

# Energy Efficiency

Image by: Abhiroop, Parramatta High School

@Home

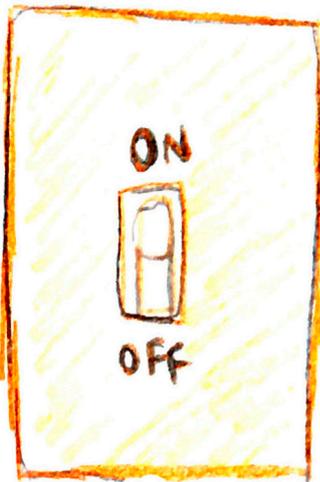
SAVE \$\$\$ by turning off your appliances & tech. WHEN YOU'RE NOT USING THEM!



LED LIGHTS ARE 4 to 7 x MORE effective in providing LIGHT than Incandescent lights!



TURN OFF AND UNPLUG YOUR APPLIANCES TO SAVE ON ELECTRICITY USE.



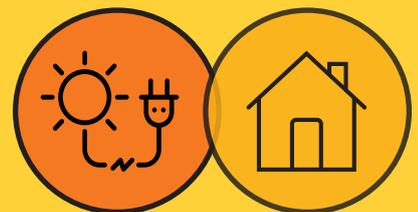
MAKE BETTER USE OF NATURAL LIGHT - Turn OFF lights in rooms you aren't using

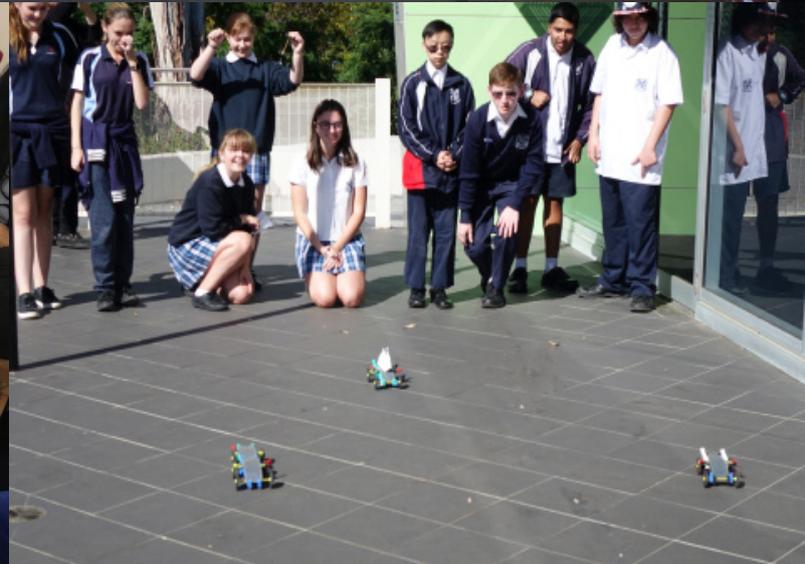
Image by: Laura, Quakers Hill High School

LIGHTING ACCOUNTS FOR ABOUT ONE QUARTER OF YOUR HOME'S ENERGY.

# POWERFUL

## Youth Ambassador Program





For more information on this project contact [sustainability@westernsydney.edu.au](mailto:sustainability@westernsydney.edu.au)

# POWERFUL

## Youth Ambassador Program

There is a critical necessity to motivate young people to become effective and important leaders for social change. This generation is the future.

Australian households are directly responsible for about one-fifth of Australia's greenhouse gas emissions, impacting directly on climate change (Australian Government - Your Home, 2017). In addition, we consume vast amounts of water and resources and produce large amounts of waste. These have a huge impact on the environment and our livability.

The Powerful Youth Ambassador initiative aimed to educate, empower and engage high school students and their families around these key issues, promote sustainable consumption of resources, foster environmental stewardship and encourage youth leadership in their schools, households and local communities across Greater Western Sydney.

### PARTNERS

This program was supported by:



# PROJECT SUMMARY

## Educate, Empower and Engage

### ABOUT POWERFUL

POWERful was a youth ambassador initiative delivered in Western Sydney. The program targeted high school students (Year 7 – 12) and their families through inquiry based learning to make smart choices around energy and resource efficiency. The program focused on three Local Government Areas (LGA) in Greater Western Sydney; Parramatta, Campbelltown and Blacktown.

### FUNDING

Western Sydney Community Forum (WSCF) in partnership with Office of Environment & Heritage (OEH) were investing funds for the implementation of projects to kick start the Blacktown Energy Initiative (BEI). The BEI aims to increase energy and resource efficiency in the Blacktown and surrounding areas through developing a shared local vision and establishing and/or strengthening partnerships between local business and community networks. POWERful was one of the 'building block' projects to receive funding under the BEI.

### THE POWERFUL PROGRAM

Held in May 2017, 108 high school students and teachers from 10 schools across the LGA's. Students participated in a one-day forum engaging in hands-on workshops and presentations about a range of energy topics including employment, auditing your schools energy performance, renewable energy and solar transport, as well as practical

household tips. At the end of the workshops each student used their new found knowledge to produce an infographic poster for their household around energy, waste and/or water for their families and schools to foster practical behavioral changes. Three posters were selected for reproduction and mass distribution across each LGA (see cover page).

These youth ambassadors were given the opportunity to design and implement a project that addressed relevant, real-world problems around energy and resource consumption. Participating schools were eligible to apply for seed funding to develop their own school-based project. Schools could apply for up to \$500 of seed funding in a competitive process. A total of 5 projects were approved for on ground implementation.

### PARTNERSHIPS

Led by the Office of Sustainability at Western Sydney University the program involved a number of collaborating organisations under the UN endorsed Regional Centre of Expertise on Education for Sustainable Development - RCE Greater Western Sydney (RCE-GWS), including:

- Blacktown City Council
- Campbelltown City Council
- City of Paramatta Council
- Longneck Lagoon Environmental Education Centre
- Ndver Environmental (keynote)
- Western Sydney Solar Car Team



3

local government areas in Western Sydney



5

seed funded projects implemented in schools



7

diverse partners came together for program delivery



108

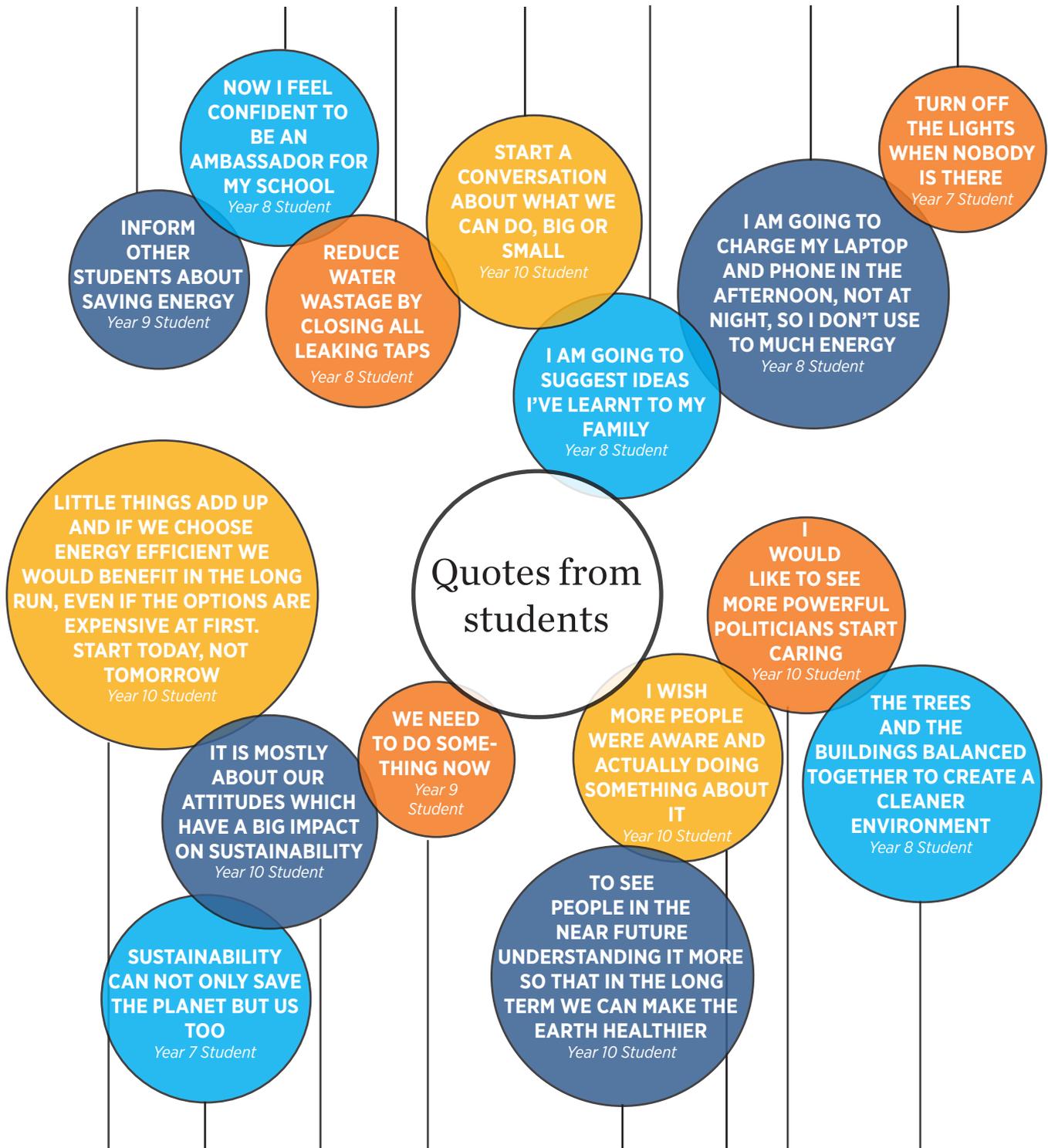
students and their teachers participated in the forums



# STUDENT LEARNINGS

## Take-home Messages

*What are you going to change or do at home and school from what you have learnt today?*



*What have you learnt about sustainability, energy and/or resource efficiency from attending today?*

*What changes would you like to see in the future?*

# SEED FUNDING

## Student-led Projects

Five schools received seed funding for the implementation of student-led sustainability projects.

### MEAN GREENHOUSE MACHINE, CAMPBELLTOWN PERFORMING ARTS HIGH SCHOOL

**Aim:** To reduce energy consumption at the school.

**Project plan:** The Technological and Applied Studies Department are planning a heated greenhouse area to produce plants and vegetables to use as part of the Food Technology and Hospitality course. The team have decided to make the heating more sustainable by building a solar heating system constructed from aluminium cans. This greenhouse and solar panel construction will benefit the school as a whole and promote sustainability as a teaching resource.

**Funding:** Signage, construction of solar panels and other construction materials.

### POWER DOWN, LEUMEAH HIGH SCHOOL

**Aim:** To raise school wide awareness of energy and to track progress through the creation of posters

**Project plan:** The Student Representative Council (SRC) will use a mixture of digital and print posters to remind people to switch off the lights, fans, computers and smart boards (including weekend and school holidays). Student will educate the wider community and school about how much power we use and the impact on the environment. Additionally to this the students are installing light timers for each room in the school and conducting an energy audit prior to this to allow them to measure the difference. In the long term the school is seeking to install solar panels.

**Funding:** Campaign posters and purchase of timers.

### UPGRADING LIGHTS TO LED, PARRAMATTA HIGH SCHOOL

**Aim:** To perform a school wide energy audit by students to determine the possible energy and financial savings that may be gained by switching to LED lights.

**Project plan:** Student leaders will use auditing equipment to collect data. This data will be used to help save on energy use and provide evidence of where the school can reduced energy usage and costs. Students will then develop a further proposal to implement the upgrade to LED lighting to the Principal. The program empowers the students to take action in their school.

**Funding:** Energy auditing meters.

### LIGHTING THE PATH TO SUSTAINABILITY, TARA ANGLICAN SCHOOL FOR GIRLS

**Aim:** To change the attitudes through the entire school regarding lighting and energy consumption, resulting in decreased operational costs.

**Project plan:** Using a school wide action campaign to reduce energy consumption and save enough money, this school will invest the savings into biodegradable cutlery for the canteen to replace single use, non-recyclable options they currently have (reducing waste as well). A campaign will be launched through announcements in assembly and posters will be made for classrooms reminding them to switch off lights and other appliances like smart boards and air conditioning.

**Funding:** Campaign posters and biodegradable cutlery.

### VERTICAL GARDEN FOR ENERGY SAVINGS, INGLEBURN HIGH

### SCHOOL

**Aim:** To construct a vertical garden to cool the building and in turn generate savings.

**Project plan:** Students in Year 7 and 8 will work collaboratively to design, develop and monitor the green wall in a “real world” application of their learning, while having positive environmental outcomes. Students will measuring and record heat before and after the construction and present their findings to the whole school during assembly.

**Funding:** Construction materials, watering devices and plants, with the school also fundraising for any additional expenses.

### EVALUATION AND CONCLUSION

This program overall was very successful and the information was well received by the students and their teachers. Almost all (92%) of the participants ranked the forum workshops as “good” or “very good” in a post-event evaluation survey.

*“Thank you again for a valuable day, the students really enjoyed each of the activities and we gained a lot of valuable resources and ideas for planning our new elective next year”,* Teacher

*“The students took away quite a lot of information about the various types of sustainability issues and the impacts they can have”,* Teacher

The Office of Sustainability will continue to work with the these schools to assist with the implementation of their projects. We hope to see a real impact on energy and resource efficiency and consumption led by the schools for local change.

# GLOBAL

# WARMING

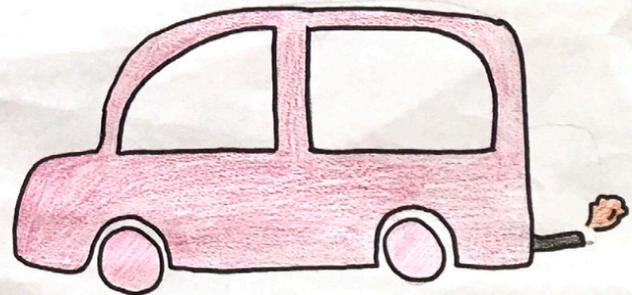


Image by: Victora, Ingleburn High School

## HELP REDUCE GREENHOUSE GAS EMISSIONS AND SAVE MONEY BY:

- Updating all your fittings with energy-saving bulbs, like compact fluorescent globes.
- Unplugging and turning off appliances from the wall when not in use.
- Stopping drafts under your doors and windows to help with heating and cooling.
- Using public transport, walking or riding whenever possible to reduce car fuel.