

## WASTE MANAGEMENT

### *Motion*

Resumed from 9 August on the following motion moved by Hon Jim Scott -

That this House notes the significant problems arising in the area of waste management including the impacts on health, remediation of sites contaminated by inappropriate disposal of waste and the siting of waste facilities.

**HON PETER FOSS** (East Metropolitan) [4.09 pm]: When last discussing this motion I referred to branded bottles and pointed out that we should discourage continuing ownership of property by the person who created it once it has been put into the waste stream. Interestingly enough, when we were in government some people tried to persuade us to protect some crates in that particular way; they wanted to make it a criminal offence to use somebody else's crates. That would be an adverse action, but it could be done. A High Court case in the 1930s permitted ownership to be retained in that way. However, if we do anything, we should ban that continuing ownership of bottles, crates and so forth, because the net result is that the people who own them can demand to have the waste stream diverted back to them, and they do it under threat of action against the people who might otherwise take that piece of waste and use it for themselves.

I gave the example of a coke bottle as one of the clearest cases of a totally un reusable bottle, except by Coca Cola Amatil, although it can be recycled by being broken. One of the good things about glass is that it can be recycled by melting it down, but the better way is to reuse bottles after cleaning without consuming further energy. The only energy used is for cleaning and sterilising. The use of energy is an important consideration in any management of waste - whether energy or human endeavour is used, they both become self-defeating in the proper use of waste.

A consistent problem has been the cost of sorting waste for reuse, the search for suitable uses for the product that is derived from waste once it has been dealt with, and the cost of the energy. Many years ago I visited Smorgens in Victoria where I saw its plastic reconstitution system, which involved bundling together and compressing all sorts of mucky looking plastic things such as plastic bags, containers for soap powders and ice cream containers and forcing them through a dye so that out the other end came a sort of brown sausage of plastic. It looked a bit like a dark wood. The company was making roadside barriers, park boundaries, park seats and things of that nature. Western Australia could not justify the cost of a plant like that due to the amount of plastic rubbish produced here. Somebody has to be prepared to buy that product. Victoria had a very neat solution, because most of this rubbish came from local councils, and the company had a deal with the local councils to take the results and place them back into local council-type facilities. The plastic was used to make things such as park seats and park boundaries, because the local councils guaranteed to use the product. That process did not require any chemicals; it was purely a physical process, and it did not require an enormous amount of heat because it was created mainly by pressure and only a small amount of energy was used. I am not sure whether that is still happening in Victoria, because its biggest problem in dealing with the waste stream in that way was to find somebody who could use the vast quantities of planks, boards, seats and other things produced by that process.

Disposal of biodegradable plastic is also a concern. People came up with the wonderful idea of biodegradable plastic. The biggest problem with plastic is that it does not biodegrade, but tends to stay in the environment and become a mess, whereas when biodegradable things are thrown out they just disappear. There is no doubt that this solves one of the problems and allows people to get rid of the plastic, although biodegradable plastic is pretty mucky looking stuff. I do not know whether any members have seen the results of recycled biodegradable plastic - instead of ending up with a large plastic bag one ends up with lots of little shards of plastic.

The real objection to biodegradable plastic in the long term is that it is such a waste of energy. We are talking about waste management; not just about waste product management. It would be a very shortsighted view if we went to biodegradable plastic. I would love to hear Hon Jim Scott's views on the relative merits of biodegradable and non-biodegradable plastics. They can be used in only a very limited area because there are some plastics that we do not want to biodegrade - but even in those applications where we could have a biodegradable plastic, the jury is still out as to whether it is a good thing. My feeling is that it is a bad thing, because it is in itself wasteful - we are consuming petroleum products in very large quantities and a lot of energy is used in producing them.

This whole question of dealing with waste is never as simple as it seems at first blush; we need to take this issue very seriously. It is not a matter for amateurism; it requires considerable scientific research and thought. Western Australia needs to be in touch with developments around the world and it needs to have some professional people working on this issue. The Western Australian Waste Management Authority is a useful body, but we will have to take more measures as time goes on. In the light of the resistance even to the establishment of that body, we will have to step carefully.

Another way in which waste has been traditionally disposed of is by burning it. People could always tell where there was a waste dump because of the putrid smell in the air. People used to have their own little waste dump. During my younger days everybody had a backyard incinerator, and there were some benefits in having them, but people would put eggs or plastic or rubber in the incinerators and that would create an incredibly bad smell, with a lot of particulate matter being released into the atmosphere. Merely burning off leaves from the garden was not quite so bad, but burning all sorts of putrid things in backyard incinerators had some very serious effects.

Backyard incinerators were banned and were replaced by a number of large incinerators. For instance, every major hospital had an incinerator, which they used to dispose of medical waste. The disposal of medical waste, of course, is a particularly sensitive issue, and it has become more sensitive as time has gone on. It is sensitive because people do not like finding body parts on rubbish dumps, quite apart from any concern as to the spread of disease. Not only do people find it offensive to see bits of body parts on a rubbish dump, but also there are risks of disease. Now that blood-borne diseases are so prominent in people's minds, the disposal of sharp objects, bloody wrappings and bandages and things of that nature become matters of considerable concern. Hospitals generally disposed of their waste by burning it. The problem was that they used to dispose of all sorts of things. As time went on hospitals became more and more throwaway societies. I supported a very worthy project conducted by King Edward Memorial Hospital, which actually went out of its way to go back to some of the old methods of dealing with these things - it was able to recycle and reuse rather than throw away.

The hospital was throwing away the smallest things, such as little dishes, which could have been made out of steel and which therefore could have been sterilised and reused. Masks, gowns and caps were all made out of a disposable material that was thrown away and burnt. A green group at King Edward Memorial Hospital went through the hospital's waste stream and worked out sensible and economical ways to revert back to the old methods. They instigated a remarkable and commendable change. I do not think it has been followed by many other hospitals. The change was most likely due to the efforts of a doctor at the hospital, who has a keen interest in the environment. He was the major supporter. He was not the major agitator; a number of midwives were the principal agitators, but the support of a senior obstetrician helped their cause considerably.

People could always tell where hospitals were located because of the huge smokestacks. The money spent on incinerators - even before we changed the specifications - was considerable. I was involved in a major case regarding the incinerator at a major teaching hospital. Incinerators cost millions of dollars. This incinerator did not work, and cost many more millions of dollars to repair. Hospital incinerators are not simply scaled-up versions of backyard incinerators; they are major capital investments. It became less practical to run them after the State changed the specifications. They became so expensive that it was not feasible for each hospital to have its own incinerator. It would have cost many more millions of dollars to upgrade each incinerator, and the amount of waste did not justify the cost. Therefore, only one incinerator in Western Australia was upgraded to the new standard. The standard required two important components. Firstly, the operating temperature was increased so that the incinerator caused the appropriate destruction of material. What came out of incinerators was often as bad as or worse than what was put in. Secondly, some form of control was implemented to ensure that no particulate matter was emitted from the smokestack. The upgrade of that incinerator was not very popular with the hospital's neighbours, which will always be one of the difficulties with such things. Those people had for years campaigned to have the incinerator shut down, and they were not too keen for it to be upgraded and become the only incinerator in the metropolitan area. The Health Department also considered the disposal of certain medical waste through landfill in country areas, and it introduced regulations relating that. There was some dispute about them, but that has now settled down and been dealt with happily.

It is not simply a matter of burning or burying things. We must go further up the stream and think about the way in which a product will ultimately be disposed. We should do the usual three-way exercise, which is a good method of assessing action that the High Court handed down. It is something for which I admire the High Court. This exercise emerged from the case of *Wyong Shire Council v Shirt*, which related to negligence. The High Court said that such things are a three-way pull. The process is that a person must look at the potential damage or injury from an action, and ask how bad things would be if they went wrong. He must then question the risk of that occurring; whether it is highly likely or remote. The third factor in the equation is the cost of overcoming the danger. If it were likely to cost little to avoid both the risk and the danger, it should be done. On the other hand, if the cost were absolutely outrageous, it would be reasonable to not do it. It is amazing how often that three-way analysis applies in life, and it applies as much to waste as anything else. It is the sort of analysis KEMH applied to its waste stream. It asked what it would cost to overcome the mass disposal of waste. Obviously some cost was involved, because if hospitals used washable gowns rather than throwaway gowns, they would need to pay to wash and sterilise them. On the other hand, those gowns would last for a number of uses. The hospital administration then asked itself what costs would be offset by the change. If that sort of analysis is carried out, the trouble areas in the waste stream soon become clear. It is not a difficult exercise, but very few people go to the trouble of doing it.

It has not been widely publicised that we should take simple measures to look at how we treat our waste stream. We should ask what we are producing and why we are producing it. Even small things help. For instance, members may have noticed that whenever I refer to a paper in the House, it is green. That is because I recycle my *Hansard* duplicates. I print everything on the back of *Hansard* duplicates because the information in *Hansard* is not exactly confidential. It is very easy to reuse that sort of paper, and there is no work involved in assessing the risk of reusing it and making it publicly available. That is a little thing. It is a small drop in the ocean; however, the waste process comprises many small drops in the ocean. The tonnes of waste in the rubbish heaps are the result of thousands of people throwing small bits of waste into the rubbish bin. It is a process that is susceptible to a water-on-the-stone-type approach, because it has the capacity to be dealt with by individuals taking a different attitude.

I support Hon Jim Scott's motion, which is timely. It is a good opportunity for the new Government to act while it has the ear of the people. Governments have only a short time in which they are able to carry conviction with the people - about 12 months - and have a real opportunity to make a change. Hon Jim Scott pointed out that this would impact in a number of areas. If the Government wanted to pick an area in which it could make a significant change, it could not choose a better area than waste.

Hon Derrick Tomlinson will tell us about the benefits of the appropriate treatment of waste. Waste should not always be seen as a burden. The Yorkshire saying is, "Where there's muck, there's money." Waste has the capacity to be a good business. A friend of mine was one of the first people in Western Australia to recycle. Everyone laughed at him because he collected bottles and all sorts of things. He was a laughing stock, but he has had the last laugh because he now owns one of the largest recycling industries in Western Australia. He has been blessed with an incredibly agile mind that is always looking for opportunities to make use of other people's waste. We need to encourage agile minds that can see opportunities. The recycling of waste requires the efforts of many people. That is one of the reasons I regret the prohibition of scavenging at dumps. No one person can pick the usefulness of every item at a dump, but 100 people with different wishes will find things. That is why the kerbside collections are now so useful.

Hon J.A. Scott: Maybe we should change the name of waste.

Hon PETER FOSS: We could call it "value". The member could be right. We must present people with a different attitude by saying that waste is an opportunity rather than a burden.

Hon W.N. Stretch interjected.

Hon PETER FOSS: That is right; one man's meat is another man's poison. We could go on like this forever.

It is an old saying; it is an old thought that one can turn something to one's advantage provided we allow an agile mind to do it. Unfortunately, with a lot of our regulations we have been preventing rather than encouraging that. I gave the example of mobile garbage bins. MGBs were put in place for a very good economic reason but they have turned out to be a disaster. Advantages we have gained in one area have ended up costing us in others.

I could speak for hours on this topic but I do not intend to do so. Having given that brief introduction I should give other members the opportunity to speak on the topic. I have given some support to Hon Jim Scott on this matter and I hope he values my support of his very valuable introduction to this topic. I am interested to hear what the Government has to say. This is an opportunity for the Government to remedy its poor record on waste management and do something worthwhile. The Government is better at words than action but this is the time for action and it should heed the call of Hon Jim Scott and do something useful. I have great pleasure in supporting this motion.

**HON DERRICK TOMLINSON** (East Metropolitan) [4.31 pm]: Hon Peter Foss has stolen my thunder because he indicated I would talk about the beneficial uses of waste. The starting point should be to do the sort of thing suggested by Hon Jim Scott in an interjection. We need to change the language and stop thinking in terms of waste and think in terms of product. I came to this realisation about eight years ago when I had the very real privilege of travelling to Hanoi as the representative of the then Minister for Education, Hon Norman Moore. Without going into the reasons that I was in Hanoi, I can say that I flew business class to Singapore and Vietnam Air class from Singapore to Hanoi. Visiting Hanoi was a fascinating cultural experience in many ways, one of which was to observe the streets. From dusk to midnight the streets and sidewalks were swept meticulously by humbly dressed old ladies using palm fronds. They swept up everything. During the day, the sidewalks of Hanoi are marketplaces; it is where the small business people set up their stalls and sell everything from drinks and foodstuffs to stereos. They are very busy places. The streets are chock-a-block with bicycles. Every night, an army of old women would sweep the streets and take away in their barrows what I thought was waste. I found it fascinating that the women would take their barrows to a central place and from midnight they would start sorting all the sweepings from the streets. Everything was sorted into different piles, whether it was

a piece of metal or sodden cardboard. Each article became a product for some form of processing. Pith helmets are sold in most streets of Hanoi.

Hon Peter Foss: I know.

Hon Ljiljanna Ravlich: Did you go together?

Hon DERRICK TOMLINSON: No, I went alone as the representative of the Minister for Education. I had some discussions with the Minister for Education in Hanoi and some university officials.

I was fascinated by the pith helmets. I was told that the helmets were made from the sodden cardboard and paper materials retrieved from the streets. The Vietnamese did not see the cardboard as waste; they saw it as a product. Everything swept up by the old ladies was the raw material for something else - road building, foundations or infill. The Vietnamese economy was ravaged by war and has been dependent on funding by the World Bank for much of its infrastructure. The economy does not have a concept of waste. If we start thinking in terms of product rather than waste, we will start moving in the direction that Hon Jim Scott advocates. He should be encouraged in his advocacy.

In the early part of his address on 27 June, Hon Jim Scott posed a rhetorical question, "Do we really want to burn chicken manure?" No, not when we consider the nitrogen content and ammonia content of chicken manure. It is a valuable product. It is a very valuable potential fertiliser. I say "potential" fertiliser because anybody who has put chicken manure on their roses knows how careful one has to be. I had a dozen beautiful roses that lasted only 48 hours after I was overindulgent with chicken manure. The question is, do we want to burn it? The answer is no, it is too valuable. To my knowledge, chicken manure is not burned. Chicken manure - the excreta of chickens - is used for two purposes. Some members are making comments. Do I have to start shouting?

The PRESIDENT: The member seems to be seeking interjections without success. Perhaps he would like to continue with his speech.

Hon DERRICK TOMLINSON: I was not seeking interjections - I was seeking attention.

Two things are done to chicken manure. When egg farms are cleaned out, which does not happen regularly, the chicken manure, which is almost pure manure because of the management practices of egg farmers, is taken by soil processors. I am not sure whether I am allowed to name products, but Soils Ain't Soils is one such soil processor. The chicken manure is mixed with peat and sand and is sold as the Mediterranean mix, or whatever it might be. The same contractor has a contract with the Forrestdale septage plant. The dried sewage is bought by the same soil processor company to be mixed with chicken manure, sawdust, sand and peat. That conditioned soil is much sought after by gardeners.

Another use of chicken manure is to pelletise it. Australia has five pelletising plants. The plant in New South Wales processes 100 000 tonnes of chicken manure as fertiliser pellets, which, to give another free plug, is called Mother Nature's Dynamic Lifter. It is a very good fertiliser that is rich in nitrogen and it has a pungent ammonia aroma, but it is not burnt.

Hon Jim Scott interjected.

Hon DERRICK TOMLINSON: Hon Jim Scott has raised an important point. He referred to a proposal that the Broiler Growers Association of Western Australia use chicken litter as a fuel for an electricity generator. I will distinguish between the terms "chicken manure" and "chicken litter". In the process of managing the manure of caged egg birds, "chicken manure" falls to form a mound under the cages.

Hon Frank Hough interjected.

Hon DERRICK TOMLINSON: I prefer the word "mound". It is dry on the outside, but not on the inside. There is very little odour from the manure in egg farms, although the odour of the birds in egg farms is strong. The manure is so rich that it does not breed flies, but it does breed some nasty beetles. However, for as long as it is dry and has a crust on it, one can live with the smell - until the mound gets wet. If those mounds get wet, their odour is incredibly foul.

Hon N.D. Griffiths: Are you referring to fowl? Very dry.

Hon DERRICK TOMLINSON: That pun was unintended. The odour from the mounds is noxious, and dealing with it is extremely problematic. The Triple A Egg Farm, which the Minister for Agriculture opened, produces 40 per cent of the eggs in the metropolitan area, if not in Western Australia -

Hon Kim Chance: It is 40 per cent of Western Australian eggs.

Hon DERRICK TOMLINSON: That company has an interesting process whereby the manure falls onto a conveyer and the manure is air dried. It is then taken by a processor to be processed, no doubt for pelletising, although a request is being pursued to compost some of that manure. That is "chicken manure".

The broiler farming operations are quite different because they are operated in sheds. The sheds have several centimetres of jarrah sawdust on the ground. The sawdust must be jarrah because of its absorbent qualities. The chicken manure falls onto the sawdust. The chickens live in the shed for 16 weeks. After 16 weeks, the sawdust and the manure, which is called "chicken litter", is taken away. Dealing with that product is much more problematic. Again, it is a valuable commodity as a potential fertiliser. It is rich in nitrogen and high - in more than one sense - in ammonia. The chicken litter has, of course, a carbon base.

For many years chicken litter was sought after by the horticultural industry. Horticulturalists, particularly the market gardeners, spread the chicken litter thickly over the ground they were preparing for their carrots, cabbages and so on. Hon Ljiljanna Ravlich is nodding because she is familiar with the process. The Croatian community is prominent in the horticultural industry. However, because the jarrah sawdust has a high carbon base, it is also an excellent breeding ground for flies, particularly the stable fly. The practice of spreading the litter thickly on the ground so that it could be used as manure compost and not digging it into the ground led to the breeding of stable flies in particular.

Another problem was that the horticulturalists would stockpile the litter in uncovered mounds on their farms. Those mounds, of course, became prolific breeding places of stable fly. I am sure that all members are aware of the considerable controversy that raged over stable fly in the suburbs adjoining Wanneroo, Gingin and so on. So worrisome were the stable flies that stock had to be moved out of those areas.

The Government's response to that problem was to appoint a stable fly committee. The recommendations of the stable fly committee were to prohibit the use of chicken litter for horticultural purposes. The committee made what appeared to be sensible recommendations for the composting of chicken litter before it could be used as fertiliser in horticulture and so on. However, that meant that the practice of bogging-out the chicken sheds, taking the trucks from the shed to the market garden, and stockpiling it in the market garden was prohibited, which created some considerable problems.

I will give members some indication of the magnitude of the problem that was faced by the broiler industry in Western Australia. This year Western Australians will consume 35 million chickens. That is a phenomenal number. It represents something like 96 000 chickens a day. I use the term "chicken" advisedly because these are birds whose voices have not even broken. They are 16 weeks old. They are very efficient converters of protein from the pelletised protein that they are fed to the chicken that appears on the table. There have been 35 million of those birds this year.

Hon Ljiljanna Ravlich: Have you noticed that you cannot get a skinny chook any more?

Hon DERRICK TOMLINSON: Since I am in a commercial mood, I recommend to the member a free-range farm just north of Mt Barker. It produces not only free-range eggs, but also very fine quality free-range chicken meat. It is available on the shelves of the member's nearest supermarket. It is well worth a drive to Mt Barker just to buy some of that chicken. It is very lean. The 35 million chickens that are produced by the 50 broiler-growers in Western Australia have an average weight of 2.15 kilograms. When processed, each of those chickens is divided into four equal pieces of about 500 grams. When members go to their fast-food outlet and the kids say, "His chicken is bigger than mine", members can be assured that the chickens have exactly the same mass. It is a very clear specification by the two processors in Western Australia - Bartter Enterprises and Inghams Enterprises Pty Ltd - that the chickens be that weight in 16 weeks to the day. Beyond that weight, they must be grown longer and will be turned into frozen chicken. The bulk of the 35 million chickens is used for the fast-food market and each piece of chicken is 500 grams.

The PRESIDENT: I trust that the member will relate the chook back to waste in due course.

Hon DERRICK TOMLINSON: I need to demonstrate the denotation of product, because, Mr President, I want you to eschew from your vocabulary the word "waste". We must think of this in terms of product. In this case the product is of two kinds. The 35 million chickens that are processed in a year in Perth means that, for six days production, on average about 125 000 birds are processed a day. There are two products from that: one is the chicken meat and the other is the feathers and the viscera. The legs form a product that is saleable on the export market. The viscera, the heads and the feathers form a product that is processed in Perth - in fact, in the east metropolitan region - and exported largely to India. There are various forms of product: one is tallow and another is a blood and bone meal. There is a product; it is not waste. One would think that chicken entrails, heads and feathers are a problem to be burnt, buried or disposed of in some other way. However, it is a product to be processed. I return to the litter that you, Mr President, are very keen to pursue. The ban, which I think will come into operation from September this year, is the final decision of the -

Hon Ray Halligan: The City of Wanneroo.

Hon DERRICK TOMLINSON: No; it was the stable fly committee. My understanding is that the minister has endorsed the final decision that the use of the untreated product for horticultural purposes be banned, not simply in the City of Wanneroo, from September this year.

Hon Kim Chance: For eight months of the year.

Hon DERRICK TOMLINSON: This problem has been around for about four or five years. The first recommendations of the stable fly committee came down about that time. There were delays in finalising the decision largely because of the question: what do we do with the chicken litter? The recommendation of the Western Australian Broiler Growers Association was to consider it a product - a very valuable fertiliser - for horticultural purposes and, in fact, for broadacre farming. It is an excellent soil conditioner as well as a fertiliser when it is composted. The problem is that these 35 million birds and the 50 meat bird farms produce 200 000 to 220 000 cubic metres of litter annually. It would not take very long to fill Subiaco Oval with that litter. As a matter of fact, it would not take many days to fill this Chamber with chicken litter at the rate it is produced.

Hon N.D. Griffiths: It is cleaned out daily.

Hon DERRICK TOMLINSON: A plant is looking at composting chicken litter. I am sure all members have received a letter from the Chairman of Perth Glory, Nick Tana. He has invested in a composting plant. I believe it is in situ somewhere in the city of Wanneroo. Unfortunately, the volume of chicken litter that can be accommodated in that composting plant is about one-quarter of the annual production of chicken litter in this State. What do we do with the other three-quarters? Of course, we cannot burn it. Other composting is not viable. The Broiler Growers Association has looked at it as a product that can be used as a fuel; for example, can it be used for heating their sheds? It must be burnt, and then there are the problems on which Hon Jim Scott has already given an erudite exposition; that is, not only the greenhouse gas effect, but also the fallout of contaminants in the immediate vicinity in which that product is burnt.

The second area that was looked at was using the product as a fuel in the facility that processes the other product from the chicken processing, which I have already discussed. That, together with the other organic material that is processed at the plant, requires heat. The proposal was to use the chicken litter as fuel in the plant. Of course, that plant is within 500 metres of a residential area in the east metropolitan region. It is already having a negative odour impact on residents in the vicinity of the plant, and it even pervades the waiting rooms of Perth Airport when the wind is blowing in the wrong direction.

Hon J.A. Scott interjected.

Hon DERRICK TOMLINSON: I will not mention names; I do not give free plugs to commercial enterprises. Burning the chicken litter at that facility would compound the problem to which Hon Jim Scott has referred.

Hon Ljiljanna Ravlich: Why can they not separate the sawdust from the other product and bring that back to a higher-value product?

Hon DERRICK TOMLINSON: I mentioned the specification of jarrah sawdust. Other materials can be used. In Queensland, chopped up straw, or chaff, is used. Corn husks have been experimented with. In the United States, corn husk is the base material of the litter. In Queensland, paper pulp is used as the litter. The value of the jarrah sawdust for the broiler-growers in Western Australia is its absorbency. Chickens do not urinate. They excrete their uric acid as part of their faeces. It is a very watery excreta, which is absorbed by the jarrah. To process that product and to separate the material from the wood is problematic. Separating the manure from the sawdust base is not feasible. However, I am sure that if I were to put it to people with inventive genius, they would come up with something.

Debate adjourned, pursuant to standing orders.