WESSA
PEOPLE CARING FOR THE EARTH

Join the 3Rs Revolution

A Guide to Waste Minimisation & Recycling in eThekwini

The 3Rs Revolution

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SIMPLE LIVING

The ideal of simple living is a response to the increasing awareness that rampant materialism has not only failed to deliver on its promise of greater happiness, but is a self-defeating, inefficient waste of time and energy that threatens the sustainability of the Earth and is likely to lead to the collapse of modern civilization. It is a growing movement reflected in a groundswell of large and small initiatives aimed at:

- Changing mindsets and perceptions
- Creating a culture of caring, respect and responsibility
- Challenging economic orthodoxy
- Proposing solutions and methods with which to achieve these objectives

> *"Live simply that others may simply live"*
>
> **Attributed to Mahatma Gandhi**

DAVID WANN, AUTHOR OF 'AFFLUENZA' AND 'SIMPLE PROSPERITY' AND PRESIDENT OF THE SUSTAINABLE FUTURES SOCIETY:
"It is important to ask ourselves three fundamental questions: What is the point of all our commuting and consuming? What is the economy for? And, finally, why do we seem to be unhappier now than when we began our initial pursuit of rich abundance?"

TIM JACKSON AUTHOR OF 'PROSPERITY WITHOUT GROWTH'
AND ECONOMICS COMMISSIONER ON THE UK GOVERNMENT'S SUSTAINABLE DEVELOPMENT COMMISSION:
"Questioning growth is deemed to be the act of lunatics, idealists and revolutionaries. But question it we must."

> *"I cannot preserve my health and spirits unless I spend four hours a day at least … sauntering through the woods and over the hills and fields, absolutely free from all worldly engagements"*
>
> **Henry David Thoreau**

DID YOU KNOW?
Some famous advocates of simple living are: Jesus, Siddhartha, Mohandas Gandhi, St Francis of Assisi, Henry David Thoreau, Albert Einstein, and Albert Schweitzer.

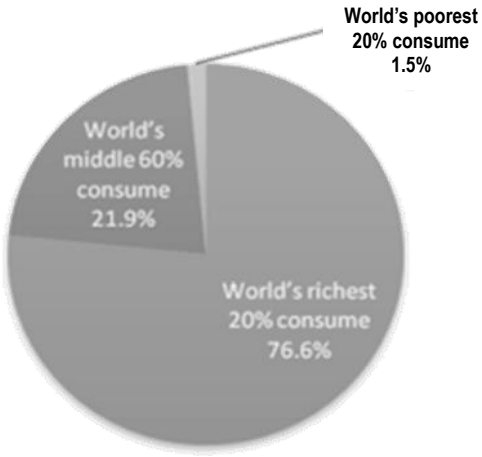
THE BENEFITS OF SIMPLE LIVING – LESS IS MORE

Simple living is about the conscious pursuit of authentic happiness and finding true fulfillment in life. It allows us to escape the mindless consumption that keeps us shackled to the rat race, freeing up our lives and our time so that we can enjoy the really important things in life. 'Downshifting' to a more materially simple life allows us to exchange the stress, social injustice and ecological irresponsibility of consumerism, for more financial security, personal freedom, and spiritual joy leading to a generally improved quality of life.

As early as the fourth century BC, Greek philosopher Epicurus recognised that the troubles entailed in maintaining an extravagant lifestyle often outweigh the pleasures of partaking in it, leading him to conclude that the pursuit of consumption beyond what is absolutely necessary for happiness, bodily comfort, and life itself should be either moderated or avoided. This truth has now been confirmed by scientific studies on happiness and well being.

Conspicuous consumption greatly inflates the impact we have on the planet, and the ecological footprint of people in industrialised nations is many times that of the poorer majority of the world's people. The immorality and irresponsibility of such inequity is a strong motivator for many advocates of the simple life, who make a conscious choice *to live simply so that others may simply live* - both people and other species.

Share of World's Private consumption, 2005



FIND OUT MORE: Click on these links

- Simple living
  Why not start a Circle of Simplicity?
- Simplicity Circles rippling out to thousands
- Living simply: learn to talk civilly with others

Source: Adapted from small-farm-permaculture-and-sustainable-living.com
Chart: World Bank Development Indicators 2008

Reduce
Reuse
Recycle

> *"Start by doing what's necessary, then what's possible, and suddenly you will be doing the impossible"*
>
> **Saint Francis of Assisi**

WHAT WE THROW AWAY DOESN'T JUST DISAPPEAR

Excessive waste and consumption are creating massive rubbish dumps. One of the largest man-made structures on the planet is not the Pyramid of Cheops or the Great Wall of China, but the Staten Island Fresh Kills landfill near New York City. It covers more than 890 hectares and by the time it was finally closed in 2001, its peak was 25 metres taller than the Statue of Liberty.

However, the Earth's largest 'landfill' isn't on land – it is in the middle of the Pacific Ocean. This is a swirling mass of rubbish that has been trapped by the currents of the North Pacific. It is referred to as the 'Great Pacific Garbage Patch' and because plastic breaks down into tiny particles that float beneath the surface, it is still not known exactly how big it. Estimates range from an area the size of Texas, to larger than the United States. The Patch is made up of exceptionally high concentrations of plastics as well as chemical sludge, and other debris. Other massive vortexes of accumulated waste have also been discovered in the Atlantic and Indian Oceans.

In South Africa, landfill sites are rapidly filling up. It has been calculated that within five years, at the current rate of disposal, waste generation will exceed landfill capacity by up to 67% in five out of nine provinces. Over 95% of the waste generated in South Africa ends up in these huge dumps, compared with a world estimate of 85%. It is calculated that annually, the total amount of domestic waste produced in South Africa is approximately 15 million tons. Industries contribute a further 25 million tons a year to the waste stream.

RESTRAINT, RESPECT, RESPONSIBILITY

The problem of waste is due largely to mass production, over-consumption and a throw-away mentality resulting from our liking for ease and convenience no matter the cost. Business actively encourages these tendencies in its constant drive for ever increasing profits.

Our present financial model requires unrestrained consumption in order to function. In fact the entire canon of mainstream economics assumes that infinite economic growth on a finite planet is both desirable and achievable. This is clearly impossible and has led to innumerable problems – economic and social as well as environmental. The culmination of the environmental problems is global warming, and we are now facing climate change which threatens life as we know it on the planet.

Most companies at least acknowledge these facts by including elaborate statements about the environment and corporate social responsible on their websites. Since 'Green Living' is now considered trendy, many have also discovered that presenting a green image also gives them a marketing advantage.

Many high-style, high-living people like to see themselves as responsible, environmentally aware citizens, and we would all like to believe that there is a way to continue consuming but in a sustainable way – that as long as we chose 'green' products and recycle we can buy as much as ever. In fact, the notion of being a green *consumer* is a contradiction in terms – it is simply not possible to consume without limits and still be 'green'.

We must change our lifestyles and our mindsets, and we have no choice but to rethink and challenge our present economic orthodoxy. This must begin with consuming less 'stuff' while seeking the type of prosperity that does not embrace the materialistic, conventional trappings of affluence – in having respect for others and the Earth; in more meaningful relationships with our families and communities; in the work we do and the things we value; and in taking responsibility for ensuring we create a society that will not steal the future from our children and grand children.

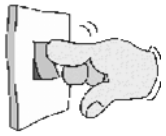
FIND OUT MORE: Click on these links

- The Story of Stuff
- Fair Trade South Africa
- South African New Economics Network (SANE)
- Prosperity without Growth
- Centre for the Advancement of the Steady State Economy (Casse)
- Transition Network

THE 3RS

Reduce: Simplify your life and buy less

- The best way to deal with waste is not to produce so much in the first place, so buy only what you really need.
- Reduction begins at source and requires us to rethink our lifestyles. To reduce consumption of valuable water, energy, and raw materials, and to encourage businesses to do the same:



— Buy organic and free range, and only fresh, in season fruit and vegetables.
— Cut down on meat consumption, processed foods and take-aways.
— Buy local, buy products made from recycled materials, and choose 'green' alternatives where possible.
— Support small and micro businesses, preferably in your area.
— Support and promote businesses making a *genuine* effort to be environmentally and socially responsible.
— Conserve water, electricity and paper in your home and at work.
— Think twice before you use or buy *anything*, and then use it as economically and fully as possible.
— Be active: Find out about and demand that businesses be greener, more caring, and more responsible.

- Use your own shopping bags i.e. durable cloth, not plastic bags (even re-used ones) supplied by the shop.
- Avoid buying over-packaged goods.
- Choose products in packaging that can be recycled.
- Avoid one-use disposable items e.g. paper plates, plastic cutlery, serviettes, disposable nappies, razors.
- Buy in larger quantities to help cut down on packaging e.g. one large tub of yoghurt instead of six small.
- Choose good quality, long-lasting products that won't need to be constantly replaced.

Organic and free range may be a little more expensive but with increased consumer demand will become cheaper. The only reason the mass, large-scale production of food is 'cheaper' is that it does not take into account the true external costs of processing all the waste it produces; the harm caused to people's health; the suffering of animals; the displacement of communities; and the extensive damage it does to the environment.

Reuse: Repair, restore, swop, sell or donate

- Reuse goods and materials as much as possible before either recycling or final disposal.
- Repair and restore things that are old or broken.
- Pass on, exchange, sell, or donate unwanted items.
- Make your kitchen and garden refuse into compost. (See: *Making compost* Page 6)

Recycle: Recycle whatever you can and resolve to throw-away as little as possible

Recycling involves the processing of used materials into new products. These include many kinds of paper, glass, plastic, metal, textiles, electronics etc. Recycling either produces a further supply of the same item, or it is processed to produce different materials and products. Another form of recycling is the salvage of various materials and substances, either due to their value or hazardous nature e.g. lead from car batteries; gold from computer components; the removal and reuse of mercury from various items.

See also: *Some food for thought* Pages 7-9

FIND OUT MORE

Click on these links

- Going Green Directory
- Green Directory
- Slow Food
- Factoryfarming.com
- Waste: Uncovering the global food scandal

"Never depend upon institutions or government to solve any problem. All social movements are founded by, guided by, motivated and seen through by the passion of individuals."

Margaret Mead

"Be the change you want to see" **Mahatma Gandhi**

WHY SHOULD YOU RECYCLE?

Recycling is the last option in the 'War against Waste'. Although heavily promoted as being a solution, recycling is not a panacea that allows us to continue consuming with a clear conscience. Sorting, cleaning and processing all use valuable resources, energy and chemicals, although usually in lesser quantities than products made from new materials. The concept of recycling may also be used by companies to portray themselves and their products as 'green'. By so doing, they project an image of concern for the environment that can be deceptive as, despite what consumers who are trying to be more 'green' are led to believe, it is often not practical or viable to recycle much of the household waste that is produced. For recycling to work, waste has to be clean and properly sorted. This requires high levels of public awareness, education and motivation. So far, in South Africa, this has not been easy to attain.

Although most of us recognise the importance of reducing waste and recycling, not many of us practice it. There are a number of reasons, but inconvenience is one of the biggest factors, particularly in South Africa as in most cases, curbside collections and recycling centres are scarce so it requires quite a lot of effort and organisation. *So why should you bother?* You should make the effort to recycle because it:

- Prevents the waste of useful materials otherwise dumped in landfills, and which are rapidly running out of space.
- Reduces the consumption of new raw materials.
- Reduces the consumption of energy and water used in manufacturing processes.
- Reduces air and water pollution from incineration of waste, manufacturing processes, and landfills.
- Creates jobs

Here are some often cited facts and figures:

- Recycling one aluminium can saves enough energy to run a TV for three hours.
- An aluminium can that is thrown away will still be a can 500 years from now.
- Recycling a single run of the Sunday New York Times would save 75,000 trees.
- 70% less energy is required to recycle paper compared with making it from raw materials.
- Plastic bags and other plastic rubbish thrown into the ocean kill as many as a million sea creatures every year.
- The energy saved from recycling one glass bottle can run a 100-watt light bulb for four hours. It also causes 20% less air pollution and 50% less water pollution than when a new bottle is made from raw materials.
- Up to 60% of the rubbish that ends up in the dustbin could be recycled.
- It costs at least three times more to dump rubbish in landfills than it costs to reuse and recycle it.
- On average, 16% of the money you spend on a product pays for the packaging, which ultimately ends up as rubbish.
- As much as 50% of waste in the average dustbin could be composted.
- Every person in SA produces between a ½ kg and 2 kg of waste daily, adding up to about 2 bins of waste per week.

START A COMMUNITY RECYCLING EFFORT FOR YOUR COUNTRY

Resource shortages during the Second World War proved what can be achieved through concerted recycling efforts. Massive government promotion campaigns were carried out in every country involved in the war, urging citizens to conserve and recycle as a matter of significant patriotic importance.

Economising initiatives were endless as people were urged to conserve and recycle metal, paper, rubber, fibre and glass. People also united through volunteerism. Communities joined together to hold scrap iron drives, while others planted "Victory Gardens" to conserve food. For a small investment in soil, seed and time, families could enjoy fresh vegetables for months.

By 1945, an estimated 20 million victory gardens produced approximately 40 percent of America's vegetables. Training sessions were held to teach women to shop wisely, conserve food, and plan nutritious meals. Lack of availability meant people also gave up large amounts of red meat, fats and sugar, resulting in a much healthier society.

In some countries such as Japan, which did not have an abundance of natural resources, resource conservation programs were continued after the war ended. During the 1940s, Americans recycled rubber, paper, scrap metal, fats, and tin cans resulting in 25% of the entire waste stream being recycled and reused. ***Maybe it's time we made recycling a patriotic act …***

MAKING COMPOST

In nature, compost occurs naturally and keeps the soil fertile. Compost is a mixture of decomposed plant and animal material. Organisms such as bacteria, fungi, earthworms, snails, insects and birds help to decompose the material and turn it into humus which is a form of food plants can use. Most organic materials that decay easily will make good compost.

The use of compost:

Returns nutrients to the soil.
Produces healthy plants with fewer diseases.
Helps the soil to hold water and air.
Binds the soil and prevents erosion.

You can use

- Garden waste e.g. grass cuttings, leaves, flowers
- Vegetable and fruit peelings, cooked table scraps, tea leaves/tea bags, egg shells, stale bread
- Paper, cardboard, sawdust / wood shavings, animal manure, wood fire ash, seaweed

Don't use

- Anything that doesn't rot - metals, glass, plastics etc.
- Woody garden cuttings
- Garden waste sprayed with pesticides, toilet/septic tank waste, diseased animal carcasses or plants.
- Meat & Dairy/oily cooked food that will attract rats & mice

Chop up the stalks of sweet corn, cabbage, broccoli etc. so that they will decompose faster. Weeds are also suitable as their long roots absorb many nutrients from the soil which will then be released into the compost, but they must be pulled up before they have developed seeds.

Making and maintaining a compost heap

There are many ways to make a compost heap. The easiest way is to simply create a pile of organic waste in a spare corner of the garden. To keep the heap tidier you might prefer to make it in a container. You can use an old tyre with a board over it, build a box from sticks or poles and cover it, or buy a specially made bin at a garden shop.

- Choose a sheltered position in the shade for your compost heap or bin.
- First lay down a foundation of coarse material consisting of twigs and straw for aeration.
- Then create layers of about 200 mm each of mixed organic material. Mix this well and chop up any big pieces.
- Alternate 'brown' (e.g. dried leaves) and 'green' (e.g. fresh grass cuttings) materials. To speed up the process, add an activator such as a bucketful of mature compost, animal manure, or bone meal. You can also get 'starters' at nurseries and garden shops.
- Sprinkle water, soil and shredded paper intermittently between the layers. The soil is necessary to introduce organisms into the pile.
- The final height should be about 1.5 metres.
- The last layer should be soil, dry grass, leaves, or sawdust as this will keep smells and flies away.
- More layers may be added as waste becomes available. Cover new material with dry soil, sawdust, grass or leaves.
- Water the heap regularly. It must be kept moist but not wet as it will smell. If it does get too wet, add absorbent material like sawdust, straw or manure and turn the heap.
- After a week, if you push your hand into the compost, it should feel hot. After a few weeks it will have cooled down which means it needs to be turned.
- Regular turning of the compost heap makes the organic material break down faster.
- Adding earthworms will also help.

The compost is ready to use when it is dark and crumbly and smells like soil. This can take anything from six weeks to six months depending on the time of the year, but 3 months is a good average. A week before you harvest it, add some vegetable matter to bring the worms up to the top of the bin. Put the top part of the compost to one side and use the rest of it in your garden. Restart the cycle by adding the top half that you took out and which contains the worms. If you have the space, it is a good idea to run two or more compost heaps at a time, so you can have one to use while the other one is breaking down.

The world we have created is a product of our thinking;
It cannot be changed without changing our thinking.
Albert Einstein

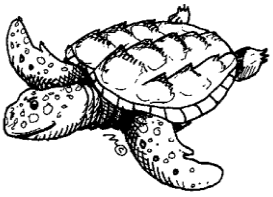
SOME FOOD FOR THOUGHT: PLASTIC, PAPER & DISPOSABLE NAPPIES

Plastic

Most of our waste today is comprised of plastic. Generally, plastic is made from petroleum and is not biodegradable. Therefore, unless it has been incinerated (which will then have released toxic chemicals into the atmosphere), every bit of plastic that has ever been created still exists.

Most plastic can only photo-degrade, that is break down in sunlight into smaller and smaller pieces, eventually becoming individual molecules of plastic. This means that in the only 50 to 60 years that we have been producing plastic, it is now *everywhere* — in our water, our soil, our food and our bodies.

Plastic constitutes 90 percent of all waste floating in the world's oceans. The United Nations Environment Program estimated in 2006 that every square mile of ocean hosts 46,000 pieces of floating plastic. In some areas, the amount of plastic outweighs the amount of plankton by a ratio of six to one. Of the more than 200 billion pounds of plastic the world produces each year, about 10 percent ends up in the ocean. Seventy percent of that eventually sinks, damaging life on the ocean floor while the rest floats, ending up either in the massive garbage swills that have formed, or washing up on shore.



More than a million birds and a hundred thousand marine mammals and sea turtles die every year from eating or getting entangled in plastic. As much of the plastic disintegrates, it eventually becomes small enough to be ingested by aquatic organisms. At the same time, plastic polymers act like sponges and absorb DDT, PCBs and nonylphenols — toxic substances known to cause hormone disruption in both animals and humans. These toxins and plastic waste then enter the food chain. Marine plastics also facilitate the spread of invasive species, which attach to floating plastic in one region and drift long distances enabling them to colonise other ecosystems.

What about biodegradable plastic bags?

Biodegradable plastics are also not quite the solution they appear to be. Biopolymers like polyhydroxyalkanoate (PHA) and Polylactide (PLA) are not made from petroleum products and are completely biodegradable in compost although very slowly, if at all, in a landfill. However, they are often derived from crops generally regarded as food sources.

The primary feedstock for bio-plastics is corn. Not only is this often grown and harvested unsustainably, but we also have to question how, in a world facing climate change and where, according to the World Health Organization, only one-third of people are well-fed, while the other two-thirds are either under-fed or starving, can we justify the use of scarce land, water and energy resources for growing crops to make plastic bags instead of food.

Another problem is that some bags may be marked as biodegradable but are in fact, recycled plastic mixed with cornstarch. Only the cornstarch biodegrades while the plastic remains in the environment as small molecules of plastic. So although bioplastics are a useful innovation and may provide an alternative when absolutely necessary, they cannot be regarded as a substitute and a solution that will allow us to continue using plastic bags indiscriminately. It is also important that the polymers used are a 100% plant-based.

FIND OUT MORE: Click on these links

- The Plastic Bag Story Slide Show
- Boston Globe: Concord bottled water battle - May 2010

"The system of nature, of which man is a part, tends to be self-balancing, self-adjusting, self-cleansing. Not so with technology."

E. F. Schumacher

Paper

Paper is the largest component of any landfill. Inside a landfill, there is very little oxygen and moisture, so waste is broken down very slowly. There have been reports of landfill sites being excavated 40 years after being covered and articles in newspapers still intact enough to read. In a landfill, paper, along with other organic waste, decays anaerobically (i.e. without oxygen). In the process, carbon and methane are released contributing to global warming. Methane has a global warming potential 21-23 times greater than carbon dioxide.

It is not only waste paper products decomposing in landfills that release dangerous greenhouse gases. The pulp and paper industry is the world's fourth largest consumer of energy, with carbon dioxide and other greenhouse gases released during all the stages of pulp and paper manufacture. The mass-scale processing and production of paper creates huge amounts of waste. Landfill waste from pulp and paper mills consists of sludge made up of wood fibre and highly toxic chemicals; clay filler materials; the black liquor by-product from pulping; sawdust; ash from coal burning; chemical storage containers; office waste; oil; fluorescent tubes; pallets; machine parts etc. Industrialised paper manufacture has an effect on the environment both upstream (where raw materials are harvested and processed) and downstream (waste-disposal impacts).

Today, 90% of paper pulp is made from wood. Globally, paper production accounts for about 35% of felled trees. Trees raised specifically for pulp production account for 16% of world pulp production, old growth forests 9%, and second, third and more generation forests account for the balance. Worldwide, most pulp mill operators now practice so-called reforestation to ensure a continuing supply of trees. In South Africa, where much of the primary habit is grasslands, the timber companies have largely resorted to afforestation (i.e. the practice of planting trees where none previously existed).

> *"We won't have a society, if we destroy the environment."* **Margaret Mead**

These tree plantations are grown on an industrial-scale and are generally of an invasive alien species such as eucalyptus, pine or wattle. As a result, South Africa's already scarce water resources are being further depleted, and the biodiversity of our grasslands is threatened. These alien invasive plantations and the areas they have infested with feral tree seedlings, also play a significant role in the devastating fires that occur annually during the dry season as they exacerbate the dryness, and provide a heavy fuel source that causes intense, long burning and therefore highly destructive fires instead of the light, fast burning fires common in grasslands and which are part of a natural cycle necessary for maintaining biodiversity.

Recycling: It has been estimated that 907 kilograms of recycled paper spares 17 trees and if Americans recycled all their newspapers about 250 million trees would be saved each year. The United States Environmental Protection Agency (EPA) has also found that recycling causes 35% less water pollution and 74% less air pollution than making virgin paper. Pulp mills are a source of both air and water pollution, especially if they are producing bleached pulp. However it should be noted that recycling still produces polluting by-products, such as sludge from the de-inking process, and it uses a lot of energy. Paper also cannot be endlessly recycled as the fibres break down eventually making it unusable. Therefore, although recycling helps, first and foremost we have to cut down on our paper consumption. We also have a long way to go with regards to recycling. Around 40% of paper consumed is recycled in South Africa, whereas in 2007, the European Union and Canada recycled 64% and 58% respectively.

Reducing paper consumption:

- Think twice before you use paper and be as economical as possible with whatever you have to use.
- Use the back and front of a sheet of paper, and collect paper printed on one side only to use as scrap paper.
- Buy recycled paper products wherever possible and avoid fancy unnecessary stationery.
- Reuse envelopes (cover the old address with a label), as well as cards, wrapping paper, packaging etc.
- Donate computer printouts and other office waste paper to playgroups and pre-schools for their creative activities.
- If you have a post box, speak to your post office about not receiving unsolicited mail.
- Put a 'No junk mail' sign on your letterbox.
- Widen the margins on your computer and print using both sides of the paper. This not only saves paper, it saves on: money, storage, postage, and is also a lot easier to fold and staple.
- Only print what is absolutely necessary and cut down on wasteful niceties and formalities. For example, a fax cover sheet is usually unnecessary or can be included in the main document.
- As much as possible, use e-mail and electronic copies for information, newsletters etc. and avoid printing.

Facts about disposable nappies

Household waste is increasing at an alarming rate as certain sections of society become more affluent. The more affluent produce greater quantities of waste and in the case of disposable nappies, supermarkets are reporting record sales. Disposable nappies are made up of paper pulp, plastic, absorbent gels, chemical additives and perfumes. All these materials affect the health of both your child and the environment.

Cloth nappies

The manufacturers of disposable nappies maintain that cloth nappies are equally bad for the environment. Washing cloth nappies does use energy and water, but studies have shown that washing cloth nappies at home has about half the ecological footprint of disposables. The impact is even less if you use biodegradable washing powder, and dry nappies on a washing line.

Health concerns

- There is concern about the absorbing gel in disposable nappies (sodium polyacrylate) which has not been tested for long term effects on reproductive organs from 24-hour exposure. Studies at the University of Kiel in Germany have also raised concerns about the possible link between the use of disposable nappies and the rise in male infertility as disposable nappies maintain testicles at higher temperatures, a known cause of lower sperm counts.
- Allergies to the chemicals used in disposables have been identified in some babies.
- Human faeces contain over a hundred different viruses which can survive for up to two weeks. When disposed of with household rubbish, viruses such as polio from vaccinated babies can contaminate ground water supplies.
- Nappy waste from hospitals is usually incinerated. Toxic substances such as dioxins are then released in air emissions and particles of ash.

Environmental concerns

- One baby uses approximately 5 000 nappies in a 2.5 year period. Due to the plastic content, disposable nappies are not biodegradable.
- So-called 'biodegradable' disposable nappies replace the plastic content with a biodegradable film. They are only 70% degradable, are expensive to produce, and still need to be disposed of.
- The faeces in nappies mixed together with household waste emit methane which contributes to global warming. Landfill sites are not designed or legally permitted to contain faeces but so far, no solution has been found to the growing number of dirty disposable nappies ending up at the dump.
- In Britain, 8 million disposables are used every day. Seven million trees are felled and fourteen thousand tons of plastic are produced every year to supply disposable nappies. As the practice of landfill disposal becomes less acceptable, costly and impractical, many local municipal authorities in Britain are now considering offering families various incentives for using cloth nappies instead of disposables.

FIND OUT MORE: Click on these links
Revenge of the cloth nappy
The Politics of Diapers

We are continually faced with great opportunities which are brilliantly disguised as unsolvable problems"

Margaret Mead

ARE SUSTAINABLE LANDFILLS POSSIBLE?

Landfills have a negative impact on human health and the environment. Short-term impacts include smell, flies, noise, unsightliness and windblown litter. Long-term impacts, which persist even after the closure of a site, include pollution of the water table and the generation of various gases. These are a major contributor to global warming and present the threat of toxicity and asphyxiation for people working at the landfill, and residents of nearby houses.

Although there are ways to run a more environmentally sustainable landfill, and possibly rehabilitate existing ones, this is still not a solution. We are rapidly running out of landfill space and simply have no choice but to drastically reduce the amount of waste we produce. Even organic waste breaks down very slowly in a landfill as there is very little air and water. Decay therefore takes place anaerobically resulting in methane, a particularly potent greenhouse gas. In addition, although there are 'greener' landfill sites, for example the Mariannhill Landfill Conservancy, older sites that were created before legislation such as the Bisasar Road Landfill, are inherently more difficult to rehabilitate.

Mariannhill Landfill Conservancy: Mariannhill Landfill opened in 1995 and in 2003, became the first landfill site worldwide to be registered as a National Conservancy. It was also the first landfill gas-to-electricity CDM project in Africa. It follows a two-fold approach:

— To protect the environment, it operates on a 'closed-loop' basis.
— Landfill gas emissions are managed as an asset that simultaneously reduce the amount of greenhouse gases being released into the atmosphere.

Four main policies have been adopted to prevent environmental contamination and to restore and conserve the spoiled environment of the landfill:

BARRIER SYSTEM: A barrier system incorporating a number of engineered layers prevents leachate (landfill liquid waste) and gases from escaping into the ground.

LEACHATE TREATMENT: Leachate treatment at Mariannhill is innovative in that it is treated daily and aerated using natural processes so that the water can be used for irrigation and dust control. Leachate is ordinarily fed into sewage water putting additional strain on the sewage system. Its high nitrogen content is also corrosive and dangerous.

METHANE GAS CONVERSION: Methane gas is also tapped. Instead of releasing it into the atmosphere and contributing directly to global warming, gas is transformed into electricity. The 900 kWh of electricity generated daily is fed into the local grid.

REHABILITATION: Indigenous plants and topsoil that have been rescued, are stored in a plant recovery unit (PRUNIT) and then introduced back to the rehabilitated areas of the landfill and its borders.

Bisasar Road Landfill Site: Bisasar Road in Durban, is Africa's biggest formal landfill site. It accepts, on average 3 500 to 5 200 tons of waste a day. Situated as it is in the residential area of Clare Estate, it presents a major health risk to the local community.

There has been a lot of controversy over this site, and the intention was to close it down until plans arose to capture the methane it emits as part of the Clean Development Mechanism (CDM) of the Kyoto Protocol. This is regarded as an important economic opportunity for Durban and, as a result, many activists maintain that the concerns of residents have been largely disregarded.

In nature there is no waste. The detritus from each organism becomes the input to other organisms in a never-ending cycle. Even though we have all become used to the idea that it is inevitable, and that there is very little that can be done about it, in fact waste is a very modern concept. Throughout the world people today are beginning to understand that:

- Waste is new - it has not always existed
- Waste is not inevitable - we don't have to have waste
- While waste is a challenge, it can be successfully addressed

But in order to address waste in the most sustainable way, we need laws that approaches waste in a new and innovative way.

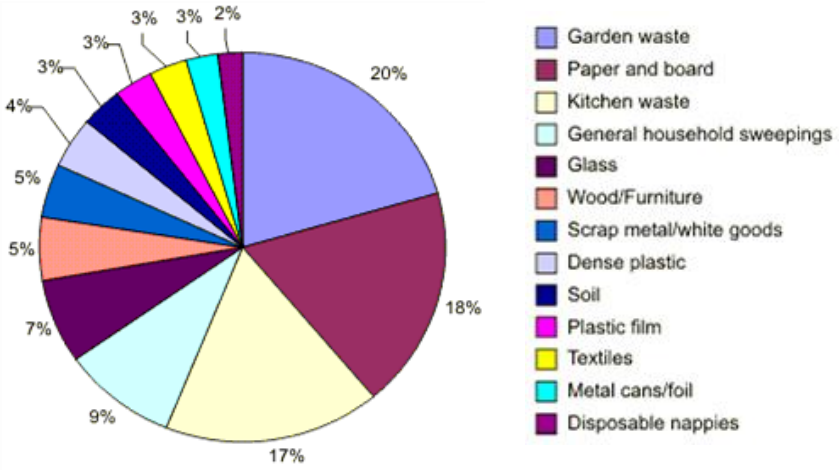
Groundwork Briefing Paper 1: The Waste Management Bill 2007

Legislation governing waste: Click on these links
South African Waste Information Centre SAWIC
Groundwork: Briefing paper on the Waste Management Bill August 2007

Type of waste	Middle average income as a %
Paper/Cardboard	26.49
Glass bottles other glass	5.13
Metal/beverage cans	6.41
Non Ferrous metal	0.00
Plastic	21.79
Kitchen Waste	8.97
Garden Waste	14.10
Timber	0.00
Textiles	2.56
Rubber	0.00
Builder's rubble	0.00
Fines	11.54
Household hazardous	0.00
Other	0.00
Total	**100**

Composition of Household Waste

Source (Chart below): Waste Resource Action Programme (WRAP)
Dr. J. Parfitt, 2002 shows the waste composition of the average landfill (UK.)
Source (Table left): State of the Environment: Cape Metropolitan area
http://www.environment.gov.za/enviro-info/sote/citysoe/cape/waste_a.htm



THE 3 RS REVOLUTION CAN CREATE JOBS

Maybe you'd like to start your own recycling depot. Here's a list of recycling businesses in other centres in South Africa

RECYCLING BUSINESSES IN OTHER CENTRES

Mama She's Waste Recyclers
http://www.wasterecyclers.co.za/
Tel: 011 828 7429 Fax: 011 828 5366
E-mail: gina@wasterecyclers.co.za

Whole Earth Home and Office Recycling
www.wholeearth.co.za/
Rhodes Tanner Tel: 011 704 6096 Cell: 082 323 8859
E-mail: info@wholeearth.co.za

Hlangane Recycling
http://www.hlangane.co.za/
June Reynolds Tel: 011 315 6135 Cell: 083 654 2666
hlangane@telkomsa.net

Urbanwise
Kenneth Schenck Tel: 021 557 7976 Cell: 084 221 4546
E-mail: info@urbanwise.co.za

Abundance Recyclers
Frank Tel: 021 531 5888
E-mail: abundance@telkomsa.net

Recycle First
www.recyclefirst.yolasite.com
Anthea Hartzenberg Tel: 021 930 0544 Cell: 083 354 6914
E-mail: recycle1st@gmail.com

Mr. Recycle
http://www.mrrecycle.co.za/
Office: 021 788 7725 **Fax**: 086 542 8192

ECOmonkey
http://www.ecomonkey.co.za
Simon Thom Fax: 086 567 1798 Cell: 083 415 7636
E-mail: simon@ecomonkey.co.za

Greengetters
http://www.greengetters.co.za/
Fax: 086 631 9487 Cell: 076 335 6173
E-mail: info@greengetters.co.za

Small entrepreneurs

Support small and micro businesses. Check the yellow pages, the internet, and the classified ads in the newspaper to find out who offers the following services:

- **Shoe repairs**
- **TV, Cell phone, DVD, microwave & appliance repairs**
- **Computer repairs**
- **Camera repairs**
- **Sewing & mending**
- **General household & handyman services**

Informal Recyclers / Waste Pickers

Waste recycling provides millions of jobs in Brazil, China, India, Egypt and other 'developing' countries. In Brazil, 90 percent of recyclable material is collected by waste collectors called *catadores de lixo*. They have organised themselves into a national movement of 500 cooperatives and 60 000 collectors. With an unemployment rate of around 40 percent, recycling could also create job opportunities for unskilled workers in South Africa. However, although new legislation states that salvage of waste may be allowed, there seems to be a general lack of acceptance by government of this kind of work. According to the SA Waste Pickers' Association, there are currently an estimated 10 000 people working as waste pickers on landfill sites. They earn between R20 and R150 a day from salvaging, and for many this is their only source of income.

CURITIBA'S WASTE MANAGEMENT SOLUTIONS

The city of Curitiba, in Brazil, has instituted innovative waste programs. The *'Garbage that is not Garbage'* initiative involves curbside collection and disposal of recyclable materials that have been sorted by households. This program is designed specifically for low-income areas by exchanging garbage bags collected by residents for bus tokens, parcels of surplus food, and children's school notebooks. Another initiative, 'All Clean', hires retired and unemployed people to clean up certain areas of the city. Over 70 percent of households participate in the recycling programs. Sixty neighborhoods with 31000 families have benefited from the garbage purchase program by receiving nearly a million bus tokens, 1200 tons of surplus food, and school notebooks in exchange for collecting over 11000 tons of garbage. These innovations have reduced costs and increased the effectiveness of the city's solid waste management system while conserving resources, beautifying the city, and providing employment — another win-win (and low-tech) solution that benefits all social groups in the City.

From The Encyclopedia of the Earth: Curitiba, Brazil

Waste pickers earn a legitimate living from their work and help to ensure that fewer resources are wasted by South Africa's 'throw-away society'. However, their meagre livelihood is constantly under threat from the burning of potential resources by municipal waste incineration, and the possible privatisation of landfill sites, They also face numerous health hazards, and often suffer abuse and exploitation from municipal security guards on landfill sites, householders, and the 'middlemen' they sell to.

In order to transform waste picking into decent work, waste needs to be separated at source by households and businesses, and we need to create a system that embraces and dignifies their work. This could lead to new recycling opportunities and some waste pickers becoming entrepreneurs in their own right. So, if you don't want to pay for a curbside collection service, there is none available, or it's a problem to get your recyclables to a drop-off point or buy-back centre, consider instead making an arrangement with the informal waste collectors that operate in your area.

DID YOU KNOW?

Some municipalities overseas are adopting a clear bag policy as the most effective way to identify those who do not comply with the by-laws on waste management, and continue to place recyclables and organics in the waste stream. Municipalities that have made the switch show the change leads to a reduction of waste going to landfills. Adoption of the policy is accompanied by communication and education for residents. Residents are allowed one black bag for privacy purposes, and haulers reject bags at the curb that violate sorting criteria. There is a grace period to allow people to adapt to the new system before bags are rejected.

A guide to what can and can't be recycled

'CAN' may not mean 'DOES' so check first with your collector or depot

✔ Can be recycled	✘ Can't be recycled
PLASTIC ***(Empty and clean. Remove tops from bottles)*** Clean polystyrene containers Plastic bags Plastic containers – margarine, ice cream etc. Juice and water bottles – Powerade, Energade, etc Shopping bags Erasers – they are plastic not rubber (i.e. plasticised PVC) Bubble wrap Sheet plastic – e.g. plastic covering for books Plastic milk bottles	Badly contaminated plastic Toothpaste tubes Sticky tape Degradable plastic (e.g. bread bags) Chip packets and sweet papers Large plastic items such as garden furniture and piping
GLASS ***(Empty and clean. Remove tops, lids, corks and metal foil. Wash bottles and jars before placing in banks)*** Wine / spirit bottles Juice bottles Jars Spice bottles	Laboratory glass Crystal & opaque drinking glasses Light bulbs / florescent tubes Spectacles, Mirrors, windshields / car headlights, Window panes, wire reinforced glass Heat-resistant ovenware (e.g. Pyrex) Ceramic cups, clay garden pots, plates and pottery
CANS: Steel and aluminium ***(Empty and clean. Remove any plastic lids)*** Drinks cans Food cans Aluminium foil and foil packaging	
PAPER ***(Ensure paper is clean, flatten boxes)*** Cardboard Fruit trays, egg cartons Old school books Magazines Newspaper and telephone directories Print room waste paper (old notices) Shredding Flyers and junk mail Old memos / letters / computer paper / used copy paper Windowless envelopes Old books	Soiled paper and cardboard Fax paper Waxed cardboard Frozen meal boxes Thick paper bags e.g. dog food / potato / charcoal Waxed, glued, plastic or foil coated cardboard or paper (e.g. stickers, laminated, etc.) Punch confetti Chemically treated paper e.g. photographic paper
TETRA PAK ***(Empty, clean and flattened)*** **The Tetra Pak logo is printed on the base of the carton** Milk cartons (e.g. long life milk / Milo/Clover/ Parmalat Juice cartons (e.g. Liquifruit / Ceres etc.).	

RESPECT THE EARTH BY PRACTICING THE 3RS

Reduce: *Refuse* to buy and reduce the waste you create. Use and buy less, avoid products with excessive packaging. Get reusable shopping bags. Save energy and water.

Reuse: *Repair & restore* things that are old and broken. If you no longer need them, exchange them, donate them to a good cause or sell them. Make compost from your organic waste. Use grey water for watering gardens, washing cars and flushing toilets.

Recycle: Throwing away should be the very last option. Sort your daily waste into 6 main categories: Paper / plastic / cans / glass / cartons / organic.

Re-use

Exchange

Freecycle: The Freecycle Network™ is made up of 4,836 groups with 6,650,000 members across the globe. It's a grassroots, nonprofit movement of people who give and get stuff for free. It's all about reuse and keeping good stuff out of landfills. Each local group is moderated by a local volunteer. Membership is free.
Find your community and sign up at: http://www.freecycle.org/
Go to the Durban Freecycle group at: http://www.freecycle.org/group/South%20Africa/South%20Africa/Durban

Donate

Highway Hospice Association: Highway Hospice has 4 shops in Durban. All profits made by the shops go to the Highway Hospice to assist in providing quality care to the terminally ill, and support to their families.

Receiving Depot: 7 Ivy Road, Pinetown or telephone 031 709 2647 to arrange collection
Website: http://www.hospice.co.za/site/awdep.asp?depnum=8110 E-mail: warehouse@dbn.stormnet.co.za

Highway Hospice Association: Drop off points (Clothing, books, bric-a-brac, furniture etc.)			
City Shop 20 Pine Parkade Building, Dr A B Xuma Road. (Ex. Commercial Rd) Dbn Tel: 031 305 5151	Pinetown Shop 8 Ivy Road Pinetown Tel: 031 7092647	Hillcrest Shop Shop No. 4 Elangeni Centre Inanda Rd, Hillcrest Tel: 031-7657083	Highway Hospice 59 Locksley Drive Sherwood Tel: 031-2086110 ext 216

SPCA Charity Shop: Located at the SPCA, Cnr. Willowfield Crescent & Inanda Road, Springfield Park
Telephone: 031-579 6500 Fax: 031-579 4351 E-mail: caroline@spcadbn.org.za
Open Monday – Friday 8am – 4pm and Saturday 8am – 1pm (Collectables, books, furniture etc.)

TAFTA: To donate to TAFTA's Charity Shop, contact their Donations Controller Tel: 031 332 3721

BOOKS: Provincial libraries have had their subsidies slashed. Some will accept books, magazines, CDs, records, videos etc. you no longer want. If past their best, they may be put on a sale table, and the revenue used to buy new ones.

Resell

Have a Garage Sale
Go to the Sunday Car Boot Market: For a small fee you can join the Sunday Car Boot Market in Stamford Hill Road and set up 'shop'. Get there early, by 6am, or you won't get a good location. Situated behind the Greyville Racecourse, near Independent Newspapers. Tel: 031 209 4751
Junkmail: You can advertise for free anything you want to sell.
Website: http://www.junkmail.co.za/

Curbside collections

DSW & Mondi Recycling Initiative (Orange Bags for paper and plastic)
DSW Tel: 031 303 1665 / Mondi Recycling Tel: 0800 022 112

Yes Recycling
(Took over from Earth Green Recycling in December 2009)
Earth Green ran from December 2008 to November 2009 collecting recyclables and supporting local community art projects. From December 2009, Earth Green handed over the collection of recyclables to YES RECYCLING who now services Morningside, Berea, Glenwood, Manor Gardens and Umbilo.

Website: www.yesrecycling.co.za Contact Rondi cell: 082 563 8647 E-mail: rondi@dinkele.co.za

Although Earth Green Recycling has closed its operations, the members continue to be involved with the KZN Waste Minimisation Forum and are constantly researching and trying to find new ways of encouraging and supporting sustainable living. Contact them on info@earthgreen.co.za

Plastic collectors
It is difficult to obtain details of collectors who are often fairly small operators within a certain area. A list of currently known collectors is obtainable from the Plastics Federation.
http://www.plasticsinfo.co.za/plastics-the-environment-recycling.asp

If there is no known collector of plastics in an area, ask the local authority if they know of anybody doing any type of collection for recycling even if only collecting, for example, paper as they may also be interested in handling plastics.

WHERE TO TAKE RECYCLABLES

The following is information on where to take recyclables and the companies that collect and process them. Feedback is welcomed in order to help ensure this information is as accurate and reliable as possible, and that the services advertised are being provided.

Please note that this is only a guide. Things often change so it is advisable to confirm the recyclables that are accepted beforehand.

Durban Solid Waste (DSW) Recycling Drop off Centres *(See complete list on Page 23)*
Tel: 031 303 1665 **General Helpline:** 080 032 3235
E-Mail: kennydl@dmws.durban.gov.za
http://www.durban.gov.za/durban/services/cleansing/recycling

Paper / cardboard / plastic / glass / cans

re-Ethical environmental re-engineering (Pty) Ltd
Tel: 031 902 3542 Fax: 031 902 6530
http://www.re-sa.co.za/site/default.asp
Recycling drop off-centres for the general public at:

- Pick 'n Pay Hypermarket Durban North: Tel: 031 581 5300 / Customer Helpline: 080 011 2288
- Pavilion Shopping Centre Westville: Tel: 031 275 9800 / Fax: 031 265 0367 e-mail: enquiries@thepav.co.za
- Mariannhill Landfill Site: 1 Landfill Lane, off Rudloph Road, Marianhill Park.

Paper / cardboard / plastic / glass / cans / scrap metal / drums / timber / textiles

Paper & Cardboard

Mondi Recycling
Tel: 0800 022 112
For KZN dial toll-free from a landline 031 274 6600
Website: http://www.paperpickup.co.za/
E-mail: KZN_Ronnie_recycler@mpsa.co.za

Plastics and Polystyrene

Polymers are specifically different from each other so for recycling purposes they need to be sorted according to their polymer identification code. Polystyrene can be recycled by reprocessing the material and molding it into new packaging products.

Durban municipal drop off sites

For PET plastics (see table below)
Bellair Garden site – for all plastics
Kloof Drop-off site – 4 bag system and includes polystyrene (PS)

Ecoworld

For polystyrene
Contact Amanda
Tel: 031 701 3476 or 082 780 2756

Polystyrene Packaging Council (PSPC)

Tel: 011 793 2658 Fax: 086 692 2438
Website: http://pspc.intoweb.co.za/
E-mail: info@polystyrenepackaging.co.za

The Plastics Federation of South Africa

P O Box 1069, Pinetown, 3610 South Africa
Tel: 031 702 7222 Fax: 031 702 7322
Website: http://www.plasticsinfo.co.za/
E-mail: enquiries@plasfed.co.za

DROP OFF CENTRES FOR PET PLASTICS IN DURBAN		
Pavilion Shopping Centre Jack Martin Drive, Westville	Durban North Garden Refuse Site Riverside Road, Durban North	Bellair Road Garden Refuse Site Bellair Road, Durban
Kloof Recycling Emolweni Road, Kloof	Pick 'n Pay Hypermarket Uitsig Road, Mangrove Park, Durban North	Tara Road Garden Refuse Site Tara Road, Bluff
Hillcrest (Adjacent to Hillcrest Civic Centre) Cnr Delamore and Hospital Roads, Hillcrest	Malacca Road Garden Refuse Site Malacca Road, Redhill	Phoenix Garden Refuse Site Canehaven Drive, Phoenix

Polymer Identification Code

Polymers are specifically different from each other and to be recycled, their technical integrity must be maintained. For this purpose polymer logos have been introduced by the plastics industry, although the use of them is voluntary. Where the polymer logo is not present, the item is much more likely to end up in landfill. Therefore, as part of 'Extended Producer Responsibility' as defined in the Waste Management Act, the packaging industry needs to be proactive and ensure that the recycle logo appears on all products. Retailers also need to insist that their packaging bears the polymer logo.

The overwhelming majority of plastic packaging is made with one of six resins: polyethylene terephthalate (PET); high density polyethylene (HDPE); polyvinyl chloride (PVC or vinyl); low density polyethylene (LDPE); polypropylene (PP); or polystyrene (PS).

The resin identification code assigns each of these resins a number from 1 to 6. The coding system also includes a seventh code, identified as 'other'. Use of this code indicates that the product in question is made with a resin other than the six listed above, or is made of more than one resin used in combination.

For more detailed information on plastics identification, which plastics can be recycled and what products are made from recycled plastic, see page 21.

Click here: Plastic identification codes (PDF)

Glass

Glass is a 100 percent recyclable but does not biodegrade. The raw materials for glass (sand, soda and lime) all have to be dug from the earth and melted together at very high temperatures. Energy is saved by recycling. The energy saved from recycling just one bottle will power a 100-watt light bulb for almost an hour. Every ton of glass recycled also saves 1.2 tons of raw materials. Where possible, we should be re-using bottles. Currently, this option only applies to certain beverage bottles on which there is a refundable deposit on returns.

The Glass Recycling Company
For a list of glass banks in Durban go to menu on website: Glass Banks | Kwazulu-Natal
Head Office: Unit 3, 41a Homestead Road, Rivonia / P O Box 623, Paulshof 2056
Tel: 011 803 0767 Fax: 011 803 0412
Website: http://www.theglassrecyclingcompany.co.za/ E-mail: info@theglassrecyclingcompany.co.za

See also Page 24 for a list of Reclam drop off sites and other glass recycling companies

Cans

Collect-a-can
13 Westmead Road, Westmead, Durban / P O Box 15112, Westmead, 3608
Tel: 031 700-5935 Fax: 031 700-5956
Website: http://www.collectacan.co.za/ E-mail: vincent@collectacan.co.za

Fruit juice and milk cartons

Tetrapak
1288 Old North Coast Road, Durban (Drop off point)
Head Office: 100 Electron Ave, Isando, 1600, Gauteng / Private Bag X 2007, Isando, 1601, Gauteng
Tel: 011 570 3000 Fax: 011 570 3131
Website: http://www.tetrapak.co.za/ E-mail: contactus@tetrapak.co.za

Click here for Urban Sprout article: 'You can recycle tetrapak!' 02.04.09

Comment submitted by Earth Green Recycling 02.09.09
After negotiations between Earth Green Recycling, Tetra Pak and re-Ethical www.re-sa.co.za we are very happy to let you know that re- will now be collecting Tetra Pak at their two drop off centres in Durban. These are at the Pavilion Shopping Centre Westville and Pick 'n Pay Hyper by the Sea Durban North. re- will be sending the Tetra Pak up to Timber Plastics in Johannesburg to be recycled into roofing tiles.

Batteries

It is estimated that over 50 million batteries are consumed in South Africa annually, 90% of which, are ordinary batteries that are used once and then discarded into household refuse. The average South African uses 6 battery operated products in their day to day lives. These devices range from TV remotes to clocks, to children's toys.

Generally, old batteries are discarded in the household refuse. As a result, approximately 2 500 tons of hazardous battery waste is disposed of in landfills each year. Discarded batteries eventually degrade and corrode, leaking their toxic chemicals into the soil and ground water.

Uniross makes rechargeable batteries and has joined forces with Pick 'n Pay plus selected Makro, Builders Warehouse Incredible connection, and Stax outlets, to put collection boxes for all battery types in their stores. Uniross then collects and sorts the batteries. The non-recyclable ones are then "concretised" and disposed of safely.

Car batteries contain toxic lead and sulphuric acid but are recyclable and can usually be handed in at the sales outlet when buying a new battery.

Uniross contact details: Unit 63 Capital Hill Commercial Estate, Cnr. K101 & Le Roux Ave, Midrand, Gauteng
Tel: 011 312 0016 Fax: 011 312 0079 Website: http://www.uniross.co.za/about.html E-mail: info@uniross.co.za

Long life globes (CFLs) & fluorescent tubes

Woolworths have collection points in their main shops in the Food Store section.
Customer Helpline: 086 002 2002

Pick 'n Pay Hyper by the sea, Waterkant Road Tel: 031 581 5300
Pick 'n Pay has partnered with Philips in a drive to recycle compact fluorescent lights (CFLs). As with the Uniross battery initiative, temporary bins have been placed in Pick 'n Pay stores. Amplux – a Philips merchandising support company – collects the disposed CFLs once a week from Pick 'n Pay. The collected lights are taken to Amplux offices and a waste company collects the CFLs and disposes of them responsibly.

CFLs and fluorescent tubes contain mercury, a toxin that can leach into the soil and groundwater if not disposed of properly. See Eskom http://www.eskomdsm.co.za/?q=mercury_qa FAQ and disposal guideline for CFLs

E- Waste

Electronic waste (e-waste) is the term used to describe old, end-of-life or discarded products that use electricity. It includes computers, consumer electronics, appliances etc. While there is no absolute definition of e-waste, it usually refers to the more expensive, durable products for data processing, telecommunications and entertainment used in households and businesses. Ever increasing digitalisation is beginning to blur the distinction however, as former electrical appliances such as kettles and ovens, now all contain electronic circuits and therefore also become e-waste. E-waste contains both valuable as well as harmful materials which require special handling and recycling methods. Examples are: Computers; LCD / CRT Screens; Cooling appliances; Mobile phones containing precious metals; Brominated flame retardant (BFR) plastics; CFC foams; and many other substances.

Pavilion Shopping Centre, Westville: All types of e-waste (no batteries/CFLs)
Tel: 031 275 9800 Fax: 031 265 0367 e-mail: enquiries@thepav.co.za
Makro, Springfield Park: All types of e-waste (no batteries / CFLs) Tel: 031 203 2800 Fax: 0860 409 999

eWASA (e-waste association of South Africa)
http://www.e-waste.org.za/

re- Ethical environmental re-engineering (Pty) Ltd
Head Office: Airways Close, 7 Wilcox Road, Prospecton, Durban, 4110
P.O. Box 26384, Isipingo Beach, 4115
Tel: 031 902 3542 Fax: 031 902 6530
Website: www.re-sa.co.za

Isipingo Branch
26 Clark Road, Isipingo Rail, 4110
P.O. Box 24532, Isipingo Rail, 4110
Tel: 031 902 3536 Fax: 031 902 3544

Digital Links: Digital Links International is a social enterprise and a registered charity, working since 2002 to limit strain on the environment and bridge the digital divide. They collect redundant computers from companies, schools and other organisations in the UK and SA, and refurbish them for reuse. The organisation was set up five years ago in response to two things: the huge need for affordable technology in the developing world, and the enormous amount of discarded and wasted computers in the UK. They have now collected computers from over 500 companies and delivered over 50 000 computers to 1.5 million users in schools, hospitals, and other institutions

Registered office in South Africa: 20 Baker Street, Rosebank 2196
Callen Hodgskiss cell: 083 452 0087
Website: http://www.digital-links.org/ E-mail: callen@digital-links.org / callen@hodgskiss.com

Cell phones

NOKIA CARE POINTS			
The Cellular Workshop, 222 Loop street, Heritage House, Pietermaritzburg 033 342 8155	Nashua Durban West End house, 30 the Boulevard, West End Office Park, Westville 031 250 7800	Cell Fix Shop 2, Chartwell Centre, Umhlanga Rocks. 031 561 3306	Nokia Care Shop G210, Ground floor, Gateway Shopping Centre, Broadlands 031 566 1280

Nokia's global recycling program http://www.nokia.com/environment/we-recycle
Nokia say they are making it easy to recycle mobile devices. To recycle your phone, battery or charger, drop it off at any Nokia recycling point. According to Nokia up to 80% of any Nokia device is recyclable. Cell phones contain a number of different metals – gold, silver, platinum, palladium, copper, tin, and zinc. The recovered metals are used in industries such as jewelry, plating, electronics, automotive, and art foundries. Nokia has placed take-back bins in over 50 places around the country and devices collected in the bins will be forwarded to qualified recyclers for responsible reclaiming of the materials. The campaign is not only calling for the return of old Nokia devices, but any manufacturer's mobile device can be dropped in the bins.

Cartridge Recycling

Green Office: 5 Devon Road, Pinetown / PO Box 77 Umgeni Park 4098
Tel: 031 7023050 Fax: 031 7023116 Contact person: Jacqui Porrill
Website: http://www.greenoffice.co.za/ E-mail: levonne@greenoffice.co.za

The MySchool cartridge recycling programme
Is run in association with Mzansi Office Recycling & Consumables.

Participating schools in Durban:
Highbury School
Hatton Estate Pre-Primary
Gert Maritz Primary School

SPCA Cartridge Collection Program
This is another joint project with Mzanzi. The SPCA receives monies for each cartridge donated to Mzanzi.

Mzanzi Contact details:
0860 5700 00 or Durban 031 309 6396/7

MySchool contact details:
Tel: 0860 100 445 Fax: 0866 822 833
E-mail: cs@myschool.co.za
Website: http://www.myschool.co.za/index.php/recycling

SPCA contact details:
Telephone: 031 579 6500 Fax: 031 579 4351
Cnr. Willowfield Cres./ Inanda Rd Springfield Park

Lubricant oil

Used oil can damage the environment and affect human health. A release of used oil into the environment, whether by accident or otherwise, threatens ground and surface waters with oil contamination thereby endangering aquatic organisms and the supply of drinking water. Used oil accumulating in the environment, causes soil and water pollution. Toxic gases and harmful metallic dust particles are produced by the ordinary combustion of used oil. The high concentration of metal ions, lead, zinc, chromium and copper in used oil, can be toxic to ecological systems and to human health when burnt. Various organic molecules arise from the breakdown of additives and base oils, the most potentially harmful of which is polycyclic aromatic hydrocarbon (PAH) found in benz(a)pyrene and chrysene, which are known to be carcinogenic and mutagenic.

ROSE Foundation (Recycling Oil Saves the Environment) (See also table of drop off centres on page 19)
Suite A 9, Waverley Court, 7 Kotzee Rd, Mowbray, 7925
Tel: 021 448 7492 Fax: 021 448 7563 Faxmail: 086 652 7384 Cell: 082 378 8556
Website: www.rosefoundation.org.za E-mail: usedoil@iafrica.com

DSW – ROSE DROP OFF CENTRES Rose Foundation / National Oil Recycling Association of South Africa Tel: 0860 667 272	
Chatsworth Garden Site Sunset Drive, Woodhurst	Montclair Garden Refuse Site Cnr Glanville Rd and Halifax Rd, Woodlands
Riverside Enviro Centre Roadhouse Crescent, Riverside	Canehaven Enviro Centre Cnr Canehaven Drive and Northside Rd, Phoenix
Bluff Garden Refuse Site Cnr Tara & Grays Inn Roads,Bluff	Mt Edgecombe Enviro Centre Mount Edgecombe Drive, Mt Edgecombe (near BMW showroom)
Tara Road Garden Refuse Site Cnr Tara Rd and Grays Inn Rd, Bluff Tel: 031 462 9149	Bellair Garden Refuse Site Bellair Road, Cato Manor Tel: 031 462 9149
Tel: 031 311 8828 Cell: 074 202 4352 or 074 223 5382 http://www.rosefoundation.org.za/depots.php?id=5&name=	

Scrap metal

(There are many scrap metal companies, so also search the internet and the Yellow Pages.)

Certain DSW sites

Go to: http://www.durban.gov.za/durban/services/cleansing/recycling/recycling-contact-list

Reclamation Group
38 - 44 Jeffels Rd, Prospecton
Tel: 031 - 902 1545, fax: 902 8200
http://www.reclam.co.za/

Atlantis Group
Head office: 28 Saxon Avenue, Mayville
Tel: 031 208-5489
Website: http://www.atlantisgroup.co.za/index.html E-mail: info@atlantisgroup.co.za

Waste Tyres

Old tyres should be taken to the nearest tyre sales outlet for recycling. Alternatively, contact the South African Tyre Recycling Process Company who are in the process of organising tyre recycling in South Africa in line with government regulations.

South African Tyre Recycling Process Company
Fax: 086-503-9880
PO Box 13, Ferndale, Randburg, 2160
Website: http://www.rubbersa.com/ E-mail: info@rubbersa.com

Household hazardous waste

There is no completely safe way to dispose of household hazardous waste so you should try, where possible, to find safer alternatives, use as little as possible, or do without. Hazardous products are labelled with words such as: DANGER, WARNING, CAUTION, POISON, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE or EXPLOSIVE. The following are the most common examples of hazardous products found in the average home:

- **Medicines**
- **Personal products** (e.g. hair colour, hairspray, nail polish and remover)
- **Indoor and outdoor pesticides**
- **Household cleaners, oven cleaners, drain cleaners etc.**
- **Automotive / Boat / Pool products**
- **Glues and cements / Paints and solvents**

Here are some often quoted statistics worth bearing in mind:

- Of the 17 000 petrochemicals available for home use, only 30% have been tested for their effects on human health and the environment.
- Of chemicals commonly found in homes, 150 have been linked to allergies, birth defects, cancer, and psychological abnormalities.
- Only 1% of toxins are required to be listed on labels, because companies classify their formulas as 'trade secrets'.
- In the past 50 years more than 75 000 chemicals have been introduced into the environment. Today 300 synthetic chemicals are found in the bodies of humans.
- Bleach, paint stripper and carpet cleaners used in the home can cause wheezing and asthma in children.

FIND OUT MORE Click on these links

The Effects of Petrochemical and Related Toxins on Human Health: PowerPoint Presentation by Dr. Mark A. Schauss
NYTimes: New Alarm Bells about Chemicals and Cancer – May 2010

Green your cleaning

Be healthy, be green and save a fortune! With a few basic ingredients you can make your own cleaning products.

Soap: unscented soap (liquid, flakes, powders or bars) is biodegradable and cleans just about anything.
Lemon juice: cleans and degreases and is effective against most household bacteria.
Borax:(sodium borate) cleans, deodorizes, disinfects, softens water, use to clean wallpaper, walls and floors.
White Vinegar: grease, mildew, odours, some stains and wax build-up, windows.
Washing Soda: (Soda ash / sodium carbonate) grease, stains, softens water, use to clean walls, tiles, sinks and tubs.
Cornstarch: windows, polish furniture, shampoo carpets and rugs.
Baking Soda:(bicarbonate of soda) cleans, deodorizes, scours.
Hydrogen peroxide: basic bleach / disinfectant (safer than chlorine bleach and biodegradable, but handle with care)
Other useful ingredients: salt, olive oil, and tea tree oil.

For recipes and further information, click on these links:
Green Footsteps
Eartheasy
Urban Sprout

Do and Don'ts

- Select the least toxic products for use in your home. Investigate safer alternatives.
- Invest in a fly swat and avoid chemical insecticides.
- Buy only what you need in smaller quantities to avoid storing dangerous products.
- Read the label for ingredients, instructions for use, safe storage and disposal.
- Buy products with listed ingredients so that medical staff will know how to treat poisoning.
- Ensure that the product is clearly marked and keep the contents in the original container.
- Avoid aerosol sprays as much as possible. These cannot be recycled or disposed of safely.
- Keep the container tightly closed and keep hazardous products well away from children and pets.
- Never mix hazardous products as they could react with each other.
- Always use with extreme care in a ventilated area.
- Never smoke or eat while using chemicals and always wash your hands after use.
- If a container is leaking, put it in to a durable, spill-proof secondary container and label it 'LEAKING'.
- Store in cool, dry and dark place away from stoves or water heaters.

Recycling and/or disposal

- Contact the supplier to enquire of any recycling options in your area.
- Use the internet to investigate possible markets for your waste.
- Ensure you use reputable and legal operators to avoid any pollution to the environment.
- Contact your local waste minimisation office, municipal solid waste department or hazardous waste contractor.
- Most medicines have a very short shelf life and stockpiling them is a potential hazard for children.
- Don't tip medicines into the bin - drop off medicines at your local pharmacist to dispose of safely.
- Disposal of hazardous waste must be done by authorized, reputable companies.

DECODING PLASTIC						
1 PETE *Polyethylene Terephthalate*	**2 HDPE** *High Density Polyethylene*	**3 V** *Vinyl (also as PVC for polyvinyl chloride)*	**4 LDPE** *Low Density Polyethylene*	**5 PP** *Polypropylene*	**6 PS** *Polystyrene*	**7** *Other*
Soft drink & water bottles; mouthwash bottles, peanut butter jars, salad dressing and vegetable oil containers; ovenproof food trays	Milk jugs, refuse bags, detergent bottles. milk and juice bottles; bleach, detergent, household cleaner & shampoo bottles, butter and yogurt tubs	Bottles: Window cleaner, detergent, shampoo, cooking oil, clear food packaging	Grocery bags and produce bags	Some yogurt tubs, syrup & ketchup bottles, caps, straws, medicine bottles	Disposable plates and cups, meat trays, egg cartons, take-out containers	All other types of plastics or packaging made from more than one type of plastic

1 ET or PETE (polyethylene terephthalate)

Accepted by most collectors.
Recycled into: Polar fleece, fiber, tote bags, furniture, carpet, paneling, straps, (occasionally) new containers. **PET** plastic is the most common for single-use bottled beverages, because it is inexpensive, lightweight and easy to recycle. If not heated, it poses a relatively low risk of leaching breakdown products. Recycling rates remain relatively low (around 20%), although the material is in high demand by re-manufacturers.

2 HDPE (high density polyethylene) HDPE

Accepted by most collectors.
Recycled into: Laundry detergent bottles, oil bottles, pens, recycling containers, floor tiles, drainage pipes, lumber, benches, doghouses, picnic tables, fencing.
HDPE is a versatile plastic with many uses, especially for packaging**.** It carries low risk of leaching and is readily recyclable into many goods.

3 Plastics V (Vinyl) or PVC

Rarely recycled; accepted by some plastic lumber makers. **Recycled into**: Decks, paneling, mud-flaps, roadway gutters, flooring, cables, speed bumps, mats
PVC is tough and weathers well, so it is commonly used for piping, siding and similar applications. PVC contains chlorine, so its manufacture can release highly dangerous dioxins. If you must cook with PVC, don't let the plastic touch food. Also never burn PVC, because it releases toxins.

4 LDPE

Not often recycled but some collectors will accept it. Plastic shopping bags can be returned to many stores for recycling
Recycled into: Bin liners and bins, compost bins, shipping envelopes, panelling, lumber, landscaping ties, floor tiles.
LDPE is a flexible plastic with many applications.

5 PP (polypropylene)

Can be recycled through some collectors.
Recycled into: Signal lights, battery cables, brooms, brushes, auto battery cases, ice scrapers, landscape borders, bicycle racks, rakes, bins, pallets, trays
PP has a high melting point, and so is often chosen for containers that must accept hot liquid. It is gradually becoming more accepted by recyclers.

6 PS (polystyrene)

Can be recycled through some collectors.
Recycled into: Insulation, light switch plates, egg cartons, vents, rulers, foam packing, take-out containers
PS can be made into rigid or foam products. In the latter case it is popularly known by the trademark Styrofoam**.** Evidence suggests polystyrene can leach potential toxins into foods. The material has also long been of concern for dispersing widely across the landscape, and for being notoriously difficult to recycle. Most places still don't accept it, although it this is gradually changing.

7 Miscellaneous

Plastics that have traditionally not been recycled, although some collectors now take them.
Recycled into: Plastic lumber, custom-made products
A wide variety of plastic resins that don't fit into the previous categories are grouped into number 7. A few are even biodegradable being made from plants (polyactide) and are compostable. Polycarbonate is also number 7, and is the hard plastic that is of particular concern since studies have indicated that it has the potential to be a hormone disruptor.

NOTES

DSW Garden Refuse/Recycling Drop-off sites & Buy-back Centres Tel: 031 303 1665

The symbols provided are only a guide. Confirm beforehand that the waste you want to drop off is accepted

Links: http://www.durban.gov.za/durban/services/cleansing/recycling/garden

∗ Paper / card	● Batteries
◎ Plastics	◊ e-waste
⊕ Cans	▲used oil
▯ Glass	■ Scrap metal
❖CFLs	∇ Car batteries

Name	Contact	Address	Area	Drop-off/Buy-back
Bellair GRS	031 462 9149	Near cnr. Bellair & Edwin Swales / Sarnia Arterial	Bellair	∗◎ ⊕ ▯ ▲
Bluff/Tara Rd GRS	**DSW**	Tara Road, Bluff. Access to site via Grays Inn Road	Bluff	∗◎ ⊕ ▯ ▲
Brook Street BBC	**DSW**	2 Brook Street North, Warwick Junction	Durban Central	
Canehaven	**DSW**	Cnr Canehaven Drive and Northside Road	Phoenix	▲
Chatsworth GRS	031 401 9936	5 Sagittarius Road, near general waste transfer station	Chatsworth	▲
Escom Rd BBC	**DSW**	19 Pineside Road	New Germany	∗◎
Hillcrest	**DSW**	Shortlands Avenue, Scout Hall	Hillcrest	∗◎ ⊕ ▯
Isipingo BBC	**DSW**	Lot 1029, Isipingo Old Main Road. Access via Flamboyant Drive	Isipingo	∗ ■ ∇
Kloof	**DSW**	Emolweni Road, Kloof Civic Centre	Kloof	∗◎ ⊕ ▯
Malacca Rd GRS	**DSW**	Malacca Road, Glen Hills	Durban North	∗◎ ⊕ ▯
Montclair	**DSW**	Cnr. Glanville Rd and Halifax Rd	Woodlands	▲
Mt. Edgecombe GRS	072 671 5406	Gravel Road off Mt. Edgecombe Highway	Mt. Edgecombe	∗◎ ⊕ ▯■▲
New Germany GRS	**DSW**	Kwadabeka Highway/Chelsea Square: *Informal cardboard collectors site*	Clermont	∗
Newlands GRS	**DSW**	Pipdale Road. Access via Skipdale Rd off the M21 / Inanda Arterial	Newlands West	
North Coast BBC	**DSW**	1288 North Coast Road	Redhill	∗◎ ⊕ ▯ ■
Nyati Rd GRS	031 903 6943	Nyati Road	Amanzimtoti	
Pavilion	**DSW**	Jack Martin Drive	Westville	
Phoenix GRS	**DSW**	Cnr Canehaven Drive and Northside Road	Phoenix	∗◎ ⊕ ▯
Pick ‘n Pay	**DSW**	Hyper-By-The-Sea, Waterkant Road	Durban North	∗◎ ⊕ ▯❖●
Pinetown		Boxer Centre, Harvey Road: *Informal collectors site*	Pinetown	
Queensmead BBC	**DSW**	Cnr. Turquoise & Piet Retief Roads	Queensmead	■
Riverside GRS	**DSW**	Riverside Road. Access via Roadhouse Crescent	Durban North	∗◎ ⊕ ▯ ▲
School Road	**DSW**	School Road	Amanzimtoti	
Seadoone Rd GRS	031 903 6943	Seadoone Road	Amanzimtoti	
Shallcross GRS	083 781 4756	Shallcross in the former Inner West Region	Shallcross	
Travencore GRS	**DSW**	Travencore Drive, adj. to Mlazi Canal, app. 500 m from shoreline	Merebank	∗◎ ⊕ ▯
Umkomaas GRS	031 903 6943	Main road, along main road to Sappi Saiccor Plant	Umkomaas	
Westmead BBC	031 700 6504	39 Westmead Road	Westmead	∗◎ ⊕ ▯ ■
Westville	**DSW**	William Lester Drive	Westville	
Woodlands GRS	**DSW**	Glanville Road, near Mobeni West rail station	Woodlands	
Wyebank GRS	031 767 0939	Wyebank Road, Wyebank	Kloof	

GLASS BANKS http://www.durban.gov.za/durban/services/cleansing/recycling/recycling-contact-list
Reclamation Group Tel: 031 902 1545 / 031 465 2080

AREA	PHYSICAL ADDRESS
ATHLONE PARK	BEHIND QUICK SPAR- CNR ABELIA & WARMER RD
BALLITO	LINK RD, OPP BP SERVICE STATION
BELLAIR	BELLAIR RD, CNR BELLAIR &EDWIN SWALES DR, DSW GARDEN REFUSE SITE
BEREA	WILDLIFE SOCIETY, 100 BRAND RD,CNR BRAND RD-DAVENPORT RD
BLUFF	BLUFF SPAR, BLUFF RD
BLUFF	MAKRO, EDWIN SWALES
BLUFF	BLUFF DSW GARDEN REFUSE SITE, TARA RD
BLUFF	NDOMBI SHELLHOLE, LIGHTHOUSE RD
DURBAN NORTH	ENGEN BROADWAY, MILLDENE PLACE/OLD MILL RD
DURBAN NORTH	DSW GARDEN REFUSE SITE, MALLACA RD/RYDE PLACE
DURBAN NORTH	HYPER PICK 'N PAY (BY THE SEA)
DURBAN NORTH	RIVERSIDE RD GARDEN REFUSE SITE, RIVERSIDE RD
LALUCIA	LALUCIA MALL, PARKING LOT(ALONG WILLIAM CAMPEBELL DR)
MEREBANK	KARACHI RD (OPP REGIONAL OFFICE) MEREBANK
MONTCLAIR	MONTCLAIR RD,MONTCLAIR SHOPPING CENTRE, PICK N' PAY
MONTCLAIR	PELICAN PLACE-OFF KINGFISHER AVE, YELLOW
MORNINGSIDE	LIBERTY LIQOURS, ARGYLE RD
MORNINGSIDE	NINTH AV, BEHIND AVONMORE CENTRE, DURBAN
MORNINGSIDE	CNR COWIE RD& MILNER RD , BEHIND COWIE CENTRE,DURBAN
MOUNT EDGECOMBE	SUGAR ESTATE/COUNTRY CLUB (ENGEN)
NEWLANDS	DSW GARDEN REFUSE SITE, PIPDALE RD
PROSPECTON	HYPERAMA PARKING LOT
SARNIA	ONE STOP- SARNIA LIQOURS (STAPLETON RD)
SARNIA	UNDERWOOD/BARTLETTE RD, KENYA
SPRINGFIELD	MAKRO, ELECTRON RD
TOTI	CATHOLIC CHURCH-CNR FROST & BERNADOTTE RD
UMHLANGA ROCKS	TWILANGA SENIOR CITIZENS ASS, HERALD RD OFF HERWOOD DR
VIRGINIA	LIQOUR TOWN, HINTON PLACE
WATERFALL	BOYS SCOUT, SHORTLANDS AVE/RIDGE RD
WATERFALL	ZENEX/INANDA RD/LINK RD
WATERFALL	CAMELOT- CHAPEL/GOLF COURSE (WEST RIDING RD)
WATERFALL	SHOPPING CENTRE BACK/ROTARY CLUB, 7KM FROM HILLCREST
WESTVILLE	CHURCH, KONINGKRAMER RD/RENOWN RD
WESTVILLE	COUNTRY CLUB (1LINK RD)
WESTVILLE	TOTAL GARAGE(KENSINGTON RD/WESTVILLE RD)
WESTVILLE	WESTVILLE CIVIC CENTRE, BUCKINGHAM/ATTERCLIFF RD
WESTVILLE	OPP SURREY PARK SPORTS CLUB(BARHAM RD)
WESTVILLE	WESTVILLE TATTERSILS, DAVID MCLEAN RD
WOODLANDS	GLANVILLE RD, WOODLANDS, GARDEN REFUSE SITE

Other Glass recycling Companies

Glass Recycling Association
Tel: 011 - 8270338
PO Box 562, Germiston, 1400

The Glass Recycling Company
For a list of glass banks in Durban go to menu on website (Glass Banks / Kwazulu-Natal)
Website:
http://www.theglassrecyclingcompany.co.za/

Head Office: Unit 3, 41a Homestead Road, Rivonia / P O Box 623, Paulshof 2056
Tel: 011 803 0767 Fax: 011 803 0412
E-mail:
info@theglassrecyclingcompany.co.zaGlass

Recycling Services
Tel: 031 461 2989 42 Brooklyn Rd, Jacobs

Consol Glass
Tel: 011 - 874 0000

Re
Tel: 031 902 3542
Unit 4 & 5, Airways Close, 7 Wilcox Rd, Prospecton

Kenton's Bottle Crusher
Tel: 031 466 4720

Opsiweni Glass Recyclers
Tel: Renny, 083 477 3069

eThekwini Municipality:

Durban Solid Waste (DSW) Recycling http://www.durban.gov.za/durban/services/cleansing/recycling
Introduction to Waste Minimisation & Recycling http://www.durban.gov.za/durban/services/cleansing/recycling/intro
DSW Sites http://www.durban.gov.za/durban/services/cleansing/recycling/garden

Organisations: Waste Minimisation / Sustainability: Environmental, Economic & Social *(Alphabetical local & International)*

Earthship Biotecture http://earthship.org/
Factoryfarming.com http://www.factoryfarming.com/
Fair Trade South Africa http://www.fairtrade.org.za/
GAIA (Global Alliance for Incinerator Alternatives) http://www.no-burn.org/article.php?list=type&type=65
groundWork http://www.groundwork.org.za/
IZWA (Institute for Zero Waste in Africa) http://www.izwa.org.za/whoisIZWA.html
KZN Waste Minimisation, Reuse & Recycling Forum http://www.recyclingkzn.co.za/
National Recycling Forum www.recycling.co.za
Permaculture Research Institute of Australia http://permaculture.org.au/what-is-permaculture/
Small Farm Permaculture and Sustainable Living http://www.small-farm-permaculture-and-sustainable-living.com/index.html
Slow Food http://www.slowfood.com/
South African New Economics Network (SANE) http://www.sane.org.za/about.htm
South African Waste Information Centre http://www.sawic.org.za/
Transition Culture http://transitionculture.org/
Transition South Africa http://transitionza.ning.com/

Waste Minimisation Companies

re- ethical environmental re-engineering (Pty) Ltd http://www.re-sa.co.za/site/default.asp
Enviroserve Recycling Solutions http://www.enviroserv.co.za/pages/Content.asp?SectionID=962
Reclam: The New Reclamation Group http://www.reclam.co.za/
Mondi Recycling: Paper Pickup http://www.paperpickup.co.za/default2.asp

Legislation

SAWIC http://www.sawic.org.za/?menu=13
Groundwork: The Waste Management Bill August 2007 http://www.groundwork.org.za/Press%20Releases/Waste%20Management%20Bill%20Briefing%20Paper.pdf

Media & Publications

Urban Sprout http://www.urbansprout.co.za/
Green Footsteps http://www.greenfootsteps.com/index.html
Treevolution http://www.treevolution.co.za/
Going Green: Re-use & Recycling in SA http://www.goinggreen.co.za/green-it-yourself/112-reuse-and-recycling-in-south-africa.html?start=1
Going Green: Home http://www.goinggreen.co.za/home.html / **Going Green Directory** http://www.goinggreen.co.za/directory.html
The Story of Stuff (Short video) http://www.storyofstuff.com/
Garbage Warrior (Documentary) http://www.garbagewarrior.com/about.html
The Plastic Bag Story (Slide show) http://www.slideshare.net/andrewkbrown/the-plastic-bag-story
Grist: Fast Food Nation (Movie) http://www.grist.org/news/maindish/2006/11/17/schlosser/
Prosperity without Growth (Book) http://www.guardian.co.uk/books/2010/jan/23/properity-without-growth-tim-jackson
The Circle of Simplicity (Book) http://www.simpleliving.net/shop/item.aspx?itemid=687
Radio 702 Redi Direko's Green Tip of the day http://www.702.co.za/shows/greentips.asp

About Waste Minimisation & Recycling

10 things you should know about Waste http://www.sadelivery.co.za/files/back_issues/delivery/Edition12/waste&recycling2607.pdf
DEAT: Guidelines on recycling of solid waste http://www.environment.gov.za/nwmsi/Recycling/Guidelines/Recycling/Rec_chap4-5.pdf
Working with Waste http://www.sawic.org.za/documents/232.pdf
National Recycling Forum http://www.recycling.co.za/downloads/EDUCATORS-GUIDE.pdf
Urban Sprout: Recycling http://www.urbansprout.co.za/article/recycle / http://www.urbansprout.co.za/cause/recycling
Greener House http://www.greenerhouse.co.za/category/recycling/
Greenworks http://www.greenworks.co.za/recyclepage.html
Recycle Now (UK) http://www.recyclenow.com/what_can_i_do_today/can_it_be_recycled/
Imagine Durban http://www.imaginedurban.org/index.php/Environmentally-Sustainable-City/Wise-up-to-Waste.html
Enviropaedia Sustainable Lifestyle Guide http://www.enviropaedia.com/lifestyle_guide/guide.php
Recycling Guidelines: http://www.environment.gov.za/nwmsi/Recycling/Guidelines/Recycling/Rec_chap4-5.pdf
Recyclable materials http://www.mrrecycle.co.za/acceptable-materials / www.yesrecycling.co.za / http://www.earthgreen.co.za/tips.html / http://www.liveeco.co.za/?m=3&idkey=595

Waste: Social, Economic & Political issues

Groundwork: South Africa's First Waste Pickers Recycling Gathering
http://www.groundwork.org.za/Press%20Releases/01July2009WastePickers.asp
Business Report: Recycling could provide thousands of jobs - January 2010 http://www.busrep.co.za/index.php?fArticleId=5309018
CCS Publications: True cost of Durban's waste strategy: Patrick Bond - February 2010 http://www.ukzn.ac.za/CCS/default.asp?2,64,17,110
Launch eThekwini landfill gas CDM project - January 2010
http://www.engineeringnews.co.za/article/peters-to-launch-ethekwini-landfill-gas-cdm-project-2010-01-27
Ecological Economics http://en.wikipedia.org/wiki/Ecological_economics

General Sources & Further Information

Final Report of the National Roundtable on Sustainable Consumption & Production (SCP) - August 2008
http://www.environment.gov.za/Services/documents/Publications/Report%20NSCP_16%20September.pdf
Defusing the landfill time bomb http://www.sadelivery.co.za/files/back_issues/delivery/Edition1/defusing_landfill_timebomb.pdf
Western Cape filling up landfills - March 2010 http://www.capetowngreenmap.co.za/blog/western-cape-filling-landfills
Times Online: Mission to break up Pacific island of rubbish twice the size of Texas - May 2009 http://www.timesonline.co.uk/tol/news/environment/article6206498.ece
Mindfully.org: Great Pacific Garbage Patch http://www.mindfully.org/Plastic/Ocean/Pacific-Garbage-Patch27oct02.htm
Global Issues: Beef http://www.globalissues.org/article/240/beef
World War Two rationing http://www.u-s-history.com/pages/h1674.html
Wikipedia: Recycling http://en.wikipedia.org/wiki/Recycling
Plastic bags are killing us http://www.salon.com/news/feature/2007/08/10/plastic_bags/
Boston Globe: First shot fired in bottled water battle - May 2010 http://www.boston.com/news/local/massachusetts/articles/2010/05/01/concord_fires_first_shot_in_water_battle/?page=1
Bioplastics and biodegradable plastics http://www.explainthatstuff.com/bioplastics.html
WWF: Landfill and the Pulp and Paper Industry http://assets.panda.org/downloads/briefing_landfill.pdf
Disposable nappies http://mothering.com/green-living/politics-diapers / http://www.nickisdiapers.com/pages/HealthConcerns.php
Urban Sprout: Revenge of the cloth nappy http://www.urbansprout.co.za/revenge_of_the_cloth_nappy
eThekwini Online: Mariannhill Landfill Conservancy – A 'Closed Loop' Design http://www.durban.gov.za/durban/services/cleansing/gastoelec/fill
Mariannhill Landfill Conservancy http://www.impumelelo.org.za/awards/2006/platinum/mariannhill-landfill-conservancy-1
For waste reduction, proponents insist choice is clear – March 2011 http://thechronicleherald.ca/Front/1232920.html
New York Times: New Alarm Bells about Chemicals and Cancer - May 2010 http://www.nytimes.com/2010/05/06/opinion/06kristof.html
The Effects of Petrochemical and Related Toxins on Human Health: PowerPoint Presentation by Dr. Mark A. Schauss
http://www.markschauss.com/wp-content/uploads/2009/03/the-effects-of-petrochemical-and-related-toxins-on-human-health.ppt
Europe's e-waste in Africa http://www.ghanabusinessnews.com/2009/05/09/europes-e-waste-in-africa/