



## **Post Consumer Tyres....**

*(Extract of presentation made to Retread Manufacturers Association, September 2001)*

## **....Shifting Perceptions to Create Opportunity**

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## **Executive Summary**

The industry is under threat from the presence of low-cost imports which have eroded the price differential between retread and new.

In the wake of tighter environmental legislation including controlled wastes and the EU Landfill Directive, alternative disposal processes such as tyre to energy and materials recovery are set to compete with retreaders for feedstocks.

- To counter these threats, the industry must move the concept of retreading further up the hierarchy of waste, differentiating it from other forms of recycling such as granulation and pyrolysis.
- Emphasising the environmental 'whole-life' benefits may not on its own 'sell' the retread as a concept. A clear cost advantage in terms of retread life and resistance to failure still needs to be demonstrated – especially within the consumer marketplace.
- To bolster its position as the most energy-efficient method of handling post-consumer tyres, the underlying retread re-manufacturing process must also be re-positioned as part of the 'new' post-industrial economy.
- The perception of post consumer tyres needs to be shifted away from that of a 'problem' into being seen as a 'resource'. If the retread industry can be seen to be in the van of this shift, it stands a very good chance of capturing the 'moral high ground' – together with the 'hearts and minds' of potential new customers.
- Finally, the retread industry must enter into a dialogue with both Government and special interest groups by engaging in lobbying activities. Both to foster a 'greener' and more acceptable image for its products and manufacturing processes, and also to represent its interests to those charged with drafting legislation that may affect the industry.

## **Strategic Overview**

### **SWOT analysis**

#### Strengths

For the car and light commercial consumer/user , retreading offers a higher quality product – now to a recognised quality standard (VCA - E11 108R/109R) – for the same price as equivalent low-cost tyres. Heavy commercial users already factor in the cost benefits of retreading into their operational budgets.

Retreading extends the operational life of the most expensive – in both non-renewable energy and cost terms – part of the tyre: its casing.

Retreading offers a way of reducing the quantity of post consumer tyres that need to be disposed of by other means – either by waste to energy recovery methods, recycling through mechanical granulation, pyrolysis, or re-use entire in other applications – e.g. boat fenders, artificial reefs.

At the recycling level, Retreading is further up the 'hierarchy of waste' than the other available processing or conversion options for post-consumer tyres: 'reduce, reuse, recycle, reclaim, disposal' – the last named currently including landfill, as well as incineration without energy recovery.

#### Weaknesses

Retreads have a poor image amongst both general public and light commercial fleet operators. This extends to lack of awareness within public sector using and specifying organisations – and to an extent within policy forming bodies.

Because of low-cost imports, retreaded currently do not offer a clear price advantage compared to new tyres in the car and light commercial sector.

The nature of the tyre distribution network – with major tyre outlets 'tied' in varying degrees to tyre manufacturers – limits the opportunity for retread manufacturers to reach potential customers. This also holds true with regard to some areas of the fleet market.

Tyre outlets will practice 'cross-selling' to 'talk-up' a potential retread customer into purchase of a higher-priced new tyre. This may be related as much as to low margins offered on retreads, as to the nature of the distribution network.

Part-worn tyres are one form of competition to retreads, at the bottom of the 'budget' tyre marketplace – which can include fleet operators, particularly private hire and provincial private hire. Another consideration here is that consumers can often purchase a part-worn tyre supplied complete with matching wheel rims to suit a particular car. This circumvents balancing or valve fit charge – but can take tyre selection and grading out of the hands of trained outlets

Fluctuation in the price of new tyres can also affect buying decisions – oversupply, outlet sales targets and the use of tyre brokers can make 'quality' brands temporarily competitive on price. Retread tyre prices are by contrast largely fixed.

### Opportunities

The process of retreading offers a 60 % saving (approx.) in oil and rubber energy expenditure – savings which can count towards 'credits' towards meeting either internally-set energy conservation or 'green' policies – e.g. public sector Agenda 21 – or external legislation – e.g. EU End of Vehicle Life 2000/53/EC and Landfill 1999/31/EC directives.

Because of the relatively low current level of awareness of retread issues within the consumer and light commercial fleet operator sector, it should be relatively easy to create a more positive outlook as to concept and use.

Approximately 25-31 per cent (Environment Agency 1998), of post consumer tyres are suitable for retreading. Were this proportion to be raised, by getting consumers to replace tyres earlier, and for tyre manufacturers to produce more tyres which were suitable for retreading, then the market could be expanded. Given always that consumer acceptance could be raised in concert.....

## Threats

The UK already appears (source DoE as was/DEFRA) to be meeting its EU obligations as regards retreading expressed as 31 per cent by weight of total post consumer tyre arisings p.a. (source EU Priority Waste Stream Group on Tyres 1993 – based on 1996 data). This makes it difficult to argue for special/preferential treatment for the industry.

The collection and grading of post consumer tyres is time consuming, and undertaken by a small number of specialists. Tighter control on controlled wastes legislation should work to reduce the size of the stockpiles they maintain.

Waste to energy and processing alternatives to landfill will attract both grant aid and preferential treatment as regards smokestack emissions. Though the total lifetime economies of such plants have as yet not been proven, claimed processing capacities appear high in relation to total UK tonnages of post consumer tyre arisings each year of a notional 400,000 tonnes (Environment Agency 1998).

Quoted data for plant capacities includes: EPR Four Ashes 64,000 tonnes p.a. (RMA newsletter), British Cement Association – cement kilns fired by a mix of conventional fuel and post consumer tyres – potential to consume circa 400,000 tonnes p.a, though this assumes entire UK cement kilns are switched to using this as a 'make-up' fuel. However, Blue Circle (recently acquired by Lafarge) may be able to handle as much as 125,000 – 200,000 tonnes p.a. on its own, and controls around 50% of UK production (BCA/ETRA conference, Cambridge 2001). To these figures we can also add Coalite's pyrolysis plant taking perhaps 90,000 tonnes p.a.

Total theoretical energy recovery/chemical recovery capacity therefore equals circa 280,000 tonnes. This dovetails into the 31% of total UK post consumer tyre arisings currently directed to retreading, of circa 124,000 tonnes.

Note that research conducted by the Transport Research Laboratories, (Dr. Adine Hird (ms) Reading University 2001) seems to point towards a possible shortfall in post consumer tyre arisings in the immediate future – though expects the position to revert back to oversupply/surplus by 2008/9.

## **PEST Analysis**

### Political

At Government level, it appears that a degree of ambiguity exists. On the one hand, the Scrap Tyre Working Group in a 1998 statement favours market-based solutions, "... including ways of encouraging greater use of retreaded tyres", yet sees energy conversion via burning of post consumer tyres as a "promising" disposal route".

It also appears that measures to regulate wastes – including post-consumer tyres - are in the main being set in place as 'knee-jerk' reactions, and with an eye towards securing political capital. This means that high profile and simplistic ways of addressing a waste issue will be preferred to 'low-key', and perhaps more effective, solutions.

Once commissioned, plants or processes like these may well be kept running at a 'net environmental deficit' in order to avoid political embarrassment – even if this results in them 'poaching' raw material from waste conversion options further up the hierarchy. Such as post consumer tyres.

There is a noticeable 'greening' taking place within the public sector. Despite initiatives such as Agenda 21 (which seeks to inculcate a higher degree of environmental awareness within local authorities), experience points to implementation of actual policies being delegated to junior members of staff. The focus at present seems to be very much on reducing vehicle use, as opposed to maximising use of scarce resources.

Producer responsibility has so far bypassed the tyre industry, which is being treated as a part of motor manufacture as a whole. However, were moves made to incorporate this concept into legislation, safeguards would need to be set in place to 'ringfence' the proportion of casings set aside for retreading – and also how these would be shared between tyre manufacturer's own in-house retreading operations, and independent retreader facilities.

### Economic

Any economic slow down within the UK and EU could create renewed interest in retreads as an alternative to purchase of new tyres. Especially in the case of older and low-value vehicles, which are increasingly being retained as second cars to provide short-distance mobility for family households. Car ownership patterns in the UK now tend towards 'minimal maintenance' regimes – though such attitudes can just as equally favour part worn as retreads.

It is to be expected too, that a world economic slowdown will have its own knock-on effect on tyre prices overall. Especially where manufacturers with a UK distribution network can have access to tyres produced in new plants established in low wage economies such as mainland China and states within the Russian Federation. On the

other hand, established plants in less-developed economies are already suffering from low factory gate prices forced upon them by Western conglomerates – so it could be that prices are set to rise. And with them, the margins available to UK retreaders.

As regards the economics of waste conversion processes that compete with the retread industry for feedstocks, taking coal as a reference fuel of comparable thermal value, currently at £23/ tonne (source Global Coal index, July 2001), and a notional £25-30/tonne 'gate charge' levied on controlled wastes accepted, the energy cost savings for a commercial operator (e.g. cement kiln) lie in the region of £50-60.

Yet attractive as these sums look, the supply of post consumer tyres as a feedstock within the UK is limited. This in itself may limit the headway that 'dedicated' energy and component chemical recovery processes can make.

One initiative which may work towards combating such instability within the EU, is the European Tyre Recycling Association's (ETRA) Internet-based post consumer tyre recycling product commodity trading system.

### Social

In terms of corporate purchasing, fleet and transport managers come quite low in the organisational hierarchy. There is also now a 'culture of blame', which tends to mitigate against any risk taking. So in terms of 'packaging', financial benefits backed up by proven adherence to safety and quality standards would be mandatory to overcome resistance.

Though the private consumer is more aware of environmental issues than ever before, only a small minority will actually make purchasing decisions wholly based on such criteria. However, 'environmental branding' could provide a justification for purchase, if backed up by appropriate safety and quality standard assurances.

In a further twist on the same theme, consumers – as residents and special interest groups – are more willing to involve themselves in environmental issues at a political level. This has already led to objections being raised to continued post consumer tyre use as a fuel at Blue Circle's Westbury cement kiln (National Alliance for Cleaner Kilns – NACK). According to predictions by Juniper Consultancy Services, this could lead to increased costs for operators in terms of PR consultancy services required to allay public health concerns in the immediate vicinity of such plants.

## Technological

The economics of post consumer tyre to energy conversion will naturally become more favourable as oil, gas or coal prices fluctuate upwards – but in the UK and EU have to be tempered against the costs of providing additional exhaust stack 'scrubbers' to meet environmental standards. These costs may not be fully factored in by some operators – e.g. cement kilns – which may seek to make do with existing safeguards which do not take into account post consumer tyre constituents, and the effect on process emissions of incomplete or imperfect combustion.

Concern centres upon the use of unproven technology, especially with regard to gasification and pyrolysis (which appears so far to be proven only with regard to post consumer tyres – and even then on a small scale basis). It is claimed by some activists that the aromatic extender oils comprising up to 25 % of a tyre – which contain proven carcinogens such as benzenes – demand higher temperatures and longer residence times within the furnace, to ensure complete chemical conversion (Burning Issues 1997, US). Waste to energy recovery processes based upon adaptations of existing plant – e.g. cement kilns - may not necessarily incorporate the afterburners or other secondary combustion chambers included on purpose-designed incinerator plant. These would normally act as 'firewalls' to prevent undesirable emissions to atmosphere in the case of 'combustion upsets'.

As regards the regulatory framework which will inevitably colour the choice of post consumer tyre re-processing technology, controls are already in place to regulate smokestack emissions from such "Large Combustion Plants" (Substitute Fuels Protocol, Environment Agency 1998). National emission reduction targets for EU member states have also been recently tightened from those adopted by the UN Gothenburg Protocol in 2000, with specific regard to nitrogen oxides (NO<sub>x</sub>), dust and sulphur dioxides (SO<sub>2</sub>) volatile organic compounds (VOC) and ammonia (NH<sub>3</sub>), which member states must meet by 2008 at the latest.

## **Shifting Perceptions**

### Appraisal of current situation

Retreads – especially in the passenger and light commercial arena – have a poor image. This is a historical carry-over from the era before certification and quality control. They are also associated with 'budget' motoring, and by implication purchasers who are not financially well off enough to buy new. We can also pass comment that the concept is inextricably linked with the 'dirty' world of manufacturing – and the 'rough' world of the truck driver.

All this applies as much to the consumer, as it does to the press and media they receive their information through.

Efforts have been made to inform the tyre trade press as to the benefits of retreads – both in terms of cost, and also more recently their environmental benefits of energy recovery and conservation. Though such efforts have increased awareness of retread issues, it has proved difficult to raise the concept's profile outside of this 'charmed circle'.

### Decoupling retreading from recycling

Retreading is at present too often seen only as an equal to other recycling processes in the hierarchy of waste – alongside granulation and recovery of the chemical constituents locked up in a post consumer tyre. Above recycling, re-use, in the sense of the tyre complete, remains a limited option in practical terms. And even in the realms of recycling, the distinction between recovery and waste to energy can become blurred.

Moving retreading sideways, and seeking to present it as a separate option, with its own unique set of advantages and environmental benefits, would work to create process differentiation that improves outside perceptions of the industry – while giving its customers added justification for using the product.

### Moving the goalposts

So, what drives the consumer – and more importantly, how can we 'piggyback' the retread as a concept onto their needs, desires and wants, to ultimately stimulate a purchase?

Though price may well be the ultimate yardstick, we need to invest the retread with a set of values which help the consumer to justify purchase both to himself, and against his peer group.

Sounds fanciful? Think of the fleet manager in a public sector organisation: If he wants to cut his tyre budget, the retread can do it for him. But, he needs to offer up to his superiors a watertight case to justify his actions – in case anything goes wrong, such as a blowout that takes a Council transit into a bus queue....

The same with the private consumer. So the retread becomes not just a cheaper option (or more desirably a 'same-cost' option) to a budget new tyre, but it has environmental brownie points into the bargain.

### Taking the initiative

First, the retread needs to 're-prove' its credentials in terms of functionality and fitness for purpose. We need to look at issues such as tyre life, penetration resistance, availability, roadholding, stopping distance, skid resistance – even fuel economy. Though many of these factors are just as much a matter of normal and prudent tyre care as of tyre construction or manufacture, there is no reason why such 'best practice' cannot be articulated alongside the retread – as opposed to a 'branded' new tyre.. We may need to use special-purpose applications to demonstrate how the retread as a concept stands up to conditions that would perhaps be far more arduous than those any private motorist could come up with.

We need to look at 'bigness' and extremes – e.g. earthmoving plant, motorsport, aircraft tyres – linking 'toughness' back through picture stories, 'awesome' facts and even tyre trivia.

Alongside these measures, we present the true USP which can be used to give the retread the product differentiation that it so sorely needs: the environmental factor. Energy saving at the point of re-use, and at the post-consumer point of disposal. Environmental benefits of reducing the impact of the motor car on the landscape. Even educating the consumer into being able to tell whether or not a particular new tyre will be suitable for retreading, once he has finished driving upon it.

And finally, we need to present the remanufacturing process of retreads themselves as a 'clean' activity too.

### Winning the 'hearts and minds' of the trade

Yet none of this is going to work if we don't involve the tyre distribution chain as well, switching them on to the way that retreads can offer just as much margin as a new tyre. Getting them to look at the customer anew so as to divine his or her real reason for purchase, and use the environmental benefits as a way to 'cross sell' to what could be termed the 'third option' – between budget new, and branded new.

## **Creating New Opportunities**

### The female consumer

Why do we need specifically to target this group. For a number of key reasons, including the fact that these are the drivers who often run the 'owned' car in the two car, two income household. Women are more sensitive to environmental issues; they have a more caring view of the world we live in. They are also the ones who place less value upon the performance-orientated USPs generally employed to sell tyres.

### The regional and local press

When do people buy car magazines? Apart from marque or niche enthusiasts, most people only buy a car magazine when they are about to make a purchasing decision as to replacement of their existing vehicle. Or, more perversely, once they have just purchased – to see whether their choice is confirmed as the right one, by the opinion of a motoring journalist.

Not that any PR campaign should ignore the motoring press – far from it, since the front rank TV and print media people lead the views of other, lesser, publications and the regional and local newspapers. Yet it is the latter which people read on a regular basis, and perhaps are more likely to 'believe in' more. So we could consider circulating information to these correspondents – in the same way that the AA and other industry bodies do.

### The corporate consumer

Fleet operators are the backbone of the new car business. And whilst it would be foolhardy to predict that retreads could make significant inroads into this sector, we need to think in terms of a longer-term strategy here. These are monolithic enterprises which cannot be turned around to the concept of retreads overnight. But there is room for pilots, for special applications which are self-contained enough so as to be classed as 'low-risk'.

And there is also the issue of education and seeding of this marketplace – persuading the specifying executives if not necessarily to use, then at least to endorse, or remove obstacles to purchase of a retread elsewhere. Why for instance should West Dorset District Council prohibit the use of retreads – yet be happy with part worn tyres on hackney carriages?

### Protecting the source of supply

If the figures are correct, the retread industry re-cycles between 20 – 30 per cent of all of the UK's post consumer tyre arisings. Because of technical requirements, the only way that this rate can be boosted is either by an increase of supply – or by more careful 'first' tyre use. The latter could lead to earlier replacement, which is a Good Thing from the standpoint of new tyre manufacturers.....

Yet tyres as scrap – as opposed to a post-consumer resource – are easier to deal with by politicians at both national and local level looking at a quick-fix solution. But preventing the emergence of a 'cash to combustion' regime, which could create a shortfall in supply (just when the retread industry is set to stimulate demand...?), requires an altogether more subtle approach.

Though the information is there to hit out at other processors hungry for the same feedstock – public health issues, viability doubts and supplies of raw materials to sustain projected throughput – these processes are at the same time our partners within a shared hierarchy of waste.

So on the one hand, we need to inform both regulators, processors and politicians of what the retread can – and is already doing for the environment – so that the industry can protect its niche within this hierarchy. On the other, be prepared to distance the retread from any negative environmental publicity that might attach itself to other parts of the disposal chain, should this arise.

## **Tactical Implementation**

### Possible concepts

To provide back up information which can be used as both reference material and also as fact and issue briefing papers, the following themes could be developed:

- Energy use and chemical constituent recovery data for retreading vs other hierarchical methods of dealing with post-consumer tyres. This could be developed into a simple 'good-average-poor' 'check-list' or chart.
- Retreading and its role within the hierarchy of waste – this would seek to separate retreading as an activity from other methods of dealing with post consumer tyres, and make a case for this being seen alongside reuse, as opposed to further down at the recycling level.
- Cost comparisons over the complete lifecycle of tyre manufacture through first use, retreading, and then second use (car and light commercial tyres only) – illustrating both the cost savings available to the second user, and the savings in energy and non-renewable raw materials use.
- Environmental legislation and Best Environmental Practice Option (BEPO) recommendations impacting upon post consumer tyres – UK retread standards, Landfill directive, controlled wastes etc.

It may even be worth considering the creation of a 'study pack' for use in secondary or primary school environment-related project work. This would be aimed at reaching potential consumers through their children.

These could be provided on the RMA website.

### Media campaign

Activity in this area would be on an on-going basis, and would use input from the RMA and its members, as well as seeking to comment upon developments in related fields which could have impact upon the industry.

Issues which Aardvark could raise on the RMA's behalf here include:

- Part worn tyre dangers
- Earlier replacement and improved in-service care to preserve casings for retreading
- Retreading – making post consumer tyres into a resource, not a problem

The primary communication medium here would be regular press releases directed at motoring press – to include where possible motoring correspondents on local and regional press – and also environmental journalists on both specialist trade and national media, including broadcast TV and radio. As to numbers, Aardvark estimates that there are between 400 – 500 motoring journalists in total, plus approximately 75 - 125 environmental media contacts.

A key part of Aardvark's work would however lie in the pro-active contact with selected media on a rotation basis. This would be aimed at both establishing the RMA as a preferred source for comment as regards post consumer tyre issues – and to encourage visits to retreading plants and interviews with RMA executive committee members.

## Lobbying Government and special interest groups

By way of introduction, it must be stated that dealing with Government demands a subtly different approach to that employed in conducting public relations via the media. Elected representatives may modify and comment upon proposed legislation and public issues, but the drafting of UK law is now largely in the hands of the Civil Service staff within key ministries. Progress is therefore best made by 'piggy-backing' a client's interest onto existing legislation trends, or by seeking to limit their damage. The use of an intermediary – such as Aardvark – between a commercially-motivated interest group is also seen as desirable from the aspect of confidentiality.

As well as response to consultation papers which have immediate affect upon the retreading industry – e.g Tyres Protocol for use in Cement Kilns (closing date 31.07.01) – Aardvark would seek to establish pro-active contact with select committees and Government ministers and individual MPs. This would be geared around analysis of registers of Members and Lords' interests, and Hansard (Lords and Commons proceedings) to identify information needs and also the concerns of their constituents.

As part of this range of activities, contact would also be made with UK representatives within the EU assembly, and relevant environmental committees at Strasbourg/Brussels.

Aardvark's objective here would be to use debate or concern over other post consumer tyre disposal processes to champion the cause of the retread. The ultimate benefit would be a heightened awareness of the retread's role in reducing waste and conserving energy, to create a more favourable legislative climate for the industry.

With the arrival of separate national assemblies for both Scotland and Wales, and the new regional assemblies (many of which are purely coordinating bodies) it may become necessary to include these elected representatives in the 'information loop' at some point.

At the same time these bodies can be reached quite effectively – and more credibly – through 'bridge-building' efforts between the RMA and special interest groups. These can be part of Government itself – executive agencies, Quasi Autonomous Non Governmental Organisations (QUANGOS) – or exist as external special interest groups such as Friends of the Earth, Greenpeace, and local or single-issue groupings.

As to numbers, it can be estimated that a contact list of between 100 – 200 MPs and Lords together with relevant Government ministries would need to be maintained. In addition, there could be between 30 – 50 named individuals within the special interest group community that could be added to this working total.