ESSSN Minutes – Term 3 19 August 2014

How to go solar

Hosted by : Clermont College

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1. Welcome and Sustainability at Claremont

Doug Thomas principal of Claremont welcomed everyone and opened the meeting. Teacher Stephanie Affleck then gave us a brief outline of the sustainability journey at Claremont.

The students are involved in caring for the farmyard which includes, chickens, rabbits and garden. The eco warriors have jobs to complete in the lunch break which include collecting scraps from the canteen, feeding them to the chickens, collecting eggs from the chickens and delivering them to the canteen. This give them a good understanding of the cycle of food and waste.

Some of the key learning from their experience are:

- Engage the as many staff as possible early on
- Document the journey well, with videos and photos to help communicate it to the community new staff and students.
- Spend time communicating it to the community so parents know what is going on

2. Solar presentation

Mark Gadd from Autonomous Energy gave a presentation on the benefits of solar for schools, the basics of how solar panels work, how solar can be cost effect for schools with options for no upfront costs and general energy saving advice for schools.

Marks presentation is available on the Reduce Your Footprint website.

http://reduceyourfootprint.com.au/projects/esssn/

Some of the questions that came up where:

What is the lifespan of a solar panel?

A: It varies depending on quality. It could be 20 - 30 years, but after 20 years the panel slowly degrades and gradually produces less power.

How easy is it to feed back into the grid?

A: AE and any good solar company would manage this side of things for you. New companies may not have the experience to do this well.

Do you have to clean the panels?

A: If they are installed on an angle there is enough rain in Sydney to make them 'self cleaning'. So no special cleaning is required.

3. Solar activities

Steph Martin from Woollahra Council demonstrated how to make a solar oven out of an old pizza box. An easy activity to do in the class, that demonstrates how heat from the sun can be used to cook (or maybe just warm!) food. Instructions for this are in the appendix.

4. Small group conversations

Participants were asked to turn their chairs to make small groups, they were given a large sheet of paper with the following questions.

- Describe a successful solar activity you have done with students
- List some useful resources you have used
- Discuss some activities you could try with students

5. Class energy workshops

Glen from Observatory Hill informed the meeting of the relevant courses they offer. These include.

Watch Our Watts -an incursion program that involves a Stage 3 class using a project learning model to investigate and raise awareness about energy consumption.

Enviromaths - a Stage 3 incursion program where students explore the environmental sustainability of their school, and to devise strategies to address sustainability issues being investigated.

More info:

http://observatoryhilleec.nsw.edu.au/

6. Council updates

7. Lucky door prize and close

As a thank you for coming we gave away three lucky door prizes. These included two Science week T shirts donated by Sam Crosby from Centennial Park. Thanks Sam.

Next meeting

The next meeting will be on **Tuesday 2nd December** and it will be our award ceremony which is always a fun and social event. The venue is still to be confirmed.

APPENDIX 1: Solar Oven

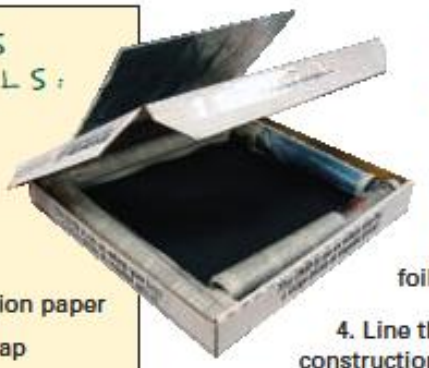
Catching some rays

Build a solar oven

By providing heat, the sun can help us save fuel. Solar ovens have been around since the 1830s, when astronomer John Herschel used one to cook food during an African expedition. You can make one out of a pizza box.

SUPPLIES AND TOOLS:

- 1 pizza box
- newspapers
- scissors
- tape
- black construction paper
- clear plastic wrap
- aluminum foil
- ruler



DIRECTIONS:

1. Draw an 8 1/2 inch x 11 inch square in the lid of the assembled box.

2. Cut out three sides of the square, and fold the flap back along the uncut edge.

3. Cover the inside of this flap with aluminum foil, using tape to hold the edges securely.

4. Line the inside bottom of the box with black construction paper. Use tape to hold the edges down.

5. Create insulation by rolling up some newspaper (about 1 1/2 inch thick) and fitting it around the inside edges of the box.

6. Tape one piece of plastic wrap (stretched tightly) to the underside of the lid opening, to cover. Tape another piece on the top of the lid opening, to create a layer of insulation that will help hold the heat in the box.

7. Prop the box at an angle facing the sun. Use a ruler to prop the flap open.

On a hot, sunny day the temperature can reach 200° F in your oven! Use it to make s'mores, or to warm some muffins.

Other options: Use different containers—like bowls or cans. Paint the cans different colors and see if it makes a difference.

Test the temperature (with a thermometer) inside the container with and without a plastic covering.

Note:

Would you like to receive this newsletter via ecological, economical email? Just let us know by sending us a message at secondnature@alliantenergy.com. Be sure to include "Second Nature E-Newsletter" in the subject line. Don't forget to include your name and service address.

APPENDIX 2: Group work notes

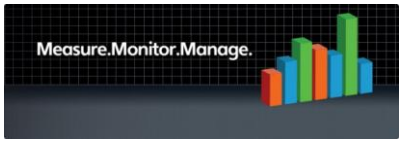
Notes from the group conversation on Solar activities (ESSSN Term 3 2014)

*Some of the notes went missing after the meeting – please let us know if you have them.

Describe a successful solar activity you have done with students	List some useful resources you have used	Discuss some activities you could try with students
• Reducing usage of paper – Yr 10 Geography student driven activity • Energy audit – Observatory Hill • Energy audit by student to test energy use and lighting needs • Energy savings – student behavior • One step at a time actions so as not to be to daunted by the enormity of the problem • Garden solar light – bought lights and pulled apart to view • Early childhood – using the sun to capitalize on heat and light growing herbs on the window and hanging things from the window to dry • Sun as an energy source for growing plants • Crickets with solar panel attached – effect of sunlight • Look at the different components of a solar panel • Model house using parallel circuits, mini solar panels • Sun Dial • Studying weather patterns • Lesson Topics: Sun sustains life and A Healthy relationship and respect for the sun • Education on Vitamin D deficiency	• Observatory Hill - incursion • Cool Australia – 'Environ-Week' – great factsheets and resources • Solar lights – LED - Kmart • Reuse windows/glass that you have • Dirt Girl curriculum that council's can buy • Solar panel components – Jaycar • Mini solar panels • Solar powered devices used in everyday eg phone charger • Using energy meter to evaluate how much energy used • Google • Council info / education • School community /parents, /staff. • Web graph for schools, to monitor energy use.	• Build a Solar Oven • External Researchers • Activities to demonstrate energy from the sun - science experiments eg. hot stones experiment. • Personal research on age appropriate activities • More hands on activities in Secondary schools • Trying to grow things in different parts of the classroom – using microclimates • Reflective and glare investigations – temp. check • Getting kids to be more responsive – sunscreen, hats based on how sunny it is

APPENDIX 3: Resources

Web Graphs for schools



Webgraphs are a fantastic way you track your school energy use. Most schools are connected to ***Webgraphs*** which is a service supplied by Energy Australia. You can easily see how much energy you have been using for a given period and print it out on a graph. By using this service you can quickly and easily see how effective your campaign has been in improving energy efficiency in your school.

To access ***Webgraphs*** you will need to know your school user name and password. Principals have these details. The user name should be the school DEC ID. Principals can also contact the Energy Australia's Media Department on 133 466 / crm@ausgrid.com.au to access their school's username and password.

www.webgraphs.com.au/Pages/Default.aspx

A Teachers Guide to Webgraphs is available on the NSW education curriculum support website.

www.curriculumsupport.education.nsw.gov.au/env_ed/teaching/focus/energy.htm

Other Energy Resources

- Curriculum linked lessons and activities
  www.Coolaustralia.org
  www.coolaustralia.org/activity/4-investigating-solar-challenge-grade-78-finding-out

- A range of energy teaching resources
  www.curriculumsupport.education.nsw.gov.au/env_ed/teaching/focus/energy.htm

- Good resource to answer everyone's common concerns
  www.cleanenergycouncil.org.au/dam/cec-solar-accreditation-shared/fact-sheets/Solar-PV-Myths-and-Facts.pdf

- How to guide for school solar
  www.cleanenergycouncil.org.au/dam/cec-solar-accreditation-shared/fact-sheets/Solar-PV-Fact-Sheet-A-Guide-to-Purchasing-Solar-Power-for-Your-School.pdf

- A Guide to reducing energy at school
  www.sustainableschools.sa.edu.au/files/pages/Energy/DECSEnergyManagementGuide.pdf

- A range of energy teaching resources
  www.environment.nsw.gov.au/sustainableschools/teach/energy.htm
- How to build a pizza box solar oven
  www.alliantenergykids.com/EnergyandTheEnvironment/RenewableEnergy/022400

APPENDIX 4 : Council Updates

Randwick Council

RAINWATER TANK, SCHOOL NATIVE HAVEN AND FOOD GARDEN GRANTS
This program will help your school develop a native garden that links into the wider 'Green Corridor' program to link areas of bush to backyards, parks and school grounds to provide habitat for local creatures. It's also aimed at your school providing food gardens to provide rich student learning experiences.

- P: 9314 4867
- E: helen.morrison@randwick.nsw.gov.au

NATIVE HAVENS FOR SCHOOLS in the Randwick Council area
With a focus on increasing habitat protection and conservation on public and private land, the Native Haven's project is designed to provide advice and support for schools, and others, to work together to encourage the conservation of local plants and animals in school yards and other areas. If your school has a biodiversity project started and you would like to be considered to be involved in Council's Native Haven Project, contact Randwick City Council's Bushland Management Team:

- P: 9339 0683
- E: matt.leary@randwick.nsw.gov.au

BEST GREEN INNOVATION (GRIN)
We want your best everyday environmental ideas and suggestions for a greener and more sustainable future for the City of Randwick. Every quarter the suggestions will be reviewed by a team of sustainability experts. All winners and highly commended award winners receive a special prize and their idea may become a reality! Don't hold back and don't forget there are prizes throughout the year. Download a Best GRIN Nomination Form or pick up a copy from your local library or the Customer Administration Centre.

- P: 9664 5961
- E: helen.morrison@randwick.nsw.gov.au

SUSTAINABILTIY COLLECTION AND OTHER LIBRARY ACTIVITIES
Randwick libraries have a **Sustainability Collection**; if there are books or other resources you would like us to collect for your students email Jane, see contact below.

- **Spark! Discovery Boxes** are a unique borrowing collection of themed science kits for 8-12 year olds which can be borrowed from the Bowen Library. They have been created in collaboration with the Children's Discovery Museum and include high quality science apparatus, along with books and extension activities. Themes include Backyard Science, Astronomy, Microscopy, Insects, The Human Body, Rocks and Minerals and Weather Watching.
- **Spark! Science Club** for 9-12 year olds with a cost of $30, meetings Thursday afternoons 4:00-5:00pm. Session for Term 3: Light and Colour, Wind Things, Exploring Energy, CSI Lab. **The Spark! Science Club** will transform into a crime scene! Uncover the mystery and catch a criminal using forensic technology just like the experts.
- P: 9314 4831
- E: jane.moffat@randwick.nsw.gov.au

WASTE EDUCATION FOR SCHOOLS in the Randwick Council area
Free waste education incursions are available for Stages 1 to 3: Rubbish today, resource tomorrow, School waste audit, Smart shopping, Live (bi)cycles, The world beneath our feet, Closing the loop on organics
Contact Council's waste officer for more details:
P: 9664 7832

E: tara.vaughan@randwick.nsw.gov.au

SCHOOL EXCURION PROGRAM AT THE SUSTAINABILITY HUB

We have four lessons in energy and water available: Hello Sun, Sounds like Water, Water our Resource and Energy Rocks. These lessons are suitable for Stages 1-3

There are 5 FREE spaces available for the first Woollahra Council area schools to book and 5 FREE spaces for the first Waverley Council area schools to book

Excursions are FREE to Randwick Council area schools.

For details visit

http://www.reduceyourfootprint.com.au/projects/eastern-suburbs-school-excursion-program-2013/

P: 9315 7244

E: fiona.campbell@randwick.nsw.gov.au

Waverley Council

Grants News

Recently we reviewed our Grants Programs to ensure they were still achieving what we hoped they would. Not too much has changed for schools apart from we have changed the closing dates to fit in with the school calendar better. You will still be able to apply for the Environment Grant of up to $3000 twice a year for environmental projects.
The cut off dates for each round are:

- Friday 19 September 2014
- Friday 24 April 2015

For more details:
www.waverley.nsw.gov.au/environment/events_and_programs/community_environmental_grants

National Tree Day wrap up

Well done to St Therese Preschool, Good Start Bondi Junction South, Moriah College and Bronte Public, Clovelly Public and Waverley Public Schools, who took part in National Tree Day for schools last Friday 25 July. Over 300 native seedlings were planted, providing habitat for birds and insects, a learning experience for students and a great way to provide lovely cool school grounds.

Enviroweek – August 24 – 30

From August 24-30 2014, Schools and students take up a green challenge and discover that their everyday action really counts for our natural world. Enviroweek challenges are student-led, benefit the whole school and include home extension activities.

For more information on Waverley Councils projects contact:

Vicky Bachelard
Environment Officer
P: 02 9369 8049 I E: Vicky.bachelard@waverley.nsw.gov.au

Woollahra Council

Environmental Schools Sculpture Prize 2014

- This year our theme is **Marine Life in Sydney Harbour**. Just make a sculpture out of reused materials about all the amazing creatures that inhabit our beautiful harbour.

- Great School holiday project!
- Entries are OPEN and will close on 14 October 2014
- Sculptures will be on display from Monday 20 October 2014 - Friday 31 October 2014

ESSSN Sustainability Awards 2014

- Start planning now for what your school will enter in the 2014 ESSSN Sustainability Awards.
- Award categories: **energy, water, waste, biodiversity and student leadership & empowerment.**

Talks and Schools Support

- Contact Stephanie Martin on 9391 7095 for if you need environmental education schools support including classroom talks, help organising guest speakers, special events etc.

Australian Garden Show at Centennial Park

- September 4th-7th
- *Circles of Learning* has been asked to put together a spiral garden using small box gardens, with a mosaic artwork. This project is for primary children and each school is being invited to bring 5-6 of their keen garden students to plant individual boxes and to create the mosaic.
- Email your interest to info@circlesoflearning.org.au

School Water Efficiency Assistance

- **FREE water efficiency audit**, free water efficient products and thousands of dollars of savings on your schools water bill. Will only take 1 hour!
- To get involved contact Sustainable Business Program Officer Rob Brewster on 0409 333 145, 9391 7047 or Robert.Brewster@woollahra.nsw.gov.au.