be making something with the stuff we provide to them and we would also be selling something.
- **Game stall**: we would be having 2 game stalls
- **Knowledge stall**: here we would be giving the information about Project Urja and how our school would making the prototype .

# MARIA'S PUBLIC SCHOOL

The process of preparing to raise funds has begun at Maria's Public School.

On 21st to 23rd August announcements of the book collection were made. On 24th August 23, Thursday, the books were collected. They will hereafter be sold at a few selected book stores.



# SHIV NADAR SCHOOL, NOIDA

The fundraising team from Shiv Nadar School, Noida organised their first fundraiser on 18th and 19th August, during an annual integrated arts festival at our school.

- We've have managed to collect Rs.10,000 on the first day. We organised a game and a food stall for the same.
- It was a great experience as it taught us a lot about the management and financial aspect of this project. All the funds collected are going to go to the Researching and engineering team so that they can buy the equipment required to build the prototype.



# SUNBEAM SCHOOL LAHARTARA, VARANASI

Our school plan on fundraising is mentioned below -

Promoting school involvement with energy-saving contests. Engage the community through newsletters, articles, and radio interviews. Seek corporate sponsors with a sustainability focus. Apply for environmental grants. Make impactful visual materials like posters and banners.

Use storytelling to highlight environmental and community benefits. Leverage social media for engaging content. Partner with local entities and influencers. Host educational events for awareness and fundraising. Consider crowdfunding on platforms like Kickstarter or GoFundMe.

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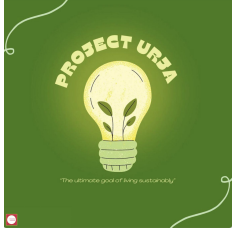


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# Marketing and Outreach Team

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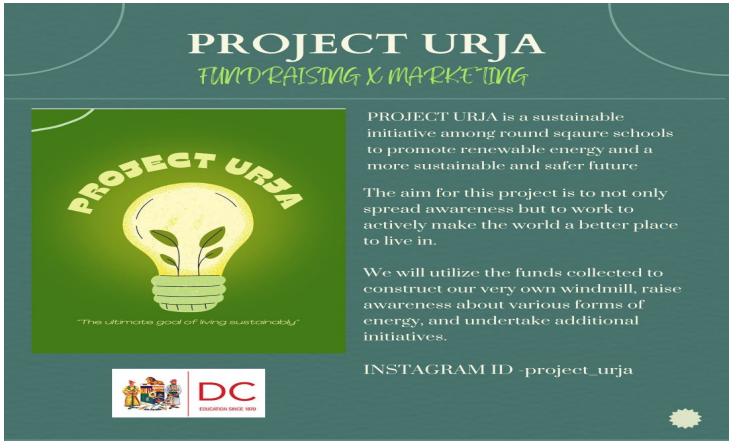
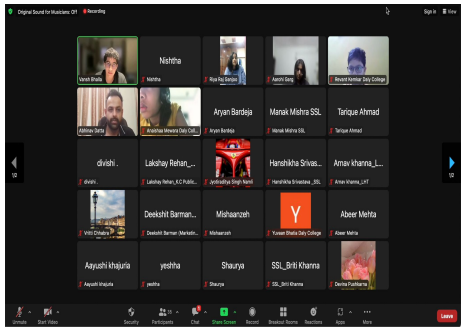
LAHARTARA

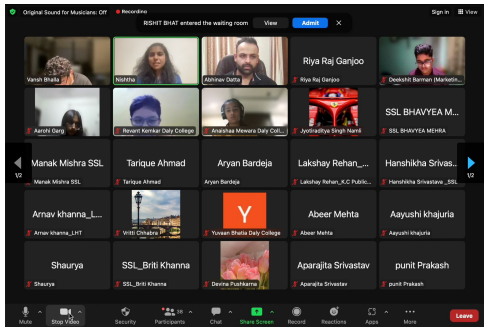
# DALY COLLEGE, INDORE

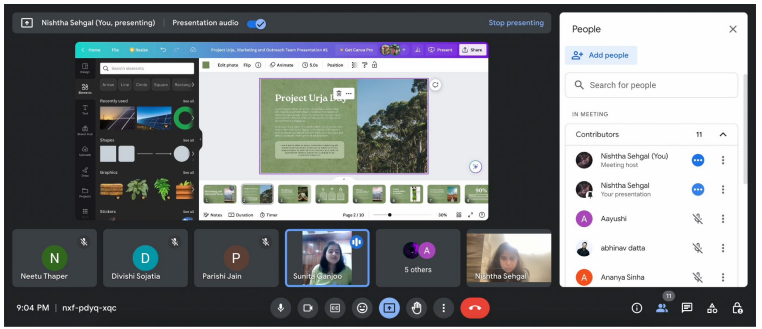
The DC team hosted a meeting to brainstorm ways to promote this Project Urja in our student community:

1) Tree plantation workshops for juniors in school, activities like best out of waste etc.
2) The marketing team made posters for the fundraising team emphasising on goal of the Project Urja. This poster was in stalls put up by the fundraising team.



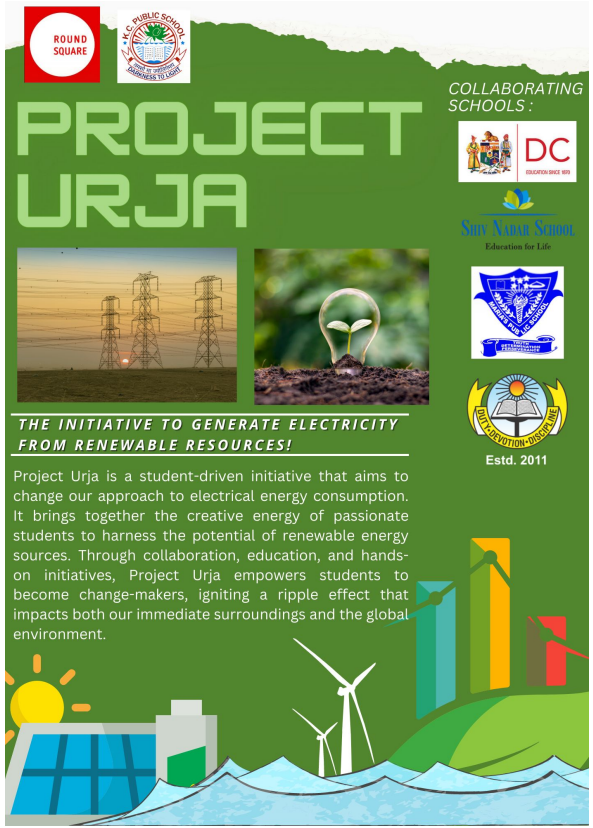




# K.C. PUBLIC SCHOOL

The Marketing Team of K.C Public School has decided upon a few ideas that we are and will be implementing.

- We are making E-cards and are posting them in our school groups every week.
- We will be conducting an event In collaboration with our Fundraising Team over the weekends, and from this we are hoping to aware as many students and people as possible and also collect a hefty amount for our school's prototype.
- Along with these we are also collaborating with other schools to create posts and maintain the Social Media Platforms.



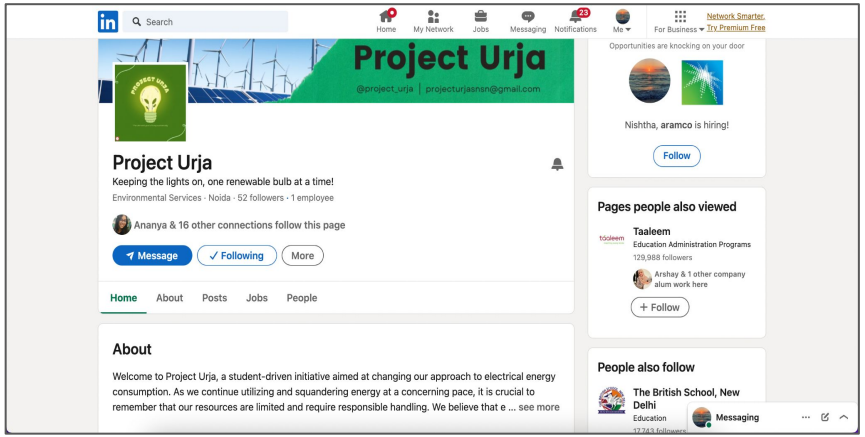
# MARIA'S PUBLIC SCHOOL

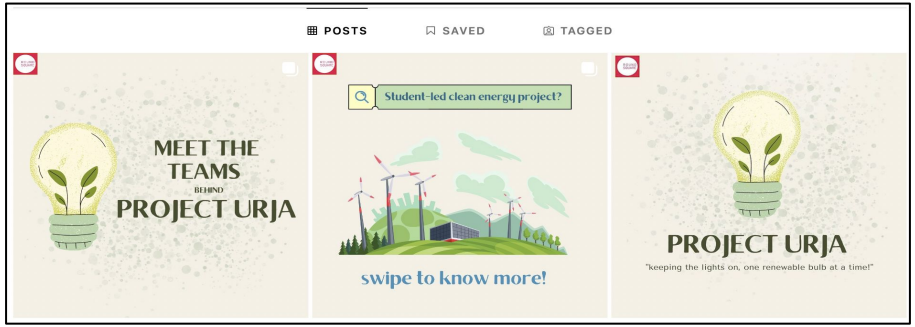
Our Marketing and Outreach team has been actively engaged in promoting Project Urja through a series of impactful initiatives.

- Firstly, we designed and distributed eye-catching flyers and posters throughout the school premises, ensuring that our message reached a wide audience.
- In addition, we took the initiative to raise awareness among the junior classrooms by delivering speeches centered on the vital themes of green energy and renewable resources.
- Moreover, we organized a crowd awareness event in our school's auditorium, Maria Public School, where we delivered passionate speeches to foster greater understanding and support for our cause. Looking ahead, we are committed to collaborating with the school's fundraising efforts, ensuring that as funds are raised, awareness about Project Urja continues to grow.

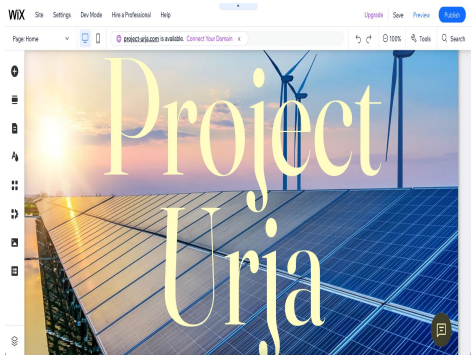
# SHIV NADAR SCHOOL, NOIDA

The marketing and outreach from SNSN designed several posters for Project Urja highlighting the importance of clean energy. We've ensured that all the schools come together and collectively design the content for Project Urja's social media platforms - Instagram, Linkedin, and a student-developed website. Eventually, we're planning a small theatrical skit at our school to spread the importance of clean energy.



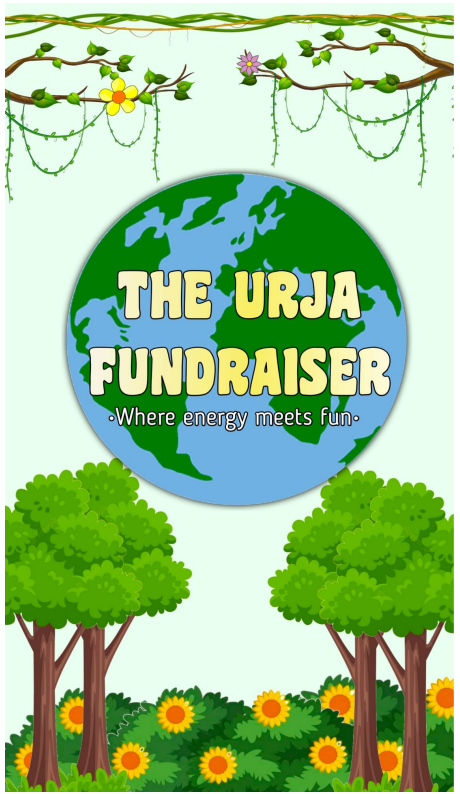







# SUNBEAM SCHOOL LAHARTARA, VARANASI

- Currently we are working on posters that would be up in the notice board for each block.
- We'll be conducting a quiz in the morning assembly and thereafter hosting an art competition for junior block and an article writing competition for both juniors and seniors .
- Simultaneously, we'll be regulating a newsletter which would include our progress along with the paintings and articles from the students. Furthermore, We've decided to collaborate with the fundraising team to introduce and promote this project to the parent community during the Parent-Interaction Meeting in August.

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# Research and Engineering Team

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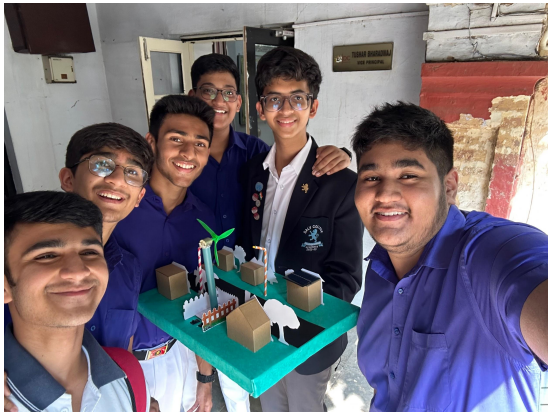
# DALY COLLEGE, INDORE

1) The Daly College research and engineering team successfully conducted energy audits of 3 rooms, including a classroom, a science lab and an examination hall.
2) The team also learned about how electricity is distributed in the school through the use of transformers, capacitors, and electrical lines. This in depth review also included learning about the various techniques used methods used to maintain the electrical infrastructure of the school.
3) The team also discussed on what would be the best way to generate clean energy in the vastly diverse environment found in our school, making sure our plan is well thought-out and compete before it's implementation.



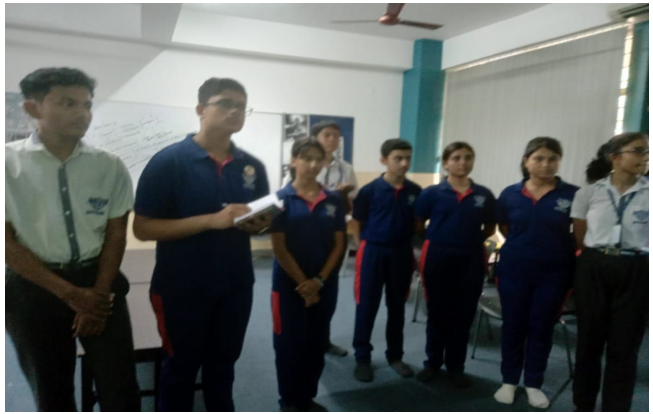
# K.C. PUBLIC SCHOOL

The research and engineering team of KC Public School has been working tirelessly on an energy audit of the science club of our school. The students' skills and hard work have played an instrumental role in the success of this project. Their dedication to finding innovative solutions and their ability to work collaboratively has been truly impressive. unnoticed, and their contributions to the energy audit have been invaluable. We are proud of the work that our students have accomplished and are excited to see what they will achieve in the future. Their hard work and dedication are a testament to the quality of education at KC Public School.

| SCIENCE CLUB | | | | | |
|---|---|---|---|---|---|
| COMPONENT | QTY | EACH (W) | CONNECTED LOAD (WATTS) | WORKING HOURS | TOTAL WATT HOUR |
| LED TUBELIGHT | 1 | 40 | 40 | 2 | 80 |
| UPS | 2 | 300 | 600 | 4 | 2400 |
| FAN | 3 | 125 | 375 | 3 | 1125 |
| SOLDIERING IRON | 1 | 100 | 100 | 1 | 100 |
| | | | | | TOTAL=3705 |

# MARIA'S PUBLIC SCHOOL

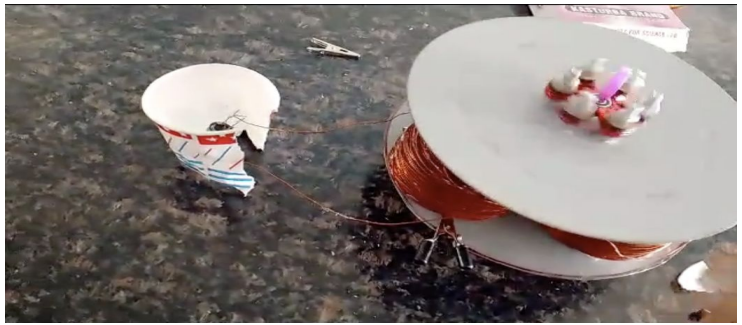
The research and technical team has successfully finished making the energy audit on three room of our school. We are currently planning on making a windmill attached with five 6V solar panels. We are currently working on gathering the equipment necessary to build the prototype. This is will be done by mid-September, after which we'll start the building process.

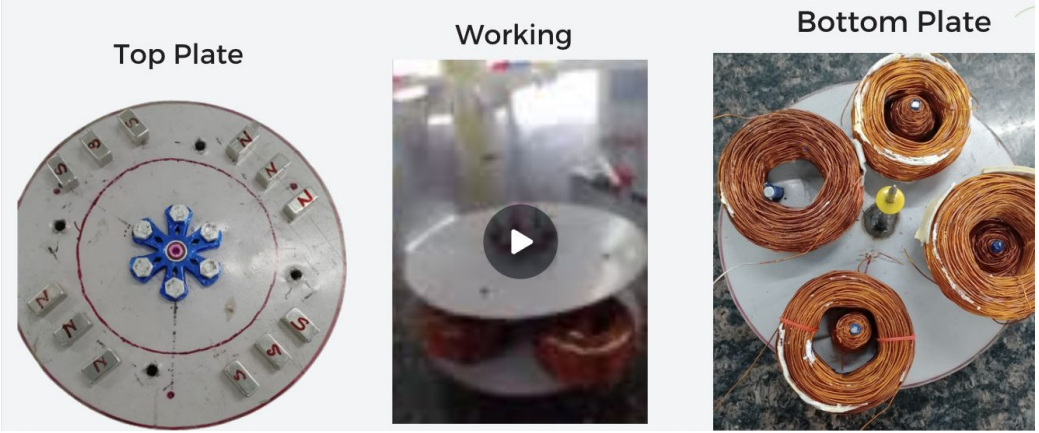


# SHIV NADAR SCHOOL, NOIDA

We have successfully conducted our energy audit. Our school is planning to explore three sources of energy: Piezoelectricity, Wind energy, and Solar energy. We were able to light a 2V LED with our prototype for the windmill. Our next step is going to be to take this to a larger scale and fulfil the energy requirements of several classrooms in our school.

| Science Lab | Wattage (J/s) | Amperes (A) | Voltage (V) | Watts/hr |
|---|---|---|---|---|
| Light, Fans & Projector | 2156 | 10 | 220-240 | 270 |
| AC | 646 | 3 | 220-240 | 81 |
| | | | | |
| **Classroom (Large Size)** | **Wattage (J/s)** | **Amperes (A)** | **Voltage (V)** | **Watts/hr** |
| Light, Fans & Projector | 2200 | 10.2 | 220-240 | 275 |
| AC | 646 | 3 | 220-240 | 81 |
| | | | | |
| **IC MPH** | **Wattage (J/s)** | **Amperes (A)** | **Voltage (V)** | **Watts/hr** |
| Light, Fans & Projector | 4350 | 20.18 | 220-240 | 544 |
| AC | 22428 | 31.46 | 220-240 | 7476 |





Here are a few glimpses of our research and exploration work. We've gathered all the required knowledge and equipment.

# SUNBEAM SCHOOL LAHARTARA, VARANASI

We started our journey by conducting a detailed and successful energy audit of certain classrooms at our school. We have build a prototype based on solar panels, we call it the "solar tracking device" it tracks the light of sun and moves accordingly. This way, we're able to produce more energy then normal fixed panels and we are also able to conserve energy in a more sustainable way. As per our calculations, if we install sun tracking panels that we made on the roof we can reduce the school bill of 6 lakhs 80k to 4 lakhs 10k.