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Student's lightbulb moment leads to installation of solar panels on school's roof

By REBECCA METTEO



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Raj Nadarajan/TODAY

Hemal Arora leads a group of 10th grade students to install solar panels at his school, United World College South East Asia (East).

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SINGAPORE — One can call it a lightbulb moment.

For Hemal Arora, 16, all it took was him finding out that his school's electricity consumption was almost 6,000 megawatt hours a year.



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average monthly electricity consumption for a four-room flat is about 912.9 kilowatt hours, according to statistics from the Energy Market Authority.)

So Hemal, a Grade 10 student at the United World College South East Asia (UWCSEA) East campus, decided that he needed to take action.



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“If all of this was coming from natural gas, then it is not sustainable because of the huge greenhouse gas emissions that we're still responsible for just by switching on the lights,” Hemal said.

The solution, he figured, was to use solar panels.

Together with seven other Grade 10 students, they started a project called “Solar for East”.

The aim: To install 1,130 solar panels on their school's rooftop.

The team started researching on solar panels, how these could provide the energy for the school's needs and help the environment, and then presented their proposal to the school.

It was approved in December last year, with the school providing the students with a seed funding of S\$15,000 to kickstart the project.

The amount is still some way off the S\$585,000 required for the installation of 1,130 solar panels. The students have organised fund-raisers and encouraged people to “adopt” solar panels as a community effort to save the environment.

Mr Graham Silverthorne, the head of UWCSEA East, said the project is “aligned to our values and our sustainability agenda”.

“Importantly, it also promotes student agency, and by creating opportunities for engagement across the community it also encourages us to come together to seek solutions and become self-sustaining,” he said.

So far, the project has raised about S\$50,000 — enough to fund 83 solar panels.

The team worked with solar energy company Eigen Energy, which did a site analysis and provided data for the system.

PREPARING PROPOSALS, PRESENTATIONS

For a team that consists of members who are only 15 to 16 years old, there were challenges aplenty.

They had to prepare proposals to the school and companies, and pick up presentation skills.



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“It’s) such that even though I was quite young, I can still propose such an idea and sit down through proper meetings to try to make something happen,” he said.

When the first panel was installed in February, more than 100 people — teachers, parents and students — turned up to witness the event.

Mr Silverthorne was understandably proud of the students.

“It was clear they hadn’t just raised the funds over the last two years but had done the research and engaged in every aspect of the project,” he said.

“They were able to answer questions from parents who work in the field with confidence and ease, displaying both conceptual and practical understanding of what it was about.”

At maximum operating capacity, the 1,130 solar panels can help to save 7 per cent of the school’s expenditure on electricity a year.

The power generated can be used to run the entire Tampines House, which is home to a residential community of 180 students.

Due to degradation, the solar panels will only be able to stay on the roofs for 25 years, after which they should be replaced. However, the various parts of the solar panels, such as metals and plastics, can be recycled.

While feeling thrilled over the realisation of the project, Hemal hopes to hand it over to his juniors when he graduates in two years’ time.

“I feel overjoyed that something like this can come to life,” Hemal said.

“It gives me faith that if more students are educated in this way, we can be empowered to really take our passion seriously and make a lasting impact.”

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