The Urban Ecology NEWSLETTER

Vol 8 No3 (# 67) August 2009

Inside

UEA AGM 2

School & public tours 2

Christie Walk update 2

Books for sale 3

Climate change forum 3

Recycling increasing 3

Can we live with zero emissions? . 4

More bad news about plastic 5

Low cost retrofit 5

Earthship Biotecture 6

Sharon's blog 'opaleye' 7

Membership renewal 7

Urban Ecology Australia Inc
105 Sturt St Adelaide
Phone (08) 8212 6760

E: urbanec@urbanecology.org.au

W: www.urbanecology.org.au

UEA Update

CONVENER'S NOTES

THE STORY WALL

UEA received a further grant of $3000 from the Adelaide City Council for the story wall mural, which will be used for:

- Finishing the project
- Preparing and printing an explanatory brochure
- Funding an opening ceremony some time in October or November.

We record our thanks and gratitude to the Council for their support for this project, which is already adding another dimension to the Christie Walk tours.

GOVERNMENT GRANT

We received a small portion of the amount we asked for from the Federal Government, which is not sufficient to enable us to employ office staff on the conditions we had hoped for, but better than nothing.

UEA OFFICE STAFF

Margaret Rohde has been working many unpaid hours in the office, for which we unreservedly thank her. At her suggestion, the Board agreed to offer Charmaine Harvey three hours work per week and fortunately Charmaine has accepted this, which is of great benefit to us.

RADIO PROGRAM

So far two Christie Walk residents (Kingsley Knott and Effie Best) have signed up to do the required training at Radio Adelaide and we now think that the start of our regular weekly radio program may be delayed from December 2009 to March next year.

UEA PLANNING AND FUTURE THINKING

With a great deal of input from Norm Rohde and Sue Gilbey we held a special Sunday planning meeting in July and are currently working on developing a multi-purpose business plan. We are also slowly developing a set of UEA responses and positions to major environmental and ecological issues.

AGM: The UEA AGM will be held in the Christie Walk community room on Tuesday October 20th at 7pm. See next page for details.

Wayne Anthoney – Convener.

Sustainable House Day 2009

Visit a Sustainable House in your neighbourhood

Sunday, 13th September

On Sunday September 13 Urban Ecology Australia will be participating in National Sustainable House Day with six Christie Walk houses open to the public (3 in the morning and a different 3 in the afternoon).

Altogether there will be 25 houses open in South Australia. The day starts at 10am and finishes at 4pm. The event is free to the public this year so we expect large numbers.

Many Christie Walk residents are helping with the logistics of getting groups around the site and into the three houses. **We would love more offers of help!**

Please ring UEA on 8212 6760 if you can give a hand for all or part of the day.

Log on to *www.sustainablehouseday.com* for more information.

The views expressed in this Newsletter are not necessarily those of the editorial team or Urban Ecology Australia Inc.

UEA Update (cont)

Annual General Meeting

Tuesday October 20 at 6.30pm
in the Community Room at Christie Walk

Election of Office Bearers for 2009/2010 will be held following a talk by Dr Paul Downton.

'What's going on – are we there yet?'

Paul's talk will be a review and critique of progress around the world towards the 'ecocity' and an assessment of how Australia is faring in creating ecologically sustainable urban developments at a time of peaking oil and a declining climate.

Phone Wayne on 0407 614 703 if you would like to nominate for the Board or would like more information.

Join us at 6.30pm for drinks and Paul will speak from 7pm.
RSVP 8212 6760

School Tours

There has been a large increase in student tours of Christie Walk this year demonstrating that learning about urban sustainability is now a mainstream subject.

Just over 1,000 students will have visited by the end of Term 3 which is more than the total for the whole of last year. More younger year levels are coming and some schools, noticeably the schools delivering the International Baccalaureate program are bringing the whole of their years 6 and 7.

Feedback from teachers has been excellent with comments such as:

- *This was an excellent excursion for engaging children to learn about sustainability. (Year 5 group)*

And from the students:

- *I learnt that we all should make our earth more sustainable for years to come. … The compost was very interesting. In my family we have increased our compost bins to five.*
- *Overall it was a truly fantastic tour and everyone enjoyed it. My favourite part was how you reduced the food miles by having your own vegie patch.*
- *We have learned heaps of eco-friendly tips towards the environment – different building materials, solar panels, worm farm and small houses.*

Many schools at senior level have been returning each year with a new crop of students which is a good testimony to the value of the tours, but we have noticed that there is a predominance of private schools.

UEA is currently trying to obtain a grant towards subsidising public schools which do not have the financial resources to come into the city and visit Christie Walk.

There is also a DVD planned about Christie Walk which would be available to schools in country and more remote areas.

An article in *the Advertiser* August 18 2009 describes a visit by Year 8 students from St Aloysius College to Christie Walk.

Public and other group tours

In addition to schools we continue to have groups of adults who visit in relation to their interest in community living and a lower resource use lifestyle. They are interested in gaining more information about what they can do to improve their own homes or what to look for when buying or building a new home. Retrofitting our existing housing stock is an imperative if we want to transform our cities and suburbs rather than building new homes. In light of this UEA has a new book for sale: *Making Your Home Sustainable: A Guide to Retrofitting,* by Derek Wrigley $43.95. *(See below for a summary of the book)*

So, if you haven't visited for a while, come along on Sustainable House Day 13 September or join one of the monthly (3rd Sunday) tours at no charge to members of UEA.

Christie Walk Update

Gardening Australia visits Christie Walk

Recently a team from the ABC gardening program ***Gardening Australia*** spent two days at Christie Walk. They will let us know when the segment will be included in their program, and those of you on email will be sent a notice. We expect it will be screened in October.

The imminent visit brought a flurry of activity to tidy up the gardens and to encourage flowering of bulbs and other spring annuals! The two new garden areas next to the courtyard are growing well as are the vegies in the raised pots.

A sandpit has been designed and the construction started. Several fruit trees have been bought and most have already been planted.

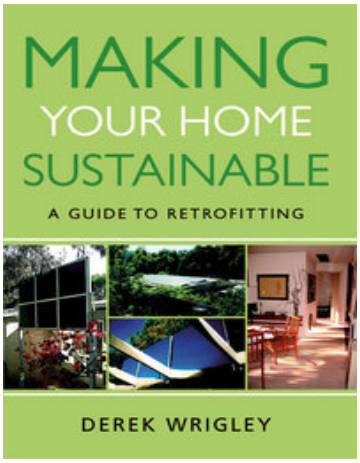
The bikeshed is finished and 20 bikes can be fitted in!

Books and other materials for sale from UEA

Making your home sustainable – a guide to retrofitting

by Derek Wrigley

Sustainable ideas, using natural energies, to improve existing houses in a cool temperate climate



In 1991, architect and solar consultant Derek Wrigley moved into a townhouse in Canberra and faced a new design challenge – how to retrofit an existing suburban house to use renewable energies rather than fossil fuels…

The house now generates its own solar electricity, ventilates and cools itself without cost or pollution, and treats its own grey water for irrigating the garden…

Making your Home Sustainable is a practical and easy-to follow guide for home-owners, builders and architects who are concerned about the effects of climate change and environmental degradation and want to do something about reversing the trend…

With detailed descriptions,46 photographs, and over 100 diagrams, *Making your Home Sustainable* is an ideal, practical guide for anyone who wants to make their home more comfortable and save money on energy bills while increasing the value of their house and addressing the causes of global warming.

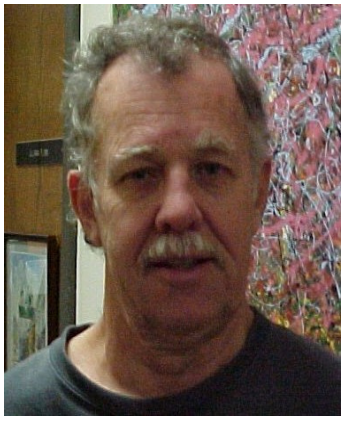
Making your Home Sustainable is available for purchase from UEA $43.95 plus postage.

Selecting a greener, better house wth lower running costs and saving the environment

A practical checklist (2008) co-authored by Derek Wrigley, Emer. Prof. John Sandeman,OAM and Simon Fisher is available for purchase from UEA at $3 ($4.50) posted.

Climate Change forum - Monday September 28

Recently CLEAN, (climate emergency action network) brought Hans Baer from Melbourne to Adelaide to talk at a forum. Several of us also took part in a climate change survey Hans has been commissioned to conduct.



Hans Baer is originally from the US and has a PhD in Anthropology. He is Senior lecturer in the School of Anthropology, Geography, and Environmental Studies and the Centre for Health and Society at the University of Melbourne. I interviewed him for my radio program and showed him around Christie Walk.

He was fascinated and asked lots of questions and bought a book from UEA. He has since contacted me asking to have another look at Christie Walk and offering to run another forum.

So come along on Monday the 28th of September, 5.30 for a 6 pm shared meal in the community room at Christie Walk 103 Sturt St Adelaide and hear a different take (from an anthropological perspective) on Climate Change.

Bring a plate of food to share and ring the UEA office on 8212 6760 to confirm your attendance.

Sue Gilbey

Obsolescence is on its way out as recycling fills the void

Australian Financial Review - Chris Tolhurst

Influenced by tougher government environmental codes and rising raw material prices, the construction sector is applying recycling and sustainability principles at both the front and back ends of its business. At one end of the spectrum, there is the growing use of second-hand building materials particularly bricks, steel and concrete in new construction.

At the other is a push by green architects, engineers and sustainability experts to design bridges, motorways and buildings from the perspective of making them simple and costeffective and so that most materials used in these structures can be recycled.

This concept goes considerably further than the generally accepted definition of sustainable architecture (architecture that does not require expensive maintenance and is not subject to massive heat loss or gain through poor insulation or too much glazing). Now, as spikes in the cost of raw materials and the introduction of carbon trading and other environmental controls exercise commercial pressure on the building sector, recycling is also set to become the heart of the design process.

"The trend that is coming into design thinking now is restorative design, where by designing a building you are becoming a net contributor to the environment, rather than a draw." About 40 per cent of all material going into landfill comes from the building and construction industries, which makes the sector a prime target for change.

Can we live with zero emissions?

Matthew Wright is a director of Beyond Zero Emissions. He is a young passionate activist for change in the way forward to combat Climate Change. The local grass roots group CLEAN (climate emergency action network) brought him over from Melbourne to address activists on 100% renewables by 2020, which through the use of concrete, steel and glass, is according to Matthew, eminently do-able and can provide power 24/7. To find out more about the 'how to', listen to a very interesting interview with Matthew and Paul Downton together which will be available for borrowing from either myself or from the UEA office.

Sue Gilbey (CLEAN member) ph 08 8410 0303 email gilbeysue@hotmail.com

You can get more information on www.beyondzeroemissions.org

The article below is Matthew's 'look into the future'!

On February 21, the interim Garnaut Climate Change Review was released. It states: *"It is in Australia's interest for the world to adopt a strong and effective position on climate change mitigation."*

Professor Garnaut also mentioned scenarios including what it would take if Australia was to be fair to developing countries and carry its historical burden to have a 50 per cent chance of meeting the long established EU goal of keeping warming under two degrees. To do this he suggested we would have to reduce greenhouse gas emissions 90 per cent by 2050 - effectively, it's a zero emissions target.

So what would life be like with zero emissions? Is it even possible?

Yes it is, and here's how it looks...

It all starts at home

If your house was built after 2014, then you don't require any space heating or cooling as your house has been engineered to include passive solar design, as well as with enough thermal mass storage like concrete or rammed earth to get you warmly through many days of continuous cloud cover.

Your water is heated purely by an evacuated tube solar system in the summer months and boosted by an electric heat pump in the winter months. Lighting is vivid and dimmable, using Light Emitting Diodes (LEDs), which use five per cent of the electricity consumed by today's lighting.

There is no more gas in use, so if your house is of pre-2014 vintage it has been retrofitted to 8-star. The gas cooktop is gone, replaced by the European style induction cooktop, which cooks faster and gives better responsiveness than gas.

Our electric ovens are triple glazed - you can put your hand on the front while the thermostat is up and not get burnt.

Our televisions are Organic LED (OLED) display based. Sony has already released one and they use 10 per cent of the power of today's LCD flat-panel televisions.

Computers use the technology of the latest laptops with OLED displays and consume around 80 per cent less power than today's desktops.

Water collected from our roofs provides 100 per cent of our water.

Getting energised

Brown coal use ended in Victoria in 2014 and black coal was phased out in 2016 in the rest of the country.

By now, wind power already contributes 40 per cent of total power generation and we see rapid growth in concentrating solar thermal plants (these boil water to drive steam turbines to make electricity). Gas was used to repower coal plants during the transition to a zero emissions energy sector, but by 2020 gas has been phased out totally.

For energy security, reliable baseload and peak power demand, we use pumped hydro, compressed air storage, high temperature solar hydrogen storage, ammonia thermochemical storage and Phase Change Salt thermal batteries as well as flywheels and super-capacitors.

In 2020, geothermal technology takes off, allowing Australia to continue exporting energy based products such as aluminium.

Travelling and eating

We get around by traditional bicycle, fully enclosed electric assist bicycles, public transport and private cars.

Fast and frequent light and heavy rail account for 70 per cent of travel. Just like in the 1930s, trams and trains are now within 500 metres of most homes in cities like Melbourne and Sydney. By 2020, a massive rail network using the latest engineering is rolled out across our cities and major urban centres.

The streets are clean and there is no local air pollution in our cities. Asthma rates and air quality related mortality fall dramatically as a consequence.

The vehicle fleet is a combination of electric vehicles (60 per cent) and plug-in hybrid electric vehicles (40 per cent). Congestion charges and road taxes motivate most people to use public transport. Intercapital trips are on the $100 billion 400km/h fast rail system, which links Perth, Melbourne, Cairns and Darwin.

International air flights are costly and are used to get from Darwin to Singapore. For trips to Europe or Africa, you take the Trans Asian Fast Train which links to the African Fast Rail. To get to the US, you take the Fast Train to Haerbin in China, then fly to Anchorage in Alaska eliminating all long haul flights. The only other flights are to small remote islands such as New Zealand and Iceland.

Shopping centres have been upgraded for energy performance; slashing their power consumption by 80 per cent. As you enter any commercial centres you'll notice the addition of air-locks (two sets of doors) to keep the heat out or in.

Energy used for production is listed on all foods, which are taxed based on their total life cycle energy input. Thus, vegetarian dishes are more popular, with the average family eating meat less than once or twice a week. Freight is almost exclusively done by rail, with shipping containers racing around the city on the tram network.

Waste is expensive and we all have a compost bin. Community food-producing gardening has become a popular pursuit and means our cities import 50 per cent less food from rural areas.

Entertainment is of course zero carbon, with the lights at the MCG being replaced by an array of thousands of high power LEDs.

Farming is predominately organic. Soil carbon is also big business.

Can we live with zero emissions? (cont)

Carbon dioxide is actually pulled out of the atmosphere by a process developed by the ancient South American Mayans called Bio Char. This involves cooking crop waste in the absence of oxygen and then using the synthetic gas to make biofuels for our plug-in hybrids and farm machinery. The by-product is the char, which takes carbon out of the atmosphere and even increases soil fertility. Farmers are paid for this, with the aim to return our atmospheric carbon to the pre industrial level of 270ppm.

Forests stewardship is rewarded. Reforestation with indigenous species becomes a new land use, which corresponds with the reduced farming footprint of a more vegetable based diet.

Recycling is about closing the loop. Usually 95 per cent of any product that comes to the end of its life after reuse is recycled.

Mining and construction now predominately use electric vehicles and tools. Consequently, according to the unions, life expectancy of blue collar workers now exceeds that of the white collar work force. The Unions are also happy about how quickly the renewable energy industry has grown to over 100,000 workers.

Materials are taxed according to their total life cycle, which means if management plans are not in place for mine tailings and industrial wastes, the costs are prohibitive, thereby promoting alternative materials.

And the best bit?

All the technology and know-how that was used to achieve this was commercially available at scale in 2007. I think we must make this change much sooner than 2050.

Matthew Wright

These bikes are already on the streets of Paris - there is a 'pod' every 300m or closer. Bikes are free for first half hour and can be returned to any 'pod'.

Bad News about Plastic: Degrading Poisons into Ocean Water

By Jan Lundberg / Steve Connor

Today's world requires as never before that we all accept change and be part of it proactively. Mounting evidence shows there is no time to wait for people to decide to catch on in their own time. No better example of this exists than the plastic plague. Until we stop participating in trashing the planet and ourselves we are slashing away at our planetary wrists in ecocide.

Is it so hard to make sure a vendor does not provide a plastic straw in our drink, and is it so hard to avoid buying a new handy gadget? The right choices are easy much of the time, but nearly impossible sometimes. This demonstrates the strangle-hold industrial culture has on our lives, as long as the economy continues to provide goods and set the tone for lifestyle.

Since the Northern Pacific Garbage Patch -- a plastic soup twice the size of Texas -- was discovered in 1997, and from subsequent research, it was thought that plastic did not degrade except for breaking down into smaller pieces. It was known that plastic leached poisonous petrochemicals and heavy metals into the environment and into animals and humans.

Now the story unfolds some more, most alarmingly, as the article below shows. Plastics in the ocean and on land seemed static enough, although they were known to be in part ingested and passed up the food chain -- bioaccumulating. But sea water with bisphenol-A as a constituent? This new discovery ought to ratchet up the agenda to fight the plastic disaster. The old model of educating consumers bit by bit year after year, and passing compromise-based legislation, has failed -- time is now too short. - -

Read the complete commentary and accompanying article at *http://www.culturechange.org/go.html?515*

Low cost retrofit experiment in the UK

by Eifion Rees

The Greening-the-Box (GTB) initiative aims to demonstrate that retrofitting can transform hard-to-heat housing association and council properties into models of low-tech sustainability and fuel efficiency - with almost zero heating.

From a distance it may look like any other rural council house, but a retrofit experiment taking place in 21 The Street, in the pretty Norfolk village of Ringland, could represent the future of social housing in the UK.

Most of the UK's 1.7 million council houses were built decades before such things as green building regulations, fuel efficiency and optimised insulation, and in a world of diminishing resources, most are unfit for the purpose. Poor design, inefficient use of energy and the rising price of fuel make properties costly for tenants and the environment both – a quarter of the country's carbon dioxide emissions come from the housing sector.

Up until now councils and housing associations have simply been knocking down old stock and building anew, but the question being posed in Ringland is, why demolish when you can retrofit?

'The idea is to see GTB rolled out nationally,' says SEArch's Jeremy Harrall, twice winner of the Royal Institution of Chartered Surveyors sustainable building of the year award. 'We would love to see more housing associations and local authorities take it on…'
GTB's goals are ambitious – heat-loss reduced tenfold, heating load halved, carbon emissions mitigated by four tonnes a year – but Harrall is confident it will more than answer the sustainable and financial arguments.

www.theecologist.org/News/news_analysis/282765/lowtech_retrofit_experiment_could_transform_social_housing.html

[Ed: see the article on p 3 for details about the book by Derek Wrigley]

Earthship Biotecture

Sustainable architecture for a changing climate

Andrew Tidswell

Architect Michael E Reynolds of Taos New Mexico USA gave a presentation to a packed audience in Adelaide during July as part of his Australian tour about his life passion for economical and sustainable buildings.

Michael has spent the last 40 years developing and putting into practice new forms of architecture that use minimal non-renewable resources in construction and operation, driven by the recognition that our current practices are unsustainable.

But it is his unique view of what comprises 'sustainable materials' that made his presentation so intriguing. He considers that what we call waste products from our consumer society are valuable new natural resources. Thus his building materials generally comprise tyres, bottles and cans, for which a prolific supply exists throughout the world.

It is an interesting irony that the ability to keep producing his sustainable buildings relies on the rest of society continuing to provide these materials at little or no cost. Although the present stockpiles of such items do provide a large stock of these materials.

He calls these buildings 'Earthships' developed to follow six general principles.

- The use of naturally occurring renewable materials, especially those that are normally considered waste products such as tyres, bottles, cans, plastic containers, car parts and enamel white-goods cases.
- High levels of thermal mass and insulation with solar heating and cooling to maintain comfortable temperatures for the local climate.
- Local electricity generation from solar and wind to avoid dependence on the grid.
- Water harvesting and storage for re-use.
- Contained sewage treatment with water used four times (showers and dishwashing, feeding plants, grey-water to flush toilets and finally for landscape use; each time being filtered and cleaned).
- Food production with planter cells inside and outside to filter water and grow food.

Michael has had on-going battles with authorities (as you might expect) who regard his designs and techniques way outside the normal structural, aesthetic, health and safety rules. He was even de-registered as an architect, so invented the word 'Biotecture' to avoid prosecution, but now considers it a more appropriate term for the organic, economical, sustainable buildings he produces.

Thus the term "Earthship Biotecture".

Model building designs have been developed for houses of various sizes as well as commercial buildings. Earthship Biotecture is now a global company providing design and construction services worldwide to deliver these buildings. His trip to Australia was to promote the concept here. Judging from the reaction in Adelaide, (and I gather in other cities) he has generated considerable interest.

The designs are based on the principles listed earlier and can include roof tiles made of the baked enamel panels from fridges and washing machines, bricks each made from 6 cans, lashed together, bottles cut in half and laid end to end, as well as the ubiquitous car tyres, stacked and filled with earth. A typical house could contain some 1,000 tyres. The walls generally are rendered to hide the tyres and cans, with the bottles exposed to create some stunning lighting effects.

Check out the website *www.earthship.net* for lots of amazing photos and more details.

At the 'Earthship Community' in Taos New Mexico new houses, public facilities and an education centre are being developed to demonstrate the model as a community for up to 200 people. It follows the eco-village model that we are generally familiar with, but at an extremely low density which makes it suitable only for similar desert locations.

The climate in Taos has temperature extremes greater than Adelaide (it snows in winter) and it receives about half our annual rainfall, so it is no easy task to be self sufficient and provide acceptable comfort conditions without resorting to the usual energy sources. But they do achieve it.

Earthship Biotecture (cont)

People will have different views of his designs, his community model and his use of materials as 'new' resources, but there is no doubting his passion and his creation of a new paradigm for the nature and process of providing living spaces that are affordable, and in tune with nature.

He has demonstrated that it is possible (with some effort) to reduce economic and bureaucratic impediments to people living more in harmony with nature, that we can empower people with the inalienable forces of nature, and we can allow people to live a less stressful existence, putting less stress on each other and on the planet.

He has demonstrated that there can be a different way of thinking about cost effective, comfortable, delightful and sustainable housing than our present conventional views.

He was engaging and inspiring, if a little eccentric, but then real progress generally only comes from such people.

Andrew Tidswell

News in brief from the net

Sharon Ede has recently introduced a different way of monitoring the web for articles relevant to urban ecologists.

Previously she had checked almost daily for articles of interest and forwarded them to a list of people she thought would like to be kept in touch. Obviously this took a lot of Sharon's time and new forms of communication mean that this can be done via a search body called 'opaleye'.

http://opaleye.blogspot.com/

Just some of the benefits of this approach are that all the content is:

- stored in an on-line archive, not clogging up email
- searchable by category at the top right of the page - I will attach keywords to each post which automatically sorts items into categories, so if you are just interested in posts on e-waste or climate change, click on that category and it will return only posts in that category
- searchable by words in the 'search Blog' box at the top left of the page - this search will pick up any word in the article, not just the label I have given it
- searchable by date in the Archive - for those times when you remember when you saw something, but can't quite remember what it is, you can browse the archives!
- shareable, with a 'share' button available at the bottom of each post - if you use Facebook, myspace, Twitter or other social networking sites this allows you to post the item or URL straight to your own profiles. I will no longer be sending my information by email, so if you wish to keep receiving my material, you will need to subscribe to the blog.

Subscribe by simply:

1. clicking on http://opaleye.blogspot.com
2. clicking on 'please alert me to new posts!'
3. entering your email address
4. accepting the verification email the system will send to you.

That's it!

This system will send ONE email per day (if that) with a news feed of what has been posted (if anything). You can either read the feed or just use it as a reminder to go to the blog and click on whatever category you are interested in to see what's new. **You are more than welcome to invite others to subscribe!**

Please note this is my personal blog, to which I will post sustainability-related articles, stories and resources (and items of comic relief and interest), and is distinct from my work role.

Thanks everyone for being interested in sustainability issues and for your messages of appreciation.
Cheers
Sharon

UEA Membership Renewal

Many thanks to members who have already renewed your membership.

If you haven't yet renewed for 2009 we'd love to hear from you! Download the membership form from the website (www.urbanecology.org.au) or phone 8212 6760 to be sent a form. As we move into a new phase of seeking funding for Urban Ecology Australia we need a strong membership base!