

# THE GREEN LOVER

INSPIRING SUSTAINABLE LIVING



ECO-FRIENDLY  
PAPER



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for waste**

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# PUTTING ITS MONEY WHERE ITS WASTE IS

So what do big corporates, multinationals and global industries do to clean up the planet? Are terms such as "sustainability" and "minimising environmental footprint" lip-service or do some companies put their money where their waste is?

Eddie van Os is Unilever's global packaging director for Strategic Materials. He's based in Durban, and heads a team of subject-matter experts scattered around the world, from China to Chicago. The role of Van Os and his team is to develop long-term, innovative solutions to reduce packaging. They work with specialist suppliers to draw on the latest technologies, which are then applied across Unilever's product categories.

"We at Unilever have a clear vision," says Van Os, "to double the size of the business while halving our environmental footprint and increasing our positive social impact. The Unilever Sustainable Living Plan lies at the heart of this vision and is central to what we do."

The USLP sets quantified, time-bound targets for each focus area: greenhouse gases, water, waste and sustainable sourcing. Regarding waste, all packaging associated with Unilever's products has to be designed for sustainability – in other words, reduce, reuse and recycle.

Van Os lists practical examples. "We measure waste by weight, so the lighter, the less waste to landfill. Look at the detergent pouches which replaced our coated cartons. We redesigned the pack and reduced the weight, thereby removing 4.457 tons of material from the waste stream annually."

Another method of reducing weight is giving the consumer the same amount of product, but in a concentrated pack. Comfort fabric softener is a good example. "A smaller, concentrated pack obviously weighs less."

Reusing potential waste makes a big difference, which is why consumers will see more and more Unilever brands available in refills. "Organics shampoo is a good example," says Van Os. "The refill pack is lighter and

creates less waste, as does reusing your old shampoo bottle. It's a double win."

However, Van Os acknowledges that empty pouches are generally considered not worth recycling, because they are small and lightweight, therefore lacking in value. "Our ambition is to develop a viable business model for this waste, which continues to provide the benefits of refills while tackling the environmental issues associated with their use."

Van Os is determined to improve the recycling rate of packaging and hopes the action of his team acts as a catalyst to increase recycling rates in South Africa. A good example is the Sunlight dishwasher bottle, which is one of the products where virgin PET plastic has been replaced with 50% recycled PET. Hopefully this will drive the demand for PET plastic, which will increase the collection of this material from households and landfills.

All Unilever packs carry material ID logos that help consumers to identify the packaging material. This means that not only can you choose to spend your money on recyclable material, but it also helps you to separate your waste at home. "Plastics look very alike," adds Van Os, "so the logos help consumers, collectors and recycling companies to separate their waste."

The work that Unilever is doing has a knock-on effect. Van Os says: "We work with industry bodies to improve collection of post-consumer waste. We have made a lot of noise; all our suppliers are aware of our waste ambitions and are happy to fall in line. Nampak Flexibles, for example, supplies an NGO with trim and production waste, which in turn donates it to the Hillcrest Aids Centre for crocheting and manufacturing into bags. This means, together we are cutting down on waste and creating employment. It may be small, but it makes a difference. Everything makes a difference."

Van Os is proud of the work he and his team are doing. "We hope other companies will follow; we want to see more waste collected and recycled, and less waste to landfills. Zero waste to landfill is my ultimate ambition."

## How Eddie minimises his waste

"I separate my home waste. All the paper and packaging goes into the municipality's orange bags, and we take our glass to the closest drop-off centre. MyWaste ([www.mywaste.co.za](http://www.mywaste.co.za)) is an excellent site which will tell you the drop-off points for all your different waste mediums. When I shop, I look at the ID logo on the product to see what material has been used. Some have a higher PET recycling rate, which is better (at Unilever we design with the recycling rate in mind). I look at the certification on the pack to see if it has been sourced correctly and I avoid over-packed items. For example, there is no need to have teabags in pouches, in cartons, and then wrapped. It should either be only in foil or placed directly in the carton. I also buy concentrates where possible, and I've started actively using refills and decanting into the original bottle, which can last for ages. I keep any plastic bags we may get for when we take the dogs for a walk ...I don't need to go any further!"



## Reduce

Packaging optimisation, concentrates, elimination and light weighting

	Brut roll-on bottles moved from glass to plastic in July 2011	195 tons
	Rama Spread for Bread Margarine moved from rectangular to round tubs in Sept 2011	44 tons
	Launched Comfort Concentrated Fab Con in August 2011	12.7 tons
	Laundry bag corrugates	216 tons

## Pick n Pay

Unilever and Pick n Pay have partnered to reduce their joint packaging footprint by 30% by 2015. The project started in 2010. At this point a baseline was taken – all the packaging brought in by Unilever was weighed ("The shrinkwrap, the corrugated boxes, the point-of-sale display bins," says Van Os) and then recycled. As time goes on, more and more packaging is taken out of the waste stream. "By 2015 we need to take out about 4 000 tons of packaging waste," Van Os adds. Currently, at Pick n Pays throughout the country, not a gram of Unilever's transport packaging goes to landfills. "It is all 100% recycled."

## WASTE WATCH!

- **DO** separate your recyclables. Have separate bags for metals, paper, glass and plastics.
- **DO** log onto MyWaste's Web site ([www.mywaste.co.za](http://www.mywaste.co.za)) to find your closest recycling point.
- **DON'T** replace if you have not tried to repair – especially anything constituting electronic waste.
- **DO** reuse plastic bags, containers and boxes.
- **DON'T** buy disposable water bottles – buy a reusable bottle and drink tap water where possible.
- **DO** reuse grey water from your bath, shower and sinks to water the garden. You'll save water and cut your bills.
- **DO** buy recycled where and when possible.
- **DON'T** put fruit juice and milk containers in with your paper waste. They are lined with aluminium foil and plastic, so they must be recycled separately.
- **DON'T** throw batteries away with your household rubbish. They contain toxic chemicals and are bad for the soil.
- **DO** buy rechargeable batteries. They last longer and can be recycled.
- **DON'T** throw away lightbulbs with your household rubbish, as they contain mercury.
- **DO** take advantage of recycling collection services. These organisations will pick up rubbish from your home or office at a nominal cost.

Sources: [treevolution.co.za](http://treevolution.co.za); [mywaste.co.za](http://mywaste.co.za)



## ORANGE BAGS

EThekweni Municipality's Cleansing and Solid Waste Unit, Durban Solid Waste (DSW), launched an Orange Bag Domestic Recycling Project in 2007, servicing some 800 000 households. DSW supplies each household with a pack of 15 orange bags, strictly for recyclables, to last a period of 13 weeks.

Separating recyclables at household level is a requirement in terms of the Waste Act. However, the results of two CSIR surveys show that South Africa's municipal authorities face a daunting task in creating public awareness. Only 3.3% of the country's urban population regularly recycled household waste in 2010. Of the estimated 19 million tons of municipal waste generated in South Africa in 2011, about 25% comprised mainline recyclables such as glass, paper, tins and plastics.

The studies showed that a two-bag system, simply separating dry waste from wet waste (such as food scraps), combined with a regular curbside collection service, would be an opportunity to mobilise South Africans to start recycling.

Since the launch of the project, volumes of products being recycled have steadily increased. DSW is currently collecting approximately 1 200 tons of recyclables per month (17 trees are saved for every ton of recycled fibre) and 70 new jobs have been created. The Orange Bag Domestic Recycling Project won the Impumelelo Award, South African Best Practices: Promoting Sustainable Development in 2010 and beyond, and is a model for other municipalities.

For enquiries contact the DSW Helpline on 031 311 8804; [DSWCustomer.ServiceLine@durban.gov.za](mailto:DSWCustomer.ServiceLine@durban.gov.za); [DSW Waste Minimisation 031 303 1665; kdbarec@durban.gov.za](mailto:DSW Waste Minimisation 031 303 1665; kdbarec@durban.gov.za)

## RECYCLING NUMBERS

Find out more:

- **Cans:** Collect a Can 011 466 2939
- **Glass:** 011 803 0767
- **Paper:** 0800 018 818
- **Plastics:** 011 314 4021
- **Durban Solid Waste:** 031 311 8804
- **Unicity Waste:** 021 487 2472

## UNIVERSAL IDENTIFICATION OF PLASTIC

There are many different types of plastic available today and they are all made from building blocks called hydrocarbons. Hydrocarbons come from oil and natural gas, and this is a non-renewable resource.

1. **PET:** Polyethylene terephthalate – fizzy drink bottles and oven-ready meal trays.
2. **HDPE:** High-density polyethylene – bottles for milk and washing-up liquids.
3. **PVC:** Polyvinyl chloride – food trays, cling film, bottles for squash, mineral water and shampoo.
4. **LDPE:** Low-density polyethylene – carrier bags and bin liners.
5. **PP:** Polypropylene – margarine tubs, microwavable meal trays.
6. **PS:** Polystyrene – yoghurt pots, foam meat or fish trays, hamburger boxes and egg cartons, vending cups, plastic cutlery, protective packaging for electronic goods and toys.
7. **Other** – any other plastics that do not fall into any of the above categories. An example is melamine, which is often used in plastic plates and cups.

# WINNING WITH WASTE

THE OPPORTUNITY IS THERE TO CREATE A WHOLE NEW ECONOMY

"People don't understand waste," says Chris Whyte, managing director of USE-IT, an organisation dedicated to diverting waste from landfills and, in the process, creating jobs.

"When people talk about climate change and issues of sustainability, they allocate a tiny sliver of the problem – 2% – to landfill," he explains. "That's because the measurements apply only to landfill gas emissions. But put landfill into perspective: we landfill 6 000 tons a day. That is 600 10-ton trucks, and that's just Durban."

The message is clear: we are running out of dumping space. There are over 2 000 landfill dumps and drop-offs, and South Africans take 60 million tons of waste annually and put it into holes. "We should be recycling all of that," says Whyte.

USE-IT was established by Durban's eThekweni Municipality in 2009. Whyte, a geologist by trade, fell into recycling by accident when working as chairman of City Affairs in Pietermaritzburg. "Wood waste had become a massive issue. Due to a lack of knowledge, the kneejerk reaction of the municipality was to implement massive hikes in landfill rates for wood. The consequence was the downfall of the furniture-making industry in the area. I started looking at what could be done with waste, and the more I looked, the more excited I got."

In the last four years, USE-IT has been surprisingly successful. Almost 2 000 jobs have been created, and national government is now providing financial support. A successful Compressed Earth Blocks project is running, as are plastics recycling projects; other projects upcycle plastics and tyre tubes into bags, folders and the like, and a viable electronic waste project is under way.

"There is massive opportunity in the waste stream," says Whyte. It's hard to argue with him. Durban spends around R600 million or R700 million a year in landfill management; just by tapping into 70% of that, the city will save R400 million to R500 million a year, and create anything between 14 000 and 16 000 jobs.

"We can create a whole new economy because of the multiplier effect. In other words, diverting from landfill saves money. Every cubic metre of air space costs R200, and that's not calculating collecting and transporting the waste. Then there is the creation of informal jobs (collection, for example), formal jobs, indirect jobs such as bookkeeping or marketing, and inferred jobs, where these now economically active people pour their money into an economy that grows as a result."

Innovative projects include USE-IT's Compressed Earth Blocks, made of soil and builder's rubble, which have been awarded full Agrément Certification and SABS approval. They are three to five times stronger than concrete blocks, 10 times more thermally



efficient, have 5% of the environmental footprint of concrete, and are easier to build with. It's no exaggeration when Whyte refers to them as a solution to the housing crisis in Africa. "Our mobile machines can pump out 7 000 bricks a day, enough for three 50m<sup>2</sup> houses."

Another high-flying project, drawing international interest, is Cyclocor roof tiles. Made of recycled printer cartridges and electronic waste plastics, they are half the weight of concrete (which means transport costs are lower), stronger than concrete (drive a tractor across them and they won't break), and less infrastructure is needed to hold them. It's a new project and, thus far, every tile made already has a home. "They can't keep up with demand," says Whyte, "but we don't have enough materials, because the recycling side is not getting there fast enough."

Around 30% to 40% of our global footprint is from the built environment. Over a billion people need to be housed in Africa and Asia, and it can all be done using easily available sub-soils and waste. USE-IT supports the private sector in supplying recycled roof tiles and making, from extruded plastic components, batons, door frames, barge boards, cornices. In fact, USE-IT has created completely recycled houses that are stronger, cheaper and better than when using conventional building materials.

"It's been a long, hard slog," says Whyte. "I'd been tossing my ideas around for years when I decided that, instead of trying to throw the entire solution at people, I'd throw them little chunks instead, and show them what we can do, one bite at a time. And when the Minister of Environmental Affairs says, 'Guys, there is an election coming up; what are we doing to create a green economy?' I know we are starting to see the light."

## How can you reduce your waste? This is what Chris Whyte does.

"We are a family of four and we used to throw away at least two black bags a week. I now throw away one shopping bag of waste per week. I have introduced a source separation system. My green waste goes into composting bins (I have eight!), food waste such as chicken bones into fermenting (Bokashi) bins, and of course I separate our metals, glass, paper and plastics. We wash our dirty plastics in used dishwater, so we don't use extra water. I converted my geysers into heat pumps; I practise rainwater harvesting from my roof, and I use that to water the garden. All easy things that every family can and should do."

## Durban landfills 6 000 tons per day:

- 10%-12% builder's rubble
- 12%-15% soil waste and cover material
- 12% clean green waste
- 7% plastic
- 5% glass
- 5% paper and cardboard
- 1% e-waste
- 1% tyres

All can easily be recycled.  
We can create one job for every 77 tons processed per year.

**FACT:** With 30% crushed builder's rubble in USE-IT blocks, eThekweni landfills enough rubble each year to produce 10 000 eco-friendly, affordable houses per year.

**FACT:** According to a German research project, 50% of the volume of landfill space is taken up by packaging.



# TURNING MUGS INTO BRICKS

## UNILEVER COMES TO THE AID OF THE ENDANGERED WATTLED CRANE

Last year, Knorr developed promotional mugs that were to be given out with packets of soup. Unfortunately, some of the handles developed cracks, and Unilever immediately recalled the mugs so as not to compromise consumer safety.

So what do you do with 100 000 useless mugs? Transform them into bricks, of course, and use them to construct a hatching and rearing facility for the critically endangered wattled crane in the KwaZulu-Natal Midlands.

Unilever worked with USE-IT to develop earth bricks made of soil and the crushed Knorr mugs. USE-IT, a Section 21 company, seeks to unlock opportunities for waste beneficiation technologies that effectively divert waste from landfill to create, among other products, environmentally friendly building materials, from builder's rubble, demolition waste and soil fill. More than 100 000 bricks were manufactured from the Knorr mugs and donated to various charities, including the groundbreaking initiative to construct the wattled crane rearing centre under the auspices of the KwaZulu-Natal Crane Foundation.



Situated in the 450ha Bill Barnes Crane and Oribi Nature Reserve near Nottingham Road, the wattled crane hatching and rearing project will potentially raise the natural stock of these endangered birds to levels where human intervention becomes obsolete. Conservationist Anne Burke says there are an estimated 250 wattled cranes in South Africa, predominantly found in the wetlands between Greytown and Underberg.

Unilever also donated bricks to the Wildlands Conservation Centre (see more on this organisation on page 7), to enable it to build a permanent collection centre at its Midmar recycling depot.

"Before this," says Louise Duys, Wildlands director for partnerships and sustainability, "we had a makeshift setup in warehouses open to the elements. We have closed the warehouses, and created a safer and healthier situation in an environmentally friendly structure." She calls it Wildlands' "dream factory" – it houses administrative offices, a training centre, computer rooms, a kitchen, a canteen and a locker room. "All made," Louise adds, "with green bricks."

This move is in line with Unilever's Sustainable Living Plan of doubling the business while halving the environmental impact. Established in 2010, the Unilever Sustainable Living Plan sets three international goals to 2020: helping more than one billion people to improve their health and wellbeing; halving its environmental footprint; and wholly sourcing its agricultural raw materials sustainably.

# THE SECOND TIME AROUND



Leftovers. They lurk in the fridge in plastic containers or wrapped in foil, only to be thrown out four days later, forgotten, unused and unloved.

"Use your imagination," says Wendy Croeser, Unilever's deploy chef who works in Research and Development, "and find exciting, tasty recipes that turn yesterday's

rejects into tonight's gourmet meal."

Wendy, who has a Food & Wine Culinary Arts Diploma from the Christina Martin Culinary School, says her favourite part of the job is meeting and interacting with the consumers who use Unilever products. "I also enjoy being involved in the development process, and finding different and unique ways to use our vast portfolio of products."

When people find out what she does, they always ask: "Do you cook when you get home?"

Wendy's personal tips on preventing food waste?

"Shop according to a shopping list. So plan your meals for the week ahead and shop according to that list; that way you will purchase only what you need."

## WENDY'S TRENDY DISHES

### BANANA CINNAMON NUT CRUMPETS

Wendy says: "A different and interesting way of using up old bananas, rather than just making boring banana bread or muffins – nice for a Sunday morning breakfast treat!"

**Serves:** 4

**Preparation time:** 35 minutes

**Cooking time:** 3-4 minutes per crumpet

240ml wholewheat flour  
12ml baking powder  
4ml ground cinnamon  
120ml walnuts/pecan nuts, finely chopped  
240ml low-fat milk  
2 very ripe bananas, mashed  
Flora oil, for cooking  
20g Flora margarine  
Bananas for serving

1. Place wholewheat flour, baking powder, cinnamon and walnuts in a bowl and stir until combined.
2. Add the milk and banana, and whisk until the mixture is smooth.
3. Leave the mixture to stand for 30 minutes.
4. Heat Flora oil in a pan; place spoonfuls of crumpet mixture into the pan and fry for 3-4 minutes on each side, until golden-brown and cooked through (bubbles will appear on the surface of the crumpets when they are ready to be turned).
5. Top warm crumpets with Flora margarine and serve with sliced banana.



### BOEREWORS AND ONION QUICHE

**Serves:** 4 – 6

**Preparation time:** 20 minutes

**Cooking time:** 1.15 hours

15ml margarine  
500g boerewors  
300ml cheddar cheese, grated  
200ml cake flour  
1 onion, chopped  
1 sachet Knorr Creamy Cheese Vegetable Bake  
1 clove garlic, crushed  
1 handful of rocket  
125g Stork Bake Margarine, softened  
3 eggs  
1 cup milk  
1 cup cream

Wendy says: "We always cook far too much when we have a Sunday night, and inevitably the fridge is full of cold boerewors. Don't toss it – use it in this delicious quiche made with onion, cheese and South Africa's favourite sausage."

1. Pastry: In a bowl, mix together 1 cup of cheese, flour, Knorr Creamy Cheese Vegetable Bake sachet contents and margarine, until a soft dough forms.
2. Press into a large, greased pie dish or 2 small dishes.
3. Cook boerewors on the braai or under the grill, then slice.
4. In a pan, fry onion and garlic in a little margarine, and allow the onion to caramelise slightly.
5. Arrange onion, boerewors and rocket on the base of the pie dish.
6. In a jug, mix together the eggs, milk and cream. Pour over filling.
7. Top with reserved cheese.
8. Bake in a preheated 180°C oven for about 1 hour 15 minutes, or until quiche is firm in the centre.





## COTTAGE PIE CUPCAKES

Wendy says: "What to do with leftover mince? Everyone loves cottage pie, but try this new twist on an old favourite: individual pastry cups. Scale the recipe according to what you have left over; these also make delicious lunchbox treats."

**Serves:** 6

**Preparation time:** 20 minutes

**Cooking time:** 30 minutes

2 Tbsp oil  
1 small onion, chopped  
1 large carrot, grated  
500g beef mince  
1 Knorr Savoury Mince Dry Cook-in-Sauce  
400ml water  
1 pinch Robertsons salt and pepper  
½ cup frozen peas  
½ cup frozen corn  
1 roll ready-made puff pastry  
3 cups mashed potato  
100ml grated cheddar cheese  
2 Tbsp melted Stork margarine

1. In a pan, heat oil and fry onions.
2. Add carrots.
3. When carrots are par-cooked, add mince and cook until brown.
4. Add Knorr Fresh Ideas Savoury Mince sachet contents and 400ml water.
5. Simmer for 20 minutes.
6. Stir in peas and corn, and season to taste.
7. Simmer until thick and cool slightly.
8. Cut pastry into 6 equal squares large enough to fit a 6-hole muffin pan.
9. Spoon mixture into pastry cups.
10. Top with mashed potato and cheese.
11. Brush with margarine and bake in a preheated 200°C oven for 30 minutes.

## Food for thought

CSIR research has shown that, in South Africa, over 9 million tons of food (177kg/capita), or about 30% of local agricultural production, go to waste every year. That's food waste at the household level equivalent of 7kg per person every year! This cost to our society is R61.5 billion per annum, equivalent to 2.1% of South Africa's GDP. At the same time, 70% of poor urban households in South Africa live in conditions of food insecurity.

Research also suggests that 30% to 50% (or 1.2 to 2 billion tons) of all food produced globally is wasted before reaching consumers. To compound the problem, organic waste dumped into landfills produces methane gas, which contributes to climate change. According to the Food and Agriculture Organisation (FAO), South Africa produces enough food to feed all of its people, yet, according to FoodBank South Africa, 11 million South Africans don't know where their next meal is coming from. The problem, says FoodBank, is one of access, not supply. FoodBank South Africa is an organisation with a nationwide network of food banks in urban and rural areas. The food banks work together with donors – producers, manufacturers, retailers, government agencies, individuals and other organisations – to rescue food, which is then safely stored in FoodBank warehouses, dispatched to surrounding depots and collected by FoodBank agencies. In its first year of operation, FoodBank distributed more than 6 000 tons of food.

Sources: CSIR Briefing Note 2013/01  
Foodbank SA

- **SHOP IN YOUR FRIDGE** – eat what you already have before buying more.
- **BE CREATIVE** – turn stale bread into croutons, celery leaves into soup, potato peelings into chips.
- **FREEZE OR PRESERVE** whatever you have in abundance, including herbs. Herbs can be added to butter, turned into rubs or pestos, dried or infused in oil.
- **KEEP A TIDY FRIDGE**, with those half-eaten bits and pieces and leftover meals right in front, to remind you to use them up first.
- **MAKE ONE MEAL A WEEK USING UP THINGS** that are about to go limp, bad or sad. Soups for wilted carrots, smoothies from overripe fruit, and cut the mould off the cheese – it's perfectly fine underneath.
- **LOTS OF FOOD CAN BE FROZEN** – nuts, for example, or tomato paste; flour (it should be frozen in Durban in summer); cheese, as long as you slice it or grate it; vegetables, as long as they are blanched and chilled beforehand.

# GREEN DOESN'T HAVE TO BE EXTREME

## Kerry's advice

- When shopping, look at the packaging before you purchase – is it recyclable or made from recyclable material?
- Separate your waste, and make life easier and healthier for waste-pickers.
- Composting reduces your normal trash and also saves on purchasing compost for your garden.
- Go solar.
- Store rainwater in harvesting tanks.
- Use grey water systems and irrigate the garden with bath, shower and laundry water.
- Poolside tanks allow you to reuse your backwashed water.
- Heat pumps are environmentally friendly, mean less reliance on the grid and can save up to 65% on your heating costs.
- Can and bottle crushers (R120) save bin and landfill space.
- Wonder Bags (R180) are great electricity-savers. These insulated bags cook using heat retention and can save as much as 30% on fuel costs.
- Solar jars from Consol last about six hours and make great nightlights for kids.
- Save electricity and money with low-energy lighting and sensor controls (R350), which can save 35% on lighting costs.
- Install an energy monitoring system (R470) and power-saver plugs (R299), which stop "ghost" electricity.
- Geyser blankets and lagging save 20% to 30% on your hot water heating bill.
- Fix drips immediately. Leaking taps can waste thousands per annum.
- Eco-friendly shower heads (R190 to R800) save on water costs.
- Flow regulators or quantity limiters reduce water flow to approximately 7.3 liters per minute, without compromising much on pressure, and cost only R18 to R40.
- Water purifiers mean no need for bottled water.
- Cistern bags save a litre of water with every flush.
- Rainwater butts (R1 000), available from hardware stores, fit on downpipes from a roof and collect water for watering potplants.

Many of these useful gadgets are available online via [www.greentouch.co.za](http://www.greentouch.co.za).



People have a perception that being green means being radical, says Kerry Davis. "It's a perception that needs to change."

Davis is the founder of Greentouch, a company that assesses people's homes and teaches homeowners basic environmental issues that are simple, effective and inexpensive to implement. Her motto? "Going green without the extreme."

It began four years ago when Kerry wanted to green her own home. She didn't know where to start or how best to go about it. She found that the green "space" was so noisy that she was unsure of what worked and what didn't. So she developed the Greentouch 10-step programme: "to filter the noise".

"It grew," she says with a smile, "organically."

Greentouch consultants visit clients in their homes and discuss the 10-step programme. Thereafter they link the homeowner with a database of service providers who are dedicated to helping people to green their homes.

"I wanted to do things that would make me feel good and make a difference; I wanted to appeal to the everyday homeowner. Many people said: 'My domestic worker will never do that', which is why I started offering training for

domestic workers, which many homeowners also attend."

She explains that the domestic worker often spends more time in the home and is responsible for recycling. "They don't see the benefit, though, so we teach them not just the how, but also the why, so that it has meaning for them and so that they take those values home. We educate domestics about economical washing, worm-farming, what to do with cleaning products – it's great."

Those who attend the training courses get a goodie bag and a laminated sheet with a range of tips that cover how to save water and electricity, how to use Wonder Bags, and so on. They also get samples of green cleaning products, worm tea, seeds (Greentouch also covers the benefits of growing your own veggies) and a cistern bag – the equivalent of putting bricks in your cistern to save water. "These are things that make a big impact in a household."

Davis says she finds that domestic workers then train the homeowners. "And so do kids. Kids put pressure on parents. Kids know more than any of us grownups; they are part of a generation where caring for the environment is an important subject."

The company is not only the homeowner's answer to walking the green path, but is also involved in corporate campaigns. "Corporates are realising that they need to create a green culture," explains Davis, "but they get criticised a lot – for what they are doing and for what they aren't. Corporate presentations, where I can address 150 people, are a very effective way of getting the message out." Everyone wins – the corporate, the staff member and the environment, as staff start implementing their knowledge.

Currently Greentouch is Johannesburg-based, but is looking to offer courses outside the region, based on demand. The company has lately become involved in a Sustainable Tourism Partnership Programme, which will involve providing training for B&Bs and guesthouses. "We will also train trainers in those areas, creating new jobs."

**Cost:** Domestic training R375 per person. Home consultations R450. Corporate presentation R4 800.

**Contact Kerry** at [kerry@greentouch.co.za](mailto:kerry@greentouch.co.za) and visit her website at [www.greentouch.co.za](http://www.greentouch.co.za).



# GREAT WEEKEND GETAWAY: MIDLANDS SADDLE & TROUT

Sustainability in the tourism industry is making great strides, as reflected in the large number of entries to the 2013 Lilizela-Imvelo Awards for Responsible Tourism, the sustainable development category of the Department of Tourism's inaugural Lilizela Awards. The Lilizela-Imvelo Awards drew 406 category entries from 148 establishments.

Midlands Saddle & Trout Share Block in KwaZulu-Natal was a finalist in the category Best Single Resource Management System: Waste – Small.

Tim Spence, regional operations manager for First Resorts Management, which manages Midlands Saddle & Trout, reveals that the initiatives they have taken are anything but small. First Resorts is one of the largest timeshare management companies in South Africa, with 45 resorts nationwide.

"We are proud to have properties that are finalists in other categories for the awards, and we have a conservation drive across all the properties we manage, not just at Midlands Saddle & Trout," Spence says.

Situated near Mooi River, 60km from Pietermaritzburg, Midlands Saddle & Trout has fully equipped luxury chalets in several configurations. With a restaurant offering comfort cuisine, plus a wellness centre, golf course and wide range of facilities, it is extremely popular for families, and a great setting for weddings and functions.

The resort has a pretty comprehensive programme. For GM Gerhard van den Heever and his wife Natasja (a *bona fide* tree-hugger, according to Gerhard), this is their preferred way of life.

"We have a huge worm farm – about 60 000 worms at the last count," he says. "We have Jojo tanks for rainwater harvesting. This is used to water the veggie garden that supplies our restaurant, and the water, mixed with worm tea, provides total irrigation for the resort, including the golf course. Over the last three years we have not once used chemical fertiliser (at about R200 per bag). Worm wee is our fertiliser. The water from the tanks is also used for laundry and for maintenance –



the washing of equipment and so on."

Septi-Clean, a 100% biodegradable, organic bacterial solution, is used in the septic tanks.

Midlands Saddle & Trout has converted its swimming pool from chlorine to salt chlorinators, which not only means a big cost saving, but also a saving for the environment, since chlorine releases harmful gases.

Lights in the resort are all energy-savers, and the external lights are on day/night sensors, not timers. "It's a big property, with 60 households," says Van den Heever, "and by putting in showerheads, we save 2 000 litres per day at full occupancy,

presuming that each shower is being used once a day for five minutes."

The resort also runs what is called a "hotel room shutdown".

"If a chalet is not occupied, during midweek, for example, we shut the power down totally. The resulting saving on electricity costs is between 35% and 45% year on year, even with the 23% price hike. In our plant rooms we converted to energy-efficient eco-pumps, which also made a big difference."

When it comes to recycling, Midlands Saddle & Trout goes further than most. Here the chalets have separate bins for wet and dry waste, so guests are encouraged to do more than the usual reusing of towels and linen. And in case guests have been remiss, all refuse from the chalets is taken to a central point and sorted. Waste from the kitchen and restaurant is sorted too. Meat products are removed and all other wet waste goes to the worm farm.

"We don't get the revenue from our recycled waste," Van den Heever says. "We have outsourced that to the local Mooi River community. They have contracts with Collect-a-Can and others, and take the proceeds." Waste going to landfill is 7% of what it was and comprises only unrecyclable items.

Yet another eco-friendly initiative is its black wattle eradication process, part of the government's Working For Water Programme. Black wattle sucks up huge quantities of water and is one of the most invasive aliens. Guests of the resort are given the cuttings for firewood.

The Van den Heevers are keen teachers. "We often give guests a tour, especially of the worm farm, to show what we are doing. We get kids involved and get them into the veggie garden. They can feed the worms, and we sell the worm wee in our gift shop."

Their passion goes way beyond the resort. "We saw the need to incorporate a holistic approach, so became part of Ezemvelo KZN Wildlife – as honorary officers. This gives us the "colours", the uniform in which we can go out to teach others."



# A SUSTAINABLE FUTURE FOR ALL



## Did you know?

- 1 recycled tin can would save enough energy to power a television for 3 hours.
- 1 recycled glass bottle would save enough energy to power a computer for 25 minutes.
- 1 recycled plastic bottle would save enough energy to power a 60W light bulb for 3 hours.
- 70% less energy is required to recycle paper, compared to making it from raw materials.
- Aluminium cans can be recycled and ready to use again in just 6 weeks.
- Glass is 100% recyclable, and can be used again and again.
- Glass that is thrown away and ends up in landfills will never decompose.
- Plastic can take up to 500 years to decompose.

Source: Wildlands Conservation Trust

## Recycling tips:

To reduce contamination and improve recycling efficiency:

- Rinse cans, glass and plastic.
- Remove labels and lids from glass jars and bottles.
- Remove paper clips, staples and plastic envelope windows from paper.

Source: Wildlands Conservation Trust

The Wildlands Conservation Trust has a simple vision: to create a sustainable future for all. A daunting task, given the state of the planet, but through partnering with communities, and developing unique ways to strengthen our ecosystems, Wildlands is making a difference. Hence its army of "Greenpreneurs", members of the local community who, because of a lack of skills or opportunity, are not part of the formal economy.

"As Greenpreneurs," says communications manager Lauren Laing, "they have the opportunity to become viable small businesses in their own right."

It all began with Treepreneurs, where individuals barter indigenous trees with Wildlands for food, clothes, educational support, building material, Jojo tanks and bicycles. "We have community facilitators who teach the Treepreneurs to nurture and grow plants from seedlings they gather themselves."

Today there are 1 867 active Treepreneurs across 60

communities. The "Trees for Life" project was so successful that the Wildlands team thought of doing the same thing with waste. In 2010, the Wastepreneur project began, with community members collecting waste in and around their homesteads, sorting it into different mediums – glass, cans, plastics, and so on – and again, bartering it for necessities.

A collection truck complete with scale weighs the waste, and the facilitator gives it a value in the form of a redeemable voucher. This waste is then transported to a recycling transfer station near Midmar Dam. The waste is sorted, cleaned and baled by 75 community members employed for the job. It is then sold off to recyclers and the money is ploughed back into the project.

Wildlands collects waste from 1 463 Wastepreneurs, businesses, schools and charitable organisations – over 4 million kilograms in 2012, all recycled.

"Observing the changing faces of communities around

the country has been heartwarming and inspirational," says Laing. "Through interviews we have conducted with Treepreneurs and Wastepreneurs over the years, we have heard countless success stories of poverty-stricken people who are now able to feed their families, send their children to school and university, build their own homes, and buy bicycles with the vouchers they barter with their waste and trees. We have also encountered many parents who have involved their children in the project, and instead of their children getting involved with gang-related or negative activities, they rush home from school to do their 'jobs' – looking after and nurturing their trees, and collecting waste."

# WANT TO MAKE YOUR OWN EARTHWORM FARM?

## Here's how:

### What you'll need

- Two plastic bins with lids (black – remember, earthworms prefer the dark). If one bin has a tap attached to the bottom of the bin, it will assist with tapping the "worm tea".
- Mesh, pebbles, newspaper, cardboard and .... earthworms. Don't think you can get earthworms from your garden and that will do the trick. You need a special species: red wigglers.

**Step 1:** Take the plastic bin (without the tap) and drill a series of holes in the bottom, to allow drainage. (Tip: drill from the inside so the rough pieces are on the outside of your bin; if they are on the inside, it might hamper your juice flow.) Then drill some holes in the walls and lid of the same bin, to allow air to circulate.

**Step 2:** Place a layer of small pebbles at the bottom of the bin, followed by a layer of mesh, to assist with drainage and to prevent the worms from falling out. Next you will need to add a layer of damp, shredded newspaper (long, thin strands) as the bedding for the earthworms; this layer should be about 5cm thick.

**Step 3:** Add the worms; remember to add them with the soil that they came in.

**Step 4:** Cut a piece of cardboard to fit over the bedding; wet it a little with a spray bottle. "Cover" your worms with the cardboard and then put the lid on. Place this bin into your bin with the tap, and place it in a shady spot. You can even leave it in your kitchen, as your earthworm farm should be odourless.

Now all you need to do is add your waste, when available.

The worms will chew their way up through the material, leaving their castings behind. When your bin is full, remove the layer of waste and a few centimetres of castings, as this will contain most of your worms. What's left will be the best garden fertiliser you have ever produced. Add a layer of damp newspaper to the bottom of the tub, place the scraps and worms back into the tub,

and start the process all over again.

The worms won't escape, as they don't like light. If they are escaping, their food may be too acidic; don't feed them teabags, coffee grounds, citrus fruit or onions for a while. They may also try to escape if the farm is too wet or too dry. "Worm tea" (leachate) and castings are safe to use without dilution, but, if you prefer, the recommended mix is one part leachate/castings to four parts soil or water.

Your earthworms will never overpopulate, as they self-regulate reproduction. The more food there is, the more they will reproduce and vice versa. Don't overfeed the worms in the early stages while they are establishing the population.

### What to feed your worms

Organic waste: fruit, vegetables, teabags, coffee grounds and filters,

bread, cereal, paper. They are not too fond of citrus fruit, as it is too acidic.

**DO NOT** feed your earthworms dairy products, fats, meat and oils.

This is not a project that will yield results immediately. You need patience, and can expect to harvest your first castings between one and three months. At first you do not have to feed them that much, but as your worms mature, you will need to feed them daily.

Earthworms are great pets; if you go away on holiday, all you need to do is place a big butternut in the middle of your wormery.

### Earthworm farm suppliers

**Mother Earthworm:** Stacey – info@motherearthworms.co.za; www.motherearthworms.co.za; 073 2669 202

**Earthworm Buddies:** info@earthwormbuddies.co.za; www.earthwormbuddies.co.za

**Wizzardworms:** Darryl Evans – don@wizzardworms.co.za; www.wizzardworms.co.za; 033 413 1837; 072 102 1636

**Full Cycle:** mail@fullcycle.co.za; www.fullcycle.co.za; 021 789 2922

**Hex Worm Farms:** Colin – 082 8114004; hex@dbnmail.co.za; www.hexwormfarms.co.za

### Where to buy earthworms in South Africa

#### Earth Worm Paradise:

Frikkie van der Westhuizen – earthwormparadise@ananzi.co.za

#### Mother Earthworms Worm Farm:

Stacey Rosochacki, Knysna – info@motherearthworms.co.za; staceyk@mweb.co.za; 073 266 9202; 044 388 4835

**Vlooi.co.za:** Mignon Smit, Linden, Johannesburg – mignon@vlooi.co.za; 083 254 7335; www.vlooi.co.za

#### WormFarm.co.za:

Paul Maher/ Alan Donaldson, Sunninghill, Johannesburg – paulm@worm-farm.co.za; 082 906 4909; 082 851 9585; aland@worm-farm.co.za; www.worm-farm.co.za

#### Hex Worm Farms:

Colin Hex, Durban – hex@dbnmail.co.za; 082 811 4003; 031 762 1048

#### Earthworm Buddies:

Rosemary – 082 859 4155; Warren – 083 947 2866; Helen – 083 712 5525; windywillows@myconnection.co.za

#### The Earthmill System:

carmen@livingearth.co.za

#### Earthworm Interest Group of South Africa:

Ken Reid – kareid@iafrica.com; 011 792 3478

#### Sources:

<http://www.homemakersonline.co.za>  
<http://www.popularmechanics.co.za>

# OBJECTS OF BEAUTY

Robin Opperman of Durban-based Umcebo Design is a very excited man. He has just received word that the organisation's chandeliers, made from recycled material, will be displayed in public spaces in Cape Town during the 2014 World Design Capital festival.

Umcebo (isiZulu for "treasure") makes a range of highly collectable art and décor pieces using local craft, design and manufacturing skills. The organisation has created a number of public art pieces, including two ¾-lifesize mixed construction rhinos – Yenza and iNkanyezi – who live happily (and safely) in the Durban Art Gallery. However, Umcebo is renowned for its supersized chandeliers made from recycled materials.

Opperman believes recyclable materials need to be seen as another medium, not a poor option. "People think making art and items from recycled materials is a lazy option, but it is actually harder. Very often clients buy recycled goods from non-profit organisations, not because they love what they see, but from pity. We need to change the perception – the manufacturers need to do some navel-gazing."

He feels it is important to put pressure on the creative community. "Bags made by Hillcrest Aids Centre are a good example. They are eye-catching and well made, and only after closer inspection does it become apparent that they are recycled fabric softener bottles."

Opperman began his line of work when he taught art at a special-needs school. There was no budget, so he was forced to recycle materials. It's been a hard journey, he says.

"Europeans get recycling. They will lift a Persian for a



recycled plastic rug. Not here. The issue here is to make high-end products, to get people excited about them and to encourage people to do it themselves."

However, it's a rewarding way to work and can be self-sustaining. And, Opperman says, he sees a lot of untapped

## How Robin recycles

"I keep laundry baskets, and wash and chuck all of my plastics into these, and I get friends and family to donate more. I have them come over with scissors to see what they can come up with. I constantly wander around with kitchen scissors to see what I can turn into a flower. If you can't use it, move on. I live in an apartment and I'm really at the beginning of the journey. Initially I thought, I don't have a 4x4 or kids, so I am not making a huge impact on the world, but I now see that recycling is a long, personal journey. I haven't even got to composting yet. Working in a studio environment, there is the mindset that you have to buy everything. I only realise how much money gets spent when I find a recyclable equivalent."

potential among crafters. "The problem for those in rural areas is that materials are expensive, yet recyclable materials, usually litter, are readily available. But not any old rubbish will do. It needs to be carefully selected."

Recycling has impacted on Opperman's ideas about sustainability. "What I do has taught me how much waste I generate. For example, what to do with all the offcuts? I was approached by a recycling organisation and hope to partner with the engineering faculty at UKZN to develop low-tech machinery that heats and processes plastic, and work towards eliminating waste altogether."

Umcebo Design is currently hard at work on a dramatic, giant vine public art piece. It is the central symbol for the Diakonia Council of Churches' Vines Social Justice Festival. The vine, adorned with solar-powered LED fairy lights, is being made from ice-cream containers and other discarded recycled materials, to beautify Durban's inner city.

You can find Umcebo at 171 Bulwer Rd, Durban. [www.umcebodesign.co.za](http://www.umcebodesign.co.za); 031 301 6723

# MAKING LIGHT WORK

Cape Town artist Heath Nash's beautiful creations are hot property. Nash studied sculpture at the University of Cape Town, but began making lampshades, chandeliers and other lifestyle products.

Named as the 2006 Elle Decoration South Africa Designer of the Year for his "treasures from trash", he also won the British Council title of South African Creative Entrepreneur of the Year in 2006/7. Nash has exhibited worldwide, including in Tokyo, Milan, London, Vienna, New York, Los Angeles, Helsinki and Stockholm. His works have inspired many – and he doesn't mind being copied. In fact, he is happy to spread good karmic and artistic currency by providing how-to instructions on his website, [www.heathnash.com](http://www.heathnash.com).

"I do think that most won't bother," says Nash, "but at the same time, it will give people an insight and show them ways of making a start."

Nash says that, in Africa, re-use is very common, and often necessary, as seen in much local craft, where waste (by other standards) has always been used as a material. "So using plastic post-consumer waste as a raw material was ideal for my purposes back in 2004, when I was looking for a new voice for myself in the contemporary South African design arena.

"The time was right to spread the word about recycling to a pretty unaware South African public. I started using old plastic bottles, before it became cool, and not just because it was green to do so.

"What's crazy about the whole situation is that if I hadn't done this as work, I probably wouldn't have bothered to recycle for myself. No-one was doing it then."

He fell in love with what he calls "this extraordinary material" – bottle plastic – which opened up so many new areas of exploration. "For example, how, by overlapping a coloured PET plastic leaf over a white PP plastic leaf, transparent colour becomes translucent colour."

It's the details that give variety and interest, he says: the emboss/deboss of many brands' logos; the date stamp on milk bottles; the different colours, textures and thicknesses of any given bottle.

Making just one flower is a time-intensive process – the simplest light fixture requires 240 flowers, and the plastic has to be collected, washed, cut and creased into the correct shapes.

"Recycling is a simple choice to make," says Nash. "It's not the big pieces of plastic, the obvious bits, but rather the microscopic stuff that gets flushed away that really destroys the ocean."

Since he began recycling, Nash has seen a recycling evolution, which makes sourcing material much easier. "The Cape Town facilities are good. At the depots they sort colours for you. I get stuff from them and take my stuff back, and it's recycled again. People pay for your waste if you collect enough, and for many in disadvantaged communities, it can become a business – even for domestic workers in fancy homes."



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