

Permaculture Cairns Inc. Established July, 2007

Web site: [www.permaculturecairns.org.au](http://www.permaculturecairns.org.au)

## **Permaculture Cairns News**

**Empowering communities with sustainable solutions**

**Care for the Earth, Care for people, Share the excess**



*Care of the Earth, Care of*

*People. Share the excess*

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### **JUNE Public Info Meeting**

**Tuesday 17th 6:30pm for 7pm start.**

**Flexible Learning Centre, 90 Clarke Street, Manunda**

**Clarke Street comes off Hoare on the Salvos Corner.**

**Members please bring a plate of finger food to share, and a friend.**

### **The guest speakers for May were great**

Deborah from Frog Safe gave us a great intro into what is going wrong in the environment that is affecting the frogs and in turn us. She gave such a good presentation we asked if you would come back to tell us more later.

Steve from Greenbelt introduced us to the new compost fertiliser in town. With lots of information about the new produce which is produced locally, and is now available in locally owned businesses.

### **Permaculture Principle No. 6**

#### **Produce no waste**

**“A stitch in time saves nine.” “Waste not, want not.”**

**By valuing and making use of all the resources that are available to us, nothing goes to waste.**

The icon of the worm represents one of the most effective recyclers of organic materials, consuming plant and animal ‘waste’ into valuable plant food. The proverb “a stitch in time saves nine” reminds us that timely maintenance prevents waste, while “waste not, want not” reminds us that it’s easy to be wasteful in times of abundance, but this waste can be a cause of hardship later.

## **PERMACULTURE CAIRNS**

### **Building Resilient Communities Workshop Series 2014**

The Recycling Organic Waste Workshop went ahead rain, hail or shine, we just all had an umbrella. The workshop was well attended and everyone learned how to make compost from organic waste. A big thank you to Jade and Daniel from King Brown Compost, Mareeba and SITA Community Grants Program.



**And the next workshop in the series is how to**

### **GROW NUTRIENT RICH FOOD**

**with Carol Laing**

**21<sup>ST</sup> June 2014, 9am for a 9.30 start – finish 12.30**

**Learn how to improve your soil so your vegetables and fruits have high levels of minerals and vitamins.**

**Learn what to add to your compost and soil to make it high in beneficial plant nutrients.  
Why Heritage seeds are important. Why saving your own seed is important.**

**We will cover, soil structure, soil conditioners, beneficial microbes, compost tea brewing, dry & liquid fertilizers.**

**We will learn about using a refractometer to gauge the nutrients in plants & vegies both home grown or store bought.**

**Registration is essential - email- [workshops@permaculturecairns.org.au](mailto:workshops@permaculturecairns.org.au)**

**There is a \$10 fee for the workshop which may be paid online: to Permaculture Cairns bank a/c. BSB 704-966 Acc: 100009440 please include your Surame as Reference, OR you may pay on the day.**

**Venue:- You will be advised when you register, this will depends on numbers so it is important to register.**

**We thank SITA Australia and the SITA Community Grants program for making these workshops possible.**

**And the PERMI CRAFT day is on Saturday the 26<sup>TH</sup>**  
**JULY from 9am to 12noon**

The Craft and Permi half day is to have short sessions and demonstrations of Permaculture principles and practices and craft projects for all to engage with. We invite parents and children to enjoy a half day of fun and information. So far we are looking at building a scare crow for the garden, making Mosaics, making Owls out of DVD and bike wheels and recycled materials, colourful banners, Making paper, Building with Clay, Painting pots and stones for the garden. Making a Straw Bale veggie garden, composting, worm farm and movies. If you are likely to take part or would like to help please contact Carol at:- [workshops@permaculture Cairns.org.au](mailto:workshops@permaculture Cairns.org.au)

**And**  
**Sustainable Living Expo on 22<sup>nd</sup> June**

If you would like to help in the marquee for an hour or so please contact me at [workshops@permaculture Cairns.org.au](mailto:workshops@permaculture Cairns.org.au)

**And**  
**Biodynamics FNQ Workshops**  
**Sun 15<sup>th</sup> June 2014 - 10.30 – 4.30 MORE ON SOILS**

Some revision of last workshop and going further into how to work with your soil test.  
Adam Collins Venue: Patrick English Hall, Malanda Showground

**Urban Farming For Nutrient Dense Food Workshop**  
**Saturday 28<sup>th</sup> June – 9am to 2pm**

**By Andrew McLennan:**

For more information about the contents of the workshop please contact Tegan

**Bookings essential contact Tegan McBride at email: [tegan@gardenoftegan.com.au](mailto:tegan@gardenoftegan.com.au)**  
Workshops will be held in Cairns, venue to be advised at time of booking.  
Cost \$65 includes Lunch and Morning Tea.

**EARTHSHIP AUSTRALIA UPDATE**  
**Australia's first tropical earthship build**  
**19<sup>th</sup> July – 1 August 2014**

The Venue: Ghost Gum Farm near Rossville in FNQ  
For more information contact:- Scott White, Ghost Gum Farm Manager  
07 4015 2339 [scott@ghostgumfarm.com.au](mailto:scott@ghostgumfarm.com.au) <http://www.ghostgumfarm.com.au>

Check out the videos on this site and Mike Reynold's web site  
[www.earthship.com](http://www.earthship.com)

## Not news just info I couldn't resist sharing - about the brix meter

**Obtaining optimum prices by looking after your soil.** Text of an article based on an interview with David von Pein **from The Meter Man written some time ago but still relevant.**

The Brix meter. A hand-held device, with a prism at one end, and an eyepiece at the other. When just a few drops of sap or juice are placed on the prism and held up to the light, the light passing through the sap is refracted (bent) according to the composition of that sap.

The brix measurement can be read off the scale, showing levels of sugar, minerals, proteins and vitamins in the plant's juices, commonly referred to as dissolved solids.

The brix meter provides more than just an indication of the nutritional value of the produce itself, it can be used to help monitor underlying problems in the soil in which the produce is grown.

Retired farmer, David von Pein, explains that brix readings provide an instant monitoring mechanism so that we can see what is going on in our soil.

"If we can identify what the soil is lacking in, we can implement management techniques to help restore the soil to health," said David. "This in turn will have a flow-on effect to plants grown in that soil."

In conjunction with the presence of weeds and insects, brix levels can be used to help assess crop health. David explains that if you analyse a weed, whatever elements the weed is high in indicates what the soil it was growing in, is lacking.

"A plant with low brix makes an easy target for insects who sense the plant's ill health, and will hone in for an easy feed." David explains that healthy plants, registering a high brix level, indicate superior resistance to pests and diseases, which ultimately means less time and expense need be spent on pest control measures. Moreover, for the consumer, produce with high brix levels have increased sugar, mineral and protein levels, and have improved flavour.

Mr von Pein was first introduced to Brix meters when reading Dan Skow's book Mainline Farming for Century 21. About this time he saw first hand, a case involving one of his friends.

"He had massive health problems. Whilst overseas, he was introduced to the use of rock dust and barley green, and used his learning to fix himself up. Upon returning to Australia, he started his own rock dust business.

When rock dust was first introduced many trials were undertaken. David explained one of these tests involved two tomato plants - one grown with urea, the other with rock dust. When the plants were ripened, fruit was taken from each bush and put in saucers in direct sunlight. The tomato grown with urea quickly turned into watery mush. The tomato grown with rock dust slowly shrivelled up.

Fascinated by these concepts, David borrowed a Brix meter to conduct his own investigation. Impressed with the pattern he was seeing emerge when testing individual paddocks and crops.

David von Pein's interest in sustainable agriculture saw him seek out research and participate in in-field experience. Inspired by their findings, he follows closely research conducted by prime movers in the organic field; Dr Dan Skow, Dr Philip Wheeler, and Dr Arden Anderson to name just a few.

David explained that some of the research conducted by these recognised agricultural scientists is hard to go past. One of his 'mentors', Dan Skow is practicing veterinarian in the States.

Dr Skow has enjoyed widespread success solving problems in animals. Working on the premise that as animals live on what comes from the soil, Skow believes that by assessing what animals are eating, and treating the soil to correct any imbalance identified, the subsequent feed produced from the rectified soil will see the animals' overall health improve in kind.

Pulling up yet another, in a series of documented trials that support the case, David explains a trial conducted by Dr Arden Anderson. "A herd of cows fed on lucerne with low brix reading were being feed

grain at a rate of about 33 pounds of grain to produce a quantity of milk. However, when the same herd was put in a paddock of lucerne with high brix, only 12 pounds of grain was needed to supplement the herd to produce the same amount of milk."

David encourages us to look at the flow through for humans.

Arden Anderson runs a clinic in Michigan, USA. Through monitoring Brix, and ensuring his patients consume produce with high brix levels, Mr Anderson has established a record of treating patients who have been unable to find a remedy using conventional medicine.

Already, some US and Japanese companies are hot on the trail of what they see as an important nutritional indicator, and are turning away produce with a low brix level.

David uses the common cucumber as an example of some of the produce with low nutritional value available today. A cucumber's brix level should be on the bottom of the scale a '6' and a '13' reading at the top. "Recently I tested a conventional cucumber, randomly selected from a supermarket, and it measured 3.5" said David.

David explains that nutritionists have been telling us for years, with campaigns such as the healthy food pyramid, that our bodies need a range of elements which can be found in a mix of fruit and vegetables. He insists that to have food with good nutritional value containing all the elements we require, we need to get the soil right.

David alludes to the amount of sickness and ill health we see in the world as being consequences of stepping outside of the law of nature.

"I believe that ill health, from cancer to allergies are, in the main, caused by imbalance. Initial research is indicated that by merely increasing nutrition value of food intake, many allergic symptoms in humans and animals alike can disappear.

"We need to try and learn laws of nature and work with it in the way that was intended.

"If we can get the soil right, we will have good food."

Hot on the heels of this belief, David uses the Brix meter, in conjunction with a comprehensive chart on plant health to improve soil fertility, with the addition of calcium and phosphate that a low brix level indicates may be deficient in the soil.

"The benefits of this approach have been varied, and fertilising programs can be verified by the resulting increase in brix levels. David is the first to say that the brix readings are not 'the be all and end all', but can provide a major indicator in the form of instant monitoring of what is going on in our soil which points to what we need to do to fix it. Other influences such as pH and conductivity, which work together, can be assessed in soil and plant sap for a different level of testing.

By in large, brix indicators are easy to translate: a low brix reading points to low nutrition, and a high brix reading indicates the higher nutritional value of produce.

Several factors influence brix readings. Brix readings vary at different times of the day in accordance with climatic conditions. As heat and light affect the way sugars concentrate in plants, readings should be taken under similar conditions to maintain an accurate record of the crop's progress.

David advises that to ensure consistency readings should be:

1. Taken at one time of the day (allowing two hours of sunshine in the morning is best he advises).
2. Taken from the same part of the plant (after choosing to take the reading from the plant stem or leaf, ensure all subsequent readings follow suit).
3. Recorded in order to track soil conditions and fertiliser management programs are adequately ensuring the best possible health of plants.

"If the brix content is on the increase, you are on the right track. If it is consistently low, you may need to look at revising your crop and soil management program."

He follows this up by explaining that brix is just an indicator, albeit a good one.

"While brix is a good indicator, variables do exist. Even in a plant with high brix, high acidity levels can translate to poor nutritional value.



### Take home points

In summary, management of soil nutrition has the following flow on effects for plants: less disease, less insects, better 'shelf-life' and more flavorsome.

Moreover these factors are all indicators of a greater-good: better health for animals and humans alike.

**"It is imperative that as a nation we need to start thinking about the nutritional value of food grown and eaten in this country. If we can achieve greater nutrition in our food, more people could live healthier lives on the same amount of food."**

"Using soil and tissue tests are an important first step to find where the deficits lay, so righting measures can be taken to restore natural balance. "High quality food is worth good money." he said.

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### PERMACULTURE CAIRNS RECEIVES GRANT CHEQUE FROM SITA COMMUNITY GRANTS PROGRAM

Bob Manning, Tegan, Mary, Carol, and Lois were there when Permaculture Cairns accepted the Grant cheque from Peter Hudson of SITA. This is one of the first grants awarded under the new SITA Community Grants Program. Thank you SITA.



## News Items

### Extracts from the UK Transition web site:

[www.transitionnetwork.org](http://www.transitionnetwork.org).

Following Pretty's keynote address were a series of short presentations by five other speakers. Professor Whendee Silver of the University of California at Berkeley, discussed the importance of locking carbon into the soil and asked whether agricultural practices can help to manage the carbon cycle so as to be part of the solution to rising CO2 levels. She argued that preserving grasslands, as carbon rich eco systems that cover 30% of the globe's landmass, could be a way of off-setting the carbon we release into the atmosphere.

During the questions session later on, Silver also emphasised the power of word of mouth, saying that everyone at the conference was a communicator and we all have a responsibility to share stories and ideas gleaned from this conference to inspire curiosity and provoke debate.

Professor Tim Lang, of City University, followed with his discussion linking food policy and public health. Lang has been looking at the global burden of disease, focusing specifically on those diseases that are food related. He has estimated that the global costs of treatment for diabetes are approximately \$1.7 trillion, that cardiovascular disease incurs \$15.6 trillion and that cancer costs \$8.3 trillion.

Last to speak in this session was Helmy Abouleish, managing director of [SEKEM](http://www.sekem.com), an organisation that works for sustainable development, community building and biodynamic farming in Egypt. I found his story particularly inspiring and he delivered it with passion and humour. Abouleish inherited the vision from his father of reclaiming desert soil, whilst also tackling social and economic challenges faced by Egyptian society. He quoted Mandela saying that 'It always seems impossible until it is done', and despite much scepticism, they have, since 1975, created communities and lush, productive farms in what was formally a barren desert. Abouleish explained that their focus on producing rich, nutritious compost and protecting the living soil, means they use 40% less water than their neighbours. The scale of their vision and extent of their achievements is quite staggering – do have a look at their website or [www. http://www.earthfuture.com](http://www.earthfuture.com) to get a full picture of the many projects they are engaged in.

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## Tackling the tricky task of tick removal

Tick bite poses a potentially serious health risk in itself but sometimes the way people try to remove ticks just makes things worse..Of the more than 70 bloodsucking arthropods known as ticks that live in Australia, the paralysis tick, *Ixodes holocyclus* dominates when it comes to interaction with people. This tick is most commonly found in wet sclerophyll forests along the east coast. While their life cycle (including egg, larva, nymph and adult) can take a year to complete, adult ticks are most commonly encountered in the spring and early summer.

They find a host by climbing to the top of grasses or other nearby vegetation and slowly wave their legs about until they make contact with a passing potential host. They're commonly associated with ground-dwelling mammals, particularly [bandicoots](#), but can potentially be found on a range of wildlife.

Once they've found a host, ticks take a blood meal to obtain nutrients to either moult to their next developmental stage or, in the case of female adult ticks, develop eggs. They can stay attached for up to ten days while feeding.

Reactions to tick bites can vary from a mild itching with localised swelling, to severe allergic reactions and [life-threatening anaphylactic condition](#). A [recent study](#) of 500 tick bite cases presenting to a hospital on Sydney's northern beaches reported 34 individuals with anaphylaxis, 40% of whom had a history of allergy or previous anaphylaxis.

Potentially fatal tick paralysis is a serious concern, as is [mammalian meat allergy](#). Mammalian meat allergy is triggered in some individuals by substances in the saliva of ticks injected during feeding. People who have an allergy to this may experience life-threatening anaphylaxis following the consumption of red meat or, in some instances, other animal-derived products, such as milk and gelatin.

### ***Removing ticks***

There has also been some [debate](#) in recent years about the best way to remove an attached tick, with opinions divided between killing it in place or forcibly removing it. It has been suggested that forcibly removing the tick may increase the severity of any allergic reaction.

The absence of clinical trials has led to uncertainty, as has advice from overseas health authorities that may not be appropriate in Australia due to differences in our ticks. There's no doubt the advice provided by health authorities in [North America](#) and [Europe](#) are suitable for those regions. They suggest quick removal, using forceps or other devices, to reduce the likelihood of pathogen transmission.

But the species of ticks prevalent in those places are not associated with possible tick paralysis or potentially serious allergic reactions caused by *Ixodes holocyclus*. **Australians need a different approach and there's growing consensus that killing the tick in place may be best way to minimise the risk of severe allergic reactions.**

Killing ticks is tricky. Some insecticides may be effective but involving any substance (such as methylated spirits, nail polish, alcohol or petroleum jelly), or physical disturbance (such as the use of forceps) that agitates the tick is likely to cause it to inject more saliva and toxins into the skin, resulting in a more severe reaction.

The Australasian Society of Clinical Immunology and Allergy (ASCIA) [recommends using aerosol "freezing" sprays](#) normally associated with wart treatments. These products are widely available from pharmacies **and they rapidly kill the tick in place, minimising potentially serious reactions. Once killed, the tick can then be left to fall out naturally.**

What we really need are clinical trials assessing the effectiveness of these currently recommended tick removal techniques and the likelihood of preventing or minimising allergic reactions. Fortunately, this is the focus of the recently formed [Tick-induced Allergies Research and Awareness](#) (TiARA) group. Clear tick removal guidelines, supported by research and clinical information – or both – will hopefully adopted by local health authorities and put an end to confusion.

## **US military strategists warn that climate is a 'catalyst for conflict**

From The Conversation 21.5.2014

Warnings about the dangers of climate change are coming from some new and not so new places. Military, security and foreign policy advisors, financial marketeers, the [White House](#) – all have recently set out the risks in stark terms. It is difficult to imagine a more influential set of voices – particularly among military strategists – than the ones that are now speaking out. The world's biggest insurance market, Lloyd's of London, recently [urged insurers to include risks posed by climate change](#) in their models, after a record-breaking year in 2011 which saw the industry lose US\$127 billion to natural disasters.

That warning came on the heels of a major White House report, the [National Climate Assessment](#), which found that few places in the United States will be unaffected by the effects of climate change, and that the "observed warming and other climatic changes are triggering wide-ranging impacts in every region of our country and throughout our economy".



### ***Growing security threat***

But it is in US military and foreign policy circles where some of the most potentially game-changing warnings are now being sounded. The [CNA Corporation Military Advisory Board](#), which comprises 16 retired US military officers (none below the rank of brigadier general), last week released its report, [National Security and the Accelerating Risks of Climate Change](#).

It says that actions by the US and other countries have not been sufficient to adapt to climate change, and that the issue is a “catalyst for conflict in vulnerable parts of the world” – not to mention a threat to America’s domestic military readiness. The report also says that: rapid population growth ... and complex changes in the global security environment have made understanding the strategic security risks of projected climate changes more challenging. When it comes to thinking about the impacts of climate change, we must guard against a failure of imagination.

The board recommends that the United States should take a global leadership role in preparing for the projected impacts of climate change, which will affect military, infrastructure, economic and social support systems. In one sense, it is already doing this. Three months ago, the US government made a [submission](#) – its first ever – to the [United Nations Framework Convention on Climate Change](#), proposing a global deal that is at least partly legally binding, and which “reflects the seriousness and magnitude of what science demands”.

From the Obama administration’s point of view, such a deal might have to be introduced through the executive branch authority rather than through Congress, given the impossibility of Congressional action in this regard.

Next month the administration will introduce [regulation](#) to reduce pollution from coal-fired power plants, and later this year Secretary of State John Kerry will deliver [a major speech](#) on the links between climate change and national security. (he did this on Tuesday)

### ***Climate change and terrorism***

Meanwhile, the Pentagon, in its [Quadrennial Defense Review](#), has reported that: the impacts of climate change may increase the frequency, scale, and complexity of future missions, including defense support to civil authorities, while at the same time undermining the capacity of our domestic installations to support training activities.

This report, published six weeks before the CNA Corporation’s report, makes a direct link between terrorism and the effects of climate change (which, like the CNA military board, it also describes as a “catalyst for conflict”).

According to the Pentagon, climate effects are: threat multipliers that will aggravate stressors abroad, such as poverty, environmental degradation, political instability and social tensions – conditions that can enable terrorist activity and other forms of violence.

### ***Clear and present danger***

These reports are not the first to draw a link between climate change and conflict. Previous examples include the Canadian journalist Gwynne Dyer’s [Climate Wars](#), British policy analyst Cleo Paskal’s [Global Warring](#) and, most significantly, [Climatic Cataclysm: The Foreign Policy Implications of Climate Change](#), compiled with the help of the influential think tank the [Center for a New American Security](#).

The Intergovernmental Panel on Climate Change, in its recent [assessment report on climate impacts](#), also warned of the links between climate change and violent conflicts such as civil wars, which can be sparked by poverty and economic shocks.

But the new warnings are different – not in terms of what they say, but because they come from the corridors of US military power. It is clear, as never before, that the US government and military now view climate change as a clear and present danger.

## Australia has nothing to fear from deep global carbon cuts

From The conversation 21/5/14

Moving to a low-carbon economy could attract emissions-intensive industries to Australia to use renewable power. There is an instinctive fear that overhauling the parts of our economies that emit greenhouse gases would spell economic doom and gloom.

But the reality is much brighter. As the Intergovernmental Panel on Climate Change recently reported, [strong climate action would shave less than 0.1 percentage points a year](#) off the world's annual economic growth.

What would need to change for that to happen? What would very low-carbon lives be like, and where would our future prosperity come from? And how can we manage the transition from sunset to sunrise industries?

Those are some of the questions that we and other researchers are working on right now. Thirteen of the world's largest economies – Australia, Brazil, Canada, China, the European Union, India, Indonesia, Japan, Mexico, Russia, South Africa, South Korea, and the United States – collectively account for more than 75% of global greenhouse gas emissions.

As part of the [Deep Decarbonisation Pathway Project](#), experts are working out what we need to do to put each of these economies on a path to deep carbon cuts by 2050. Led by eminent US economist Jeffrey Sachs – who is [visiting Australia this week](#) to discuss development and low-carbon growth – all of our results will be presented to a [special United Nations summit on climate change this September](#).

Some countries have made good progress already while others have further to go. Each will have a different roadmap to a low-carbon future, depending on national circumstances and opportunities. But there is a common story across all these countries: it will be possible to take the carbon out of the economy, even while the economy keeps growing strongly. What we need to do is get the transition started soon, and to do it in the right way.

### ***The road ahead for Australia***

Since the global financial crisis, carbon emissions have declined slightly in most developed countries, including Australia. But slight declines in high-emitting rich countries are not nearly enough to limit global warming to a manageable level. Global emissions need to fall by more than half between now and 2050, implying even greater cuts in developed countries - all while we keep improving material living standards.

The good news is that in Australia we have every opportunity to make a [drastic turnaround of our carbon emissions](#) while maintaining the nation's prosperity. It might sound like a daunting task: we need to fuel our industry, transport and buildings with energy that does not emit carbon, and make use of our land for sustainable agriculture and carbon forestry.

Between now and 2050, a large share of Australia's industrial and energy infrastructure will be renewed anyway. The majority of commercial buildings and much of the housing stock will be built new between now and then, and practically none of the cars and trucks on the road now will be still be around in 2050.

This makes it readily possible for our industry and housing to be much more energy-efficient, for electricity to be produced almost entirely from zero-carbon sources, and for transport to shift strongly towards using electricity, gas and biofuels. Large amounts of investment would flow, and new industries would grow. Our service economy would continue to thrive.

Coal would probably have a much smaller market, as our trading partners would demand less of it and much less coal would be used by Australian power and industrial plants. Spread over more than three decades, the transition will be readily manageable – if Australia is proactive and prepares for it.

### ***A return of high-energy industries?***

An intriguing aspect of a very low-emission future is that energy-intensive industries might in fact return to Australia, this time fuelled by renewable energy. If all countries move away from carbon-intensive fuels, then our abundant renewable energy potential could turn us into a zero-carbon energy superpower.

Australia also has great potential for carbon capture and storage, both to clean up remaining fossil fuel use in industry and to lead global technology development. And there's another trump card up our sleeve: Australia has tremendous potential for storing carbon in trees and soils. If managed properly, Australia could make a huge contribution in pulling carbon dioxide back out of the atmosphere.

In the process, we could see a renewal of rural industries and communities, built around afforestation, the use of sustainable timber and wood products, careful land management, and the building of infrastructure for land-based carbon storage. This could be done in conjunction with improved agricultural output. But we need to get started on doing all of that, and more. In 2050, today's 19-year olds will be the same age as our Prime Minister is now. If they were to end up running a country that is as high in carbon emissions as Australia is today, in a world that has not made the switch to low-carbon growth, then climate change could be the biggest threat to their prosperity.

### ***SUPERCritical SOLAR - NEW FRONTIER FOR POWER GENERATION – CSIRO news release 3 June 2014***

CSIRO has used solar energy to generate hot and pressurised 'supercritical' steam, at the highest temperatures ever achieved in the world outside of fossil fuel sources. Supercritical steam is a breakthrough for solar energy and means that one day the sun could be used to drive the most advanced power stations in the world, currently only driven by coal or gas.

CSIRO's Energy Director, Dr Alex Wonhas said this milestone is a game-changer for the renewable energy industry. "It's like breaking the sound barrier; this step change proves solar has the potential to compete with the peak performance capabilities of fossil fuel sources," Dr Wonhas said.

"Instead of relying on burning fossil fuels to produce supercritical steam, this breakthrough demonstrates that the power plants of the future could instead be using the free, zero emission energy of the sun to achieve the same result."

Supercritical solar steam is water pressurised at enormous force and heated using solar radiation. Around 90 per cent of Australia's electricity is generated using fossil fuel, but only a small number of power stations are based on the more advanced supercritical steam.

The world record, set in May this year, was at a pressure of 23.5 megapascals (a measure of force per unit area), and temperatures up to 570 degrees Celsius. It is the combination of pressure and temperature demonstrated at scale that makes this such a breakthrough for solar power.

Commercial solar thermal power plants around the world use subcritical steam, operating at similar temperatures but at lower pressure. If these plants were able to move to supercritical steam, it would increase the efficiency and help to lower the cost of solar electricity.

The \$9.7 million research program is supported by the Australian Renewable Energy Agency (ARENA) and is part of a broader collaboration with Abengoa Solar, the largest supplier of solar

thermal electricity in the world. CSIRO and Abengoa Solar, with support from ARENA, are developing advanced solar storage to provide solar electricity at any time, day or night.

The breakthrough was made at the CSIRO Energy Centre, Newcastle, home to Australia's low emission and renewable energy research. The Centre includes two solar thermal test plants featuring more than 600 mirrors (heliostats) directed at two towers housing solar receivers and turbines.

Although there is still work to be done before this technology is ready for commercialisation, ARENA CEO Ivor Frischknecht acknowledged the significant achievement saying it demonstrates the importance of research and development.

"This breakthrough brings solar thermal energy a step closer to cost competitiveness with fossil fuel generated power," Mr Frischknecht said.

### **Port of Gladstone independent review of the bund wall:-** The review results

Despite constraints on what it investigated, the [Independent review of the bund wall at the Port of Gladstone](#) by a [three-member expert panel](#) has been highly critical of the environmental management that operated during the Western Basin dredging program in Port Curtis, Gladstone, from 2010 to 2012.

[The Australian's Graham Lloyd succinctly summed up](#) the report's key findings:

A key part of the Gladstone Harbour dredging program for the A\$35 billion Curtis Island liquefied natural gas export hub has failed due to bad construction, inadequate monitoring and poor environmental oversight by state and federal governments. Some of the strongest criticisms in the review were of:

- The design and construction of the bund wall "did not meet industry best practice";
- The location of monitoring sites, which were "inadequate to identify and then assist in managing discharge from the bund wall";
- "Inadequate" oversight of compliance monitoring by the federal government's Department of the Environment;
- A generally fragmented, uncoordinated and ineffective oversight of the dredging program by the federal and Queensland governments.

The review made 37 findings and 19 recommendations. [Environment Minister Hunt](#) says his department has already started to address some of the findings, including with "a significant increase in compliance monitoring staff numbers", and a review of all compliance and enforcement procedures due by 30 June. Hunt will respond to the report by 1 July.

It's important to note that the review was set up with a very narrow focus and terms of reference, only looking at the bund wall and not the broader dredging program.

Its criteria also excluded consideration of environmental effects of the leaking bund wall, including on [the health of local marine life](#), or the environmental impacts of the dredging itself.

So the inability of the independent panel to examine ecosystem health impacts of the leaking

### ***An exodus of expertise***

The review's findings about Gladstone harbour have serious implications for environmental protection nationally, particularly for future dredging and spoil dumping programs in the Great Barrier Reef World Heritage Area, given the [massive scale of future port expansions](#) along the reef's coastline.

We'll know after today's budget how the Department of Environment's staff have fared. But looking more broadly, there has already been an enormous loss of expert environment management staff from the Queensland government, as part of the [Newman government's cuts to the public service](#) since 2012.

## **Some bad news for Australian Organic Farmers!**

The Organic Federation of Australia are deeply concerned for the future of the organics industry after the result this week for **WA organic farmer Steve Marsh, who lost a court battle against neighbour GM canola farmer Michael Baxter for lost income as a result of alleged GM contamination.**

In response, we would like to highlight two critical aspects of the ruling and the implications for the organic industry.

**Contamination is contamination** - Australia now has no legal protections in place for organic farmers whose crops are contaminated with GM seeds. This puts many farmers at risk whose properties border other farms growing GM crops.

This is contrary to laws already in place which protect farmers from contaminating sprays from neighbouring farms. These 'chemical trespassing' or 'spray drift' laws are designed to protect farmers from pesticides, herbicides or fertilisers from adjacent properties. In the same way that sprays are a contaminant, from the perspective of an organic grower, GM seeds are also a contaminant. They compromise the integrity of the farm and disrupt the important ecological balance which forms the foundation of an organic system. The court ruling did not recognize this critical point.

**Exports will suffer** - This ruling will have a flow on effect. If farmers can easily lose their organic status from GM contamination from neighbouring properties, the economic costs for the industry could be catastrophic. For every farmer who loses his organic certification, the lost business will be crippling.

This loss not only hurts the farmer but it also impacts on the overall national economy. Organic farming has consistently proven to as be a valuable economic and environmental resource for Australia, growing at 12 percent per year and now with a value of \$655 million.

Countries around world, including several Asian countries and most of the European Union, Saudi Arabia, Egypt, Brazil, New Zealand and several states and counties around the USA and have a complete ban on the importation of certain GM produce. This means farmers who grow GM are limited to export countries that allow GM produce and organic farmers could lose valuable markets if their land is contaminated. The consistent increase in organic food production has been mostly driven by community demand. Food is perceived to be more nutritious and tastier when grown using ecologically sustainable methods.

Compared to conventional farming, organic produce is a higher value commodity and the supply chains for organic produce are not as widely dominated by a select group of multinational corporations. This means farmers get a higher return and are in greater control of their distribution channels. As a country, why would we not want to protect such a valuable resource?

Conventional farming is also deceptively expensive: most of the farming systems are based on high inputs of expensive fuel, fertilizer, chemicals, and machinery. Economies of scale make these



production methods efficient but not necessarily more so than organics if this method were given the same subsidies and support as conventional monoculture farming.

**Steve Marsh not only lost his organic status and his business, but his case now leaves other organic farmers completely vulnerable.**

**Where to now?** Look to the United States where over 70 percent of food consumed is sourced from GM crops. Monsanto, the very company who provided the seeds grown by the defendant, has a litigious longhistory of suing farmers who are found to have Monsanto crops growing on their land, even if these crops are contamination from neighbouring properties.

In fact, it was [reported recently](#) that a third of U.S. organic farmers have experienced problems in their fields as a result of nearby use of genetically modified crops. Over half of those growers have had loads of grain rejected because of unwitting GMO contamination.

This worrying trend should be a wake-up call to Australian regulators should they continue to avoid protecting farmers from GM contamination. Farmers deserve protection and if they are not legally protected, it compromises a valuable industry, and the livelihoods that go with it.

## **SOME GOOD NEWS**

### **Short extracts from the Transition Network in UK**

**Is Transition good for a community's health?** [Janet Richardson](#) is Professor of Health Services Research at Plymouth University in the School of Health and Human Sciences and is the first person to do a Health Impact Assessment of a Transition initiative. In 2011 [she did a "rapid" Assessment for Transition Town Totnes](#). What did it discover, and what can we learn from that?

**What we found was that on a range of health and wellbeing measures the initiative itself had enormous capacity to increase the health and wellbeing of the people who were participating in that particular project, the Transition Streets initiative. Primarily that health and wellbeing benefit was through community engagement and engaging with immediate neighbours.**

The health and wellbeing benefits of increasing socialisation and increased capacity to engage with the local neighbours who the people involved in the project might not ordinarily have engaged with, because there was a focus to that engagement. **Other benefits were around exercise, so increasingly the people involved with the project were spending more time outdoors, working in their gardens, sharing food, cycling, those kinds of benefits.**

The potential health and wellbeing benefits were associated with the people who were engaged in the project. One of the issues that we raised was the need then to look at people who are *not* engaged in the project like that in the town, and how those benefits through engagement can filter out across the town to other people who are perhaps harder to reach groups. That's one thing that's quite a challenge to do anyway, in any kind of project – a Transition Town project but also a health promotion project or community engagement project. It's really how you have a mechanism for engaging those hard to reach groups who potentially could have much more benefit than the ones who are likely to engage.

The challenge is behaviour change. With behaviour change it's harder to change behaviour for the benefit of some things that are going to happen in X number of years. Climate change is a bit like smoking. Obviously the long-term benefits of giving up smoking are phenomenal. The short-term benefits are good as well. But it's about educating and supporting people to change their behaviour in a way that is going to be good ultimately for the planet and for our children but also will have immediate impacts on health and I

think those are the kinds of messages around Transition and working alongside public health that can be quite positive.

There is huge potential and particularly with the ageing population and the need to look at loneliness and how we support people with long term conditions. **Building social capital and community resilience can really be mobilised to support some key public health issues.** If you want to hear the full interview with Janet Richardson go to the web site:-  
[www.transitionnetwork.org](http://www.transitionnetwork.org)

## **Ongoing Date Claimers**

### **Cairns Seed Savers Meeting**

**When:-** Sunday 29<sup>th</sup> June 10am to 2pm  
**Where:** Bec's Place in 9 Hood St., Trinity Park  
**Contact:-** Bec 0458550669

#### **WHAT TO BRING:**

- ☐ Organically grown, non-hybrid seeds from your garden if you have any spare
- ☐ A plate of food to share for lunch
- ☐ Your own chair, plate and cutlery
- ☐ Seedlings, cuttings, plants and produce for the Share Table if you have any spare

**AGENDA:** 10-10:15AM Meet'n'greet, and general housekeeping

10:15 – 10:30 Concept of Seed Savers

10:30 – 11:30 Seed sorting

11:30 – 12:30 Tour (in small groups) of Mike Prociw's "The Dragons Fruit Nursery" - highly productive garden of dragon fruits and rare tropical fruit plants

12:30 – 1PM Enjoy a shared lunch

1 -2 Tour (in small groups) of "The Dragons Fruit Nursery"

### **Tablelands LETS JUNE Calendar**

**TABLELAND LETS - Relocalising all of Far North Queensland**

Sunday 15th 11am-3pm Cassowary Coast Trade & Social Gathering - Johnstone River Community Gardens, Flying Fish Point Rd, Innisfail contact Suari. Bring a plate to share, something to cook on the BBQ if you wish, your own plate and eating utensils. Lunch will be at 12 noon. Trade starts at 1pm. Tea/Coffee by gold coin donation. A child-friendly venue. Car pooling/collection serviced encouraged from the Tablelands and Cairns! Weather permitting ring Suari for confirmation! Event host: Suari on 0403115261.

Sunday 15th Wondecla Trade from 12pm, at the sports ground opposite the servo directly after the Wondecla Market. Starr will have a market stall selling fresh herbs. Join her for LETS trading from noon. Bring a chair, a rug or small table to display your wares and lunch to share. Event host: Starr for further info 0467090207 or [starrmaree@gmail.com](mailto:starrmaree@gmail.com)

Tuesday 17th 6.30pm LETS Trading is encouraged at Permaculture Cairns meetings at the Flexible Learning Centre, 90 Clarke Street, Manunda. Cost for non-members to attend is \$5 for info session, supper and film etc. This is a Permaculture Cairns Event.

Tuesday 17th 9am - 1pm Happy Gardening Working Bee at Katrin's place, 33 Park Avenue, Malanda, opposite the caravan park. Gardening consisting of weeding, cutting the lawn edges, veggie patch clean up, pruning, piling up a compost heap. Bring your spades, rakes gardening gloves, wheel barrow, secateurs and any other weeding equipment. Enjoy shared morning tea and 15 Bartle payment/hour. Event host: Katrin on 40966755

Saturday 21st Ravenshoe Trade afternoon 12 till 2pm - following Community Gardens gathering - come and check it out. Youth Shed, Ravenshoe Community Centre, 3 Bolton Street, Ravenshoe. Bring something to trade, a table or blanket to display your wares and lunch to share. Event host: Kathy on 4097834.

Saturday 28th 12-2pm Yungaburra Trade at that retro cafe, Shop 2/20 Eacham Rd (in between Miss Megs and My Habitat). Drinks available for 100% Bartles. Bring a table or blanket to display your wares. Children most welcome. This event is directly after the Yungaburra Markets. Event host: Melitta on 0437216122.

Saturday 28th 11am - 2pm Digger Street Cairns LETS Trade day!!! Entrance at 346 Sheridan Street, Cairns. Come to trade, share food & relax in the beautiful tropical gardens. Massage and Healing Bodywork for Bartles available. Tablelands traders welcome! Event host: Louise on 40283177 or 0466090023

**What to bring to Trade Events where not specified above:** food & drinks for yourself or to share, or money and/or Bartles at some venues, friends, Trading Record Sheet and pen, any goods you wish to trade, table/rug to display them upon is often useful, your own chair at some venues, promotional material of any services you are offering if applicable, \$20 if you don't yet have a LETS account.

[tablelandlets@gmail.com](mailto:tablelandlets@gmail.com) - 4096 6972 - [lets.clearwater.com.au](http://lets.clearwater.com.au) - [www.communityexchange.net.au](http://www.communityexchange.net.au)

## **UP Coming Events Calendar – June and July**

**15<sup>th</sup> June Sunday 10.30-4pm – FNQ Biodynamic workshop on Soils**

**17<sup>th</sup> June Tuesday 6.30pm–9.30 -- Permaculture Cairns Public meeting and information night**

**21<sup>st</sup> June Saturday 9am–12.30 -- Permaculture Cairns Grow nutrient rich food workshop**

**22<sup>nd</sup> June Sunday - Cairns Regional Council – Sustainability Living Expo.**

**29<sup>th</sup> June Sunday 10am-2pm – Bec's Place Trinity Park**

**28<sup>th</sup> June Saturday – Urban Farming workshop**

**15<sup>th</sup> July Tuesday 6.30-9.30 – Permaculture Cairns Public meeting and information night**

**19<sup>th</sup> July Saturday 9am-12.30 – Permaculture Cairns Creating a herb spiral workshops at BCGdn**

**26<sup>th</sup> July Saturday 9am -12.30 – Craft and Permaculture fun halfday at - FLC**

## PERMIE RESOURCES. & SERVICES

### RESOURCES

**“Notes from the Workshops”** All notes from the Permaculture Cairns Resilient Communities Workshops are now available for purchase at meetings and at Enviromart Australia on corner of Scott and Aumuller Street,

**TOPICS COVERED**: How to Grow your own Fabulous Organic Food, All about Earthworms, Growing Microgreens, All about Wicking beds, All about Aquaponics, Composting, Creating a raised garden bed, Tropical plants that grow all year round and recipes for cooking these, Drying and preserving excess fruit and vegetables, Balcony and patio gardening, How to use The Bokashi Bucket, Waste not want not – recycling organic waste, Poultry in the city, Vegetables for the small tropical farm or garden, and a Sprouting guide.

**This is a MUST HAVE it is - FULL OF LOCAL KNOWLEDGE about living in a environmentally friendly way and growing food sustainably in the tropics.**

The booklet would make a great gift for anyone wanting to grow their own food in the tropics.

**Edible Tropical Vegetable Plants:** Tropical Vegetable Plants available from Enviromart Australia on corner of Scott and Aumuller Street or phone Carol 0414900717

### SERVICES

#### Do you need help to plan or build your garden???

Bruce Zell, Director of The Back Yard Revolution is a Permaculture Diploma Graduate, Licensed Structural Landscaper and has extensive experience in landscaping, food garden design and implementation, Project Management and more. Contact Bruce for more details-  
email: [brucezell@gmail.com](mailto:brucezell@gmail.com), [www.backyardrevolution.com.au](http://www.backyardrevolution.com.au) or  
Mob. 0404 9944 528

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#### Don't have much space for growing? Then contact Tegan for advice on wallgardens, or wicking pots for growing plants.



Garden of Tegan – Readymade moveable gardens, suitable for patio or balcony. A wicking bed of herbs and vegetables that will be enjoyed all year.

**Contact Tegan 0402 853 903**

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Interesting web sites – google these

Fermenting – Cultures for Health a USA web site with lots of info.

Gardening - ABC Organic Gardener for Sowing Calendar, tips on growing food

**The Banana Circle at Bungalow Community Garden almost completed with Bruce, Ricky and Craig . Many thank to all who helped make this happen. Thanks Jude Perry for organising the toilet again. And a big thank you to Kennards and NQ Resource Recovery for the supply of the toilet for the workshops at the Gardens. This is very much appreciated, in all a great community building experience.**



**REMINDER!!!!!!**

**MEMBERSHIP FEES ARE DUE AND PAYABLE ON THE 1<sup>ST</sup> JANUARY EACH YEAR.**

**SIGN UP OR RENEW YOUR MEMBERSHIP ONLINE AT OUR WEB SITE**

**[www.permaculturecairns.org.au](http://www.permaculturecairns.org.au)**

**PAY ONLINE :- Cairns Penny Bank account -BSB 70-966 A/c 100009440 please use your Surname as reference.**

**CONTACT EMAIL - [info@permaculturecairns.org.au](mailto:info@permaculturecairns.org.au)**





## Permaculture Cairns

### Membership Form 2014

One year's membership fee - 1 Jan - 31 Dec:

☐ Household membership \$30    ☐ Renewing Member    ☐

Individual membership \$20    ☐ New Member    ☐

Name(s) of all applicant(s) & DOB if under 18yrs:

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.....  
.....

Postal Address: .....

..... Postcode: .....

Phone(s): .....

Email: .....

Signature: .....

Payment may be made at Meetings, at Bank or Online Direct Deposit - Permaculture Cairns Account at Cairns Penny Bank in Grafton Street. BSB 704-966 Account No. 100009440 please include your Surname as reference.

Do you have skills that you would be willing to share that would be of help to Permaculture Cairns? If so please give details below-

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**Permaculture Cairns Public Meetings - All Welcome** Third Tuesday of month Feb to Nov (Second Tuesday Dec). Doors open 6.30pm, meeting starts at 7pm at: Flexible Learning Centre, 90-92 Clarke St. (off Hoare St), Manunda

### Enquiries

President: Carol Laing    [workshops@permaculturecairns.org.au](mailto:workshops@permaculturecairns.org.au)

Secretary: Tegan McBride:    [info@permaculturecairns.org.au](mailto:info@permaculturecairns.org.au)

Treasurer: Jenny McGrath    [treasurer@permaculturecairns.org.au](mailto:treasurer@permaculturecairns.org.au)

Website:    [www.permaculturecairns.org.au](http://www.permaculturecairns.org.au)