



**AUSTRALIAN TYRE INDUSTRY COUNCIL APPLICATIONS FOR
AUTHORISATION – INTERESTED PARTY CONSULTATION
REF: A91336-A91337
THE TYRE STEWARDSHIP SCHEME**

SUBMISSION PREPARED BY GREEN RUBBER PTY LTD

**Recovery, Recycling and Downstream Product Manufacture for End of Life
Mining Industry OTR Tyres**



5 NOVEMBER 2012

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**Mining Industry Tyre
Recovery and Recycling**

C O N T E N T S

Accompanying Letter

Form B - Agreements Affecting Competition or Incorporating Related Cartel Provisions; Application for Authorisation

Tyre Stewardship Scheme Scope and Objectives – Public Interest Impact Statement

Guidelines for the Tyre Product Stewardship Scheme – 17 August 2012

APPENDIX A – Submission to the Tyre Implementation Working Group

APPENDIX B – Table of Contents from the Green Rubber Project Report

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**Mining Industry Tyre
Recovery and Recycling**

5 November 2012

Mr David Hatfield
Director
Adjudication Branch
Australian Competition & Consumer Commission
GPO Box 3131
Canberra ACT 2601

Dear Mr Hatfield

**Re: Australian Tyre Industry Council Applications for Authorisation –
Interested Party Consultation – Ref: A91336-A91337**

Thank you for your letter of 19 October 2012 with accompanying documents relating to the important initiative of the implementation of a tyre stewardship scheme for Australia.

Green Rubber Pty Ltd and its predecessor AZPI Tyre Recycling has been involved extensively with the Tyre Implementation Working Group and the earlier similar Government sponsored groups in relation to the recovery, recycling and manufacture of downstream products from End of Life OTR Tyres from the mining industry. We are Consultants and not investors but are in the stage of assembling a Mining Industry Group to be part of the Australian Tyre Industry Council (ATIC) Tyre Stewardship Australia (TSA).

We have prepared a Submission for you and enclose this for your consideration. Our specific comments are shown in italics within the overall text.

We are happy to provide additional information for you as required to assist the process of establishing the Tyre Stewardship Scheme with TSA and ATIC.

Yours sincerely



Phillip D Isaacs OAM



Africa Zanella

Copies: Jaime Martin of ACCC, Gerry Morvell and Declan O'Connor-Cox of TIWG, Silvio De Denaro of ATIC, Chris McCombe of MCA

Form B - Agreements Affecting Competition or Incorporating Related Cartel Provisions; Application for Authorisation

Whilst acknowledging the need for competition it is important to consider the special needs of the mining industry and the distribution of the sources of End of Life (EOL) tyres at mine sites. Economies of scale have a significant influence on the feasibility of a recovery, recycling and downstream products manufacture and attraction for investment. The tyre recycling industry in Australia is fragmented and under developed and consequently new facilities and significant investment is required.

Recycling Plants must be between 10,000 and 18,000 tonnes per annum of EOL tyres. For WA, Qld and NSW with 70% of EOL tyres accessible or 45 to 50,000 tonnes across Australia it is clear that one plant of 18,000 tonnes only is feasible for WA and Qld and one of 10,000 rising to 15,000 tonnes in the Hunter Region.

The total capital cost required for the mining industry is in the order of \$50 to \$60 million and investment funding for this would not be obtainable without guarantees of resource security or supply of EOL tyres at the mine sites. Green Rubber Pty Ltd has determined after intensive study that a multitude of investors in each State would not be feasible and that probably no more than one investor in each State would be feasible.

It is recommended therefore that the ACCC recognises that there are limitations on the procedures for gaining investment and that an integrated approach such as a separate Mining Industry Group as part of Tyre Stewardship Australia and developed in association with the Australian Tyre Industry Council (ATIC) and the Minerals Council of Australia (MCA) is essential to gain any action for the mining industry.

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**Mining Industry Tyre
Recovery and Recycling**

Tyre Stewardship Scheme Scope and Objectives – Public Interest Impact Statement

The Task for the Mining Industry

Currently there are around 430,000 tonnes of EOL tyres to be recovered every year. The Mining Industry is not accurately accounted for but there are probably around 70,000 to 80,000 tonnes of new weight tyres to be recovered per year or 56,000 to 64,000 tonnes of EOL tyres to be recovered per year. This is approximately 13% of the total EOL tyres for Australia. The Green Rubber Project Study in 2008 demonstrated that the Mining Industry resource in 2010 would be around 55,800 tonnes of EOL tyres of which around 90% or 48,000 tonnes per year were in NSW, Queensland and WA. Growth rates were estimated to be between 10 and 30% over a three year period or 3 to 10% per year.

State	New Tyre tonnage 2002	New Tyre tonnage 2007 1.276 x 2002	New Tyre tonnage 2010 1.158 x 2007	EOL Tyre tonnage 2010 0.8 x New
NSW (22.1% total)	10,466	13,350	15,460	12,360
Queensland (31.8% total)	15,020	19,160	22,190	17,750
WA (36.1% total)	17,043	21,750	25,180	20,140
Sub Total = 90% total	42,529	54,260	62,830	50,250
Total Australia	47,177	60,200	69,800	55,830

Most mine sites have extensive stockpiles of EOL tyres. Access to these will not always be possible for reasons of haul road safety and recovery procedures. It is estimated that around 1,000 tonnes per year in NSW, 1,500 tonnes in Queensland and 1,500 tonnes in WA per year could under favourable circumstances and formal agreements with the mining companies be obtained from each State. This would bring the total indicative accessible EOL tyres to 13,360 tonnes in NSW, 19,250 tonnes in Queensland and 21,640 tonnes in WA or a total for the three States of 54,250 tonnes of EOL tyres. These tonnages need further review and updates.

The Benefits of Action for the Mining Industry

The key environmental benefits of action are set out in the ACCC documents. The financial benefit results from the recovery of EOL tyres as a massive resource worth in a new state around \$1.0 to \$1.2 billion per year. The environmental and financial benefits are clearly significant for Australia.

Comments on Specific Clauses Relative to the Mining Industry (In italics)

Clauses 1.6 and 3.7b The initial focus of TSS will be to address the recycling of Passenger Car, Light Truck and Medium and Heavy Truck tyres. Other important segments such as large earthmoving tyres used in agriculture and mining activity will be addressed as soon as practical.

Given the task described above **it is recommended** strongly that action should be taken immediately to include the mining industry within the TSS and TSA and to progress the process of recovery, recycling and manufacture of downstream products as soon as proven logistics and feasibilities have been demonstrated.

Clause 3.3 The TSS will be funded by a levy, which is proposed to be \$0.25 per passenger car tyre equivalent (adjusted annually for CPI). The levy may be replaced by an equivalent membership fee. This is paid by the manufacturer and passed on to the distributor and ultimately to the end user.

The amount of \$0.25 per Equivalent Passenger Unit (EPU) is \$26.3 per tonne. This will not encourage action within the mining industry since the indicated costs of recovery, downsizing and transport is in a range of \$100 to \$160 per tonne of which transport from remote areas is up to \$65 per tonne. Reference to the URS Final Report to the Joint Working Group Tyres in December 2005 titled "Financial and Economic Analysis of the Proposed National Used Tyre Product Stewardship Scheme" recommends \$0.85 per EPU plus a payment for remote area transport less the average metropolitan cost of transport of around \$16 per tonne. Current recovery, burial and maintenance cost at mine sites are of the order of \$50 per tonne so the additional costs to be borne by the Miners is in a range of \$50 to \$115 per tonne. Miners will be looking for a cost neutral outcome and this can only be achieved by applying a carbon trading or recycling offset credit process to obtain this outcome.

It is recommended that the overall feasibility of recovery, downsizing and transport must be reviewed and for this Green Rubber Pty Ltd is prepared to assist based on its extensive work on this subject,

Clause 6.5g Miners Businesses or organisations that are engaged in the exploration for, and extraction and primary processing of, minerals in Australia, including coal and petroleum. Primary processing is taken to include the processing of minerals up to the first pouring of refined metal but fabrication beyond that stage is excluded.

*Currently around 95% of EOL tyres from mine sites are buried and there is currently no legislation that bans the burial of the EOL tyres at mine site landfills. Whilst the ACCC is seeking action by market forces there is currently no incentive to act other than the acceptance of the environmental benefits that most mining companies acknowledge as part of their own sustainability requirements and reporting under the Global Reporting Initiative. The application of carbon trading will however provide an added incentive. Green Rubber Pty Ltd is prepared to assist in further analysis of these matters and **it is recommended** that action should be taken immediately in association with the Minerals Council of Australia.*

Clause 6.6 (b) All Participants in the TSS also commit to contribute to:

(iii) elimination of the illegal dumping of end-of-life tyres;

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**Mining Industry Tyre
Recovery and Recycling**

(iv) elimination of disposal of end-of-life tyres to landfill (except where no viable alternative is available and subject to state and territory legislation, for example, in rural and remote areas **where appropriate recycling facilities are not available, or transportation costs are prohibitive.**

*It is agreed that appropriate recycling facilities are not available and that recycling and transport costs are higher than for passenger tyres but not prohibitive relative to the new value of a large OTR tyre. However there is a solution as demonstrated by the Green Rubber Project. How is it envisaged that “all participants” shall commit to contribute to the Clause. Without a well defined Mining Industry Group as proposed by Green Rubber Pty Ltd it is unlikely that action will be taken. **It is recommended** that the TSS and TSA should support the proposed concept of a mining industry entity referred to as the Mining Industry Group within TSA.*

Clause 7.1

(b) TSA will be managed by a Board of Directors initially appointed by the parties to this scheme. The Board will comprise:

(i) An Independent Chair

(ii) Four directors to reflect the responsibilities of its importers as the product stewards (nominated by ATIC)

(iii) One director to reflect the role of the retail sector in the proposed stewardship scheme (nominated by AMIF)

(iv) One director with tyre recycling industry experience (to be determined by agreement between ATIC and ATRA), and

(v) **Additional directors** from time to time to be determined by the Board of TSA. TSA may also **establish advisory committees** to provide specialist or expert advice as above. Full details of governance arrangements will be set out in TSA's Constitution.

Green Rubber Pty Ltd is prepared to join the Board and/or to join an Advisory Committee to exchange its strategies for the Green Rubber Project for appropriate payment for Intellectual Property and professional services. Please refer to the Appendix B Table of Contents of the Green Rubber Project Study.

Clause 7.2b Refer also to Clause 3.3. The level of contribution is to be agreed by the parties to the scheme contributing funds and is subject to review. Contributions will be based on a levy of 25 cents per EPU, or an equivalent membership fee, which is adjusted annually for CPI.

The EPU ratio for larger tyres will be capped at 400 EPU or **\$100 per tonne**. Any increases in the contribution level per EPU should only be introduced after appropriate consultation with affected industry sectors.

*The contribution of \$100 per tonne represents only around 0.5% of the new tyre value which is not a significant increase in cost to the mining industry. **It is agreed***

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**Mining Industry Tyre
Recovery and Recycling**

that the EPU method of determining the contribution rate is satisfactory and can be applied to all tyres from small OTR tyres to giant earthmover tyres.

Clause 10.4 Problems with the management of end-of-life tyres.

(vii) Lack of research and development

There is a lack of industry-led investment in R&D for tyre-derived products. This has resulted in a lack of information about options for recycling and transformation of end-of-life tyres and the associated loss of potential.

Whilst there may appear to be a lack of research and development there is however extensive information available in Australia on tyre derived products supported by many implemented strategies and technologies around the world. Several recycling companies in the USA for example manufacture around 60,000 tonnes of moulded products for the building, automotive and other industries per year. Whilst the Australian market is probably around 6% of that of the USA this still represents up to around 10,000 tonnes of moulded products per year here.

In Australia, there has been much practical research on the use of crumb rubber for road surfacing supported by the NSW Government and the bitumen industry, for blasting material for the mining industry and for moulded products including railway sleepers, power poles, underground mine posts and many other applications. This was made very clear in the URS JWGT Report of December 2005 and in the Green Rubber Pty Ltd Report of July 2008.

*Vulcanisation of the rubber in tyres creates difficulty in the chemical and physical blending of crumb rubber and the cost to manufacture moulded products and use for new tyres but there are technologies available to solve this problem. Green Rubber Pty Ltd has completed an extensive study of many technologies and has established working relationships with manufacturers. **It is recommended** that a priority must be given to ensuring that there is a viable tyre derived products industry in Australia. There is little point in having a guarantee of inputs to tyre recycling if there is no market for the crumb rubber produced.*

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**Mining Industry Tyre
Recovery and Recycling**

Guidelines for the Tyre Product Stewardship Scheme – 17 August 2012

PART I – MINERS

Clause 2 Recognition of challenge of mining tyres in rural and remote locations

It is recognised that mining operations in rural and remote areas where appropriate recycling facilities are not available, or transportation costs are prohibitive, often use landfill as there is no viable alternative available. It is lawful for miners to landfill their end-of-life tyres on site and according to legislation. There are **geographic barriers** to recycling off the road tyres (OTR) in Australia and a need for specialised recycling equipment. Action is needed to stimulate markets for tyre derived products. Investment in OTR tyre recycling and resource recovery research and development will be guided by a dedicated working group of TSA. In addition, a minimum of 75% of funds contributed to TSA from the mining industry will go to facilitating the achievement of the scheme's objectives for the mining sector.

It is expected that, over time, investment by TSA in markets for tyre derived products and research into other specific impediments will reduce the costs associated with resource recovery and recycling of rural and remote area mining tyres.

Please refer to Appendix B, Table of Contents of the Green Rubber Project Study. Extensive research, investigation, design and feasibilities were carried out by Green Rubber Pty Ltd in 2008 and subsequently, to solve the apparent problems of rural and remote areas with specific application to the mining industry. This commenced with the presentation of a Paper to the OTR Tyre Conference held in Brisbane in June 2007 followed by the detailed study carried out for NP Power Pty Ltd in 2008 and 2009.

*The “**geographic barriers**” issue was solved by using specialised and proven downsizing equipment readily available from the USA and a major day by day logistics study of the downsizing and transport processes to deliver small pieces of the tyres and the recovered bead steel to recycling plant locations near Singleton in the Hunter Region of NSW, South Mackay in Queensland and options of Port Headland and Geraldton in WA. Further study of alternative recycling plants was made to ensure that appropriate equipment was selected that would accept the downsized OTR tyres and produce crumb rubber and powder types to suit the downstream products manufacture.*

Extensive interaction was provided by Green Rubber Pty Ltd with all key mining companies to ensure that all procedures would comply with OH&S and other mine site requirements and Draft Heads of Agreement were prepared for obtaining agreements with the key mining companies for resource security or the guarantee of access to EOL tyres and payments for the recovery processes.

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**Mining Industry Tyre
Recovery and Recycling**

As advised in Clause 7.1, Green Rubber Pty Ltd is prepared to join the TSA Board and/or to join an Advisory Committee to exchange its strategies for the Green Rubber Project for appropriate payment for Intellectual Property and professional services.

It is recommended that at the very least there should be the establishment of a working party with Green Rubber Pty Ltd so that TSA can gain the benefits of the extensive and conclusive outcomes of the Green Rubber Project Study.

Clause 3 Safety and handling of mining tyres

OTR tyres used by the minerals industry can weigh up to 3.8 tonnes. The handling of these very large tyres poses significant safety hazards. Management of these risks is a key mining industry concern. Due to the large nature of these tyres, specialist handling equipment and professionals are required. These aspects must be taken into account when considering ways to increase OTR tyre recycling and resource recovery.

Again, the Green Rubber Project Study investigated all aspects of safety in relation to the handling of the OTR tyres, both on mine sites and as part of the downsizing process. The proposed equipment and management procedures developed by Green Rubber Pty Ltd were discussed in detail with key mining companies to ensure that the logistics of recovery, downsizing and transport were acceptable.

It is recommended that at the very least there should be the establishment of a working party with Green Rubber Pty Ltd so that TSA can gain the benefits of the extensive and conclusive outcomes of the Green Rubber Project Study.

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**Mining Industry Tyre
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APPENDIX A – Submission to the Tyre Implementation Working Group

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**DRAFT GUIDELINES FOR THE TYRE PRODUCT STEWARDSHIP SCHEME
9.00 AM, THURSDAY 28 JUNE 2012
CLIFTONS, LEVEL 6, 190 GEORGE STREET, SYDNEY
DIRECT DISCUSSION – 11.30AM. NOTES BY PHILLIP ISAACS & AFRICA
ZANELLA**

Gerry Morvell, Convenor

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Objective

Whilst GRPL will respond formally to the Draft Guidelines the Discussion provided an opportunity to review past and present proposals for the mining industry.

Discussion Points

1. GRPL completed a very detailed Study and Report in July 2008 in response to a request from a major mining company. This covered a logistics study of recovery, downsizing and transport of waste OTR tyres from mine sites in WA, Queensland and NSW (Hunter Valley). The study also included an analysis of downsizing equipment, transport options with detailed logistics analysis of hour by hour movement through the mine sites, recycling plant options and plant site location options and a detailed study of the downstream product markets for turning a waste into "high net resource value" products all leading to feasibility analyses and costs per tonne related to possible Product Stewardship payments. The Study demonstrated that the Carbon Footprint of the whole process was less than 1% of the embodied energy of the original new OTR tyres.
2. GRPL believes that the current Tyre Stewardship Australia (TSA) proposal does not cover well enough the needs of the mining sector. GRPL acknowledges that the Minerals Council of Australia (MCA) has agreed to enter this scheme which will have the mining companies contribute to the TSA at the stated levy rate of up to \$400 per tyre for the highest proportion of the OTR tyres). This sector would then be one of the biggest single contributors to TSA and yet its logistics and needs are not yet being addressed adequately.

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**Mining Industry Tyre
Recovery and Recycling**

3. GRPL proposes that accreditation for a **Mining Industry Scheme within the TSA** be considered which takes into account the unique requirements of the mining industry and considers the work already undertaken over many years by industry players such as GRPL and its intellectual property and market knowledge, to the advantage of this Scheme and the TSA.
4. **GRPL's Green Rubber Project**, as it became known reached a critical stage of Draft Heads of Agreement with the key Mining Companies but after two years of negotiation the companies decided to take no action until a Product Stewardship Scheme or National Environment Protection Measures (NEPM's) were introduced through legislation.
5. GRPL has had extensive interaction with the Minerals Council of Australia (MCA), ATIC and individual tyre producers for the recovery and recycling of the mining industry waste OTR tyres. However, it has had little impact in securing an agreement that will see industry work together under a single banner for a solution to the waste problem and proposed Product Stewardship options.
6. GRPL would like to see the TSA giving due consideration to the proposal by GRPL to deal with the issue of recycling as holistic and specialised waste recovery. Furthermore, the benefits of Product Stewardship and obligations to collect and recycle the waste OTR tyres to turn a waste into a valuable resource would ensure not only that environmental requirements would be met but it also provides the opportunity to create jobs, utilise technology advancements from USA and Europe and develop a revived industry for "green" downstream products that can be directly used on mining sites and associated infrastructure such as roads, railway sleepers, blasting material and numerous moulded products including power poles, underground mine posts and cribs. It will also see mining companies working effectively under their requirements for reporting under the Global Reporting Initiative and their own Corporate Sustainability guidelines in terms of waste disposal with both environmental and financial benefits.
7. The environmental impact of recycling and having Australian "green" recycled products directly targeted towards the mining sector is enormous and economically viable as GRPL has ascertained after its feasibility studies and six years of working with all stakeholders in the mining sector as well as manufacturers and collectors. Around \$1.2 billion of new OTR tyre value is currently buried annually at mine sites around Australia.

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**Mining Industry Tyre
Recovery and Recycling**

8. GRPL is currently reviewing its program and strategies to re-launch the Green Rubber Project around Australia with a specialised group of companies with extensive expertise in recovery, downsizing, transport, recycling and downstream product manufacture and hopes to seek Accreditation once the TSA defines its goals and a Scheme is in place in 2013.
9. Some other key issues are of great importance for the success of the Green Rubber Project or for that matter any Project for the mining industry. These are:
 - a) Economies of scale. It is clear that for a project in each of the three States to be feasible an annual throughput of at least 15,000 tonnes is required. Whilst not suggesting that competition is to be avoided the reality of the situation is that only one mining industry project can be implemented in each State.
 - b) The special properties of crumb rubber from OTR tyres is of importance in the selection of products and values and an effective buy back system for finished products such as railway sleepers will need to be negotiated from the onset of collection from mining companies individually or via the suppliers.
 - c) Companies rather than business associations need to be involved in the process such as for example Michelin as a major supplier of OTR tyres and responsible under the Scheme to work with its customers to find a solution.
 - d) The TSA Levy should be directed at advancing a solution for the mining industry rather than for education, research, administrative costs or other non servicing solutions.
 - e) GRPL recommends that the committee recognises GRPL as a partner in providing intelligence to guide the process and coordinating its framework by way of engaging GRPL services and analysing its findings from its extensive work carried out for the mining sector since mid 2006 (six years).
10. Given the risks associated with investment in a project such as the Green Rubber Project there needs to be some form of guarantee or surety about both resource security (supply of waste tyres) and value of produced crumb rubber and its market. For this reason for a Project to proceed it will be necessary for there to be in place within TSA an identified group committed to proceeding for the mining industry under the TSA Guidelines and with costs directly related to the Project including the impact of transport from remote locations.
- 11. At an appropriate time GRPL would be prepared to provide Confidential data on the Green Rubber Project and its backers to obtain early Accreditation and work to find solutions for dealing with the mining industry's valuable waste.**

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Recovery and Recycling**

APPENDIX B – Table of Contents from the Green Rubber Project Report

Executive Summary

1. The Green Rubber Project

2. Reference Documents

3. Resource Supply

- 3.1 Objective
- 3.2 Methodology
- 3.3 Growth Rates
- 3.4 Resources Accessible in WA, Queensland and the Hunter Valley, NSW
- 3.5 Status of Mining Company Supply Contracts
- 3.6 Conditions applying to Mine Sites and Collection Areas
- 3.7 Reference Documents 1, 2

4. Processing, Transport Logistics and Costs

- 4.1 Western Australia
- 4.2 Queensland
- 4.3 Hunter Valley, NSW
- 4.4 Indicative Costs and Wages Study
- 4.5 Development Approval and Environmental Issues
- 4.6 Equipment Delivery Timing
- 4.7 Reference Documents 3, 4, 5, 6, 7

5. Recycling Plant

- 5.1 Analysis of Recycling Plant Options
- 5.2 The SIMPRO Basic Plants
- 5.3 SIMPRO Integrated Multi Quality Cryogenics and Ambient Grinding Plant
- 5.4 SIMPRO Two Stage Cryogenics Plant to Produce “Rubber Powder”
- 5.5 Recycling Plant Locations
- 5.6 Plant Management and Operator Wages
- 5.7 Development Approval (DA) and Environmental Issues
- 5.8 Plant Delivery and Installation Timing
- 5.9 Reference Documents 8, 9, 10, 11

6. Downstream Products Study

- 6.1 Scope
- 6.2 Global Growth in Crumb Rubber Values
- 6.3 Influence of Product Stewardship Scheme
- 6.4 Products and Manufacturers
- 6.5 Green Rubber Project Market Share
- 6.6 Export Potential
- 6.7 Influence on Recycling Plant Locations

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**Mining Industry Tyre
Recovery and Recycling**

- 6.8 Recycled Steel
- 6.9 Agreements for Sale of Product
- 6.10 Summary of Demand and Values
- 6.11 Reference Document 12

7. Proposed Voluntary Industry Led Product Stewardship Scheme

- Submission
- Reference Documents 13 and 14

8. Feasibility Analysis

- 8.1 Equipment, Wages, Fuel and Energy Costs, Exchange Rates and Contingency Planning
- 8.2 Mine Site Recovery and Recycling Feasibility WA
- 8.3 Mine Site Recovery and Recycling Feasibility Queensland
- 8.4 Mine Site Recovery and Recycling Feasibility Hunter Valley NSW
- 8.5 Green Rubber Project Priorities and Feasibilities
- 8.6 Reference Documents 15, 16, 17

9. Contingency Planning

- 9.1 Impact of the Federal Government Proposed Product Stewardship Scheme
- 9.2 Cost Contingency
- 9.3 Impact of Future Emissions Trading and/or Carbon Tax

10. Indicative Project Timeline

11. Consultant Team for Projects

12. Preparation for Stage 2 of Study

- 12.1 Site Acquisitions
- 12.2 Development Applications
- 12.3 Product Stewardship
- 12.4 Mining Company Agreements and Contracts
- 12.5 Agreements with Product Manufacturers
- 12.6 Carbon Footprint
- 12.7 Project Contingency
- 12.8 Priorities and Strategies
- 12.9 Timeline

APPENDIX

Acknowledgements and Contact Details