

CPT Ltd

Value from Waste Tyres

An Environmentally Friendly Process

CPT

Introduction

- CPT = Continuous Pyrolysis Technology
- Pyrolysis = Thermal decomposition of materials in absence of oxygen
- Proprietary low capital and operating cost process breaks down used tyres into steel, oil, carbon (char) and gas
- Pilot process established

Tyre Availability

- One waste tyre p.p.p.a.
- Multiple uses, e.g.- cement kilns, chips, roading.

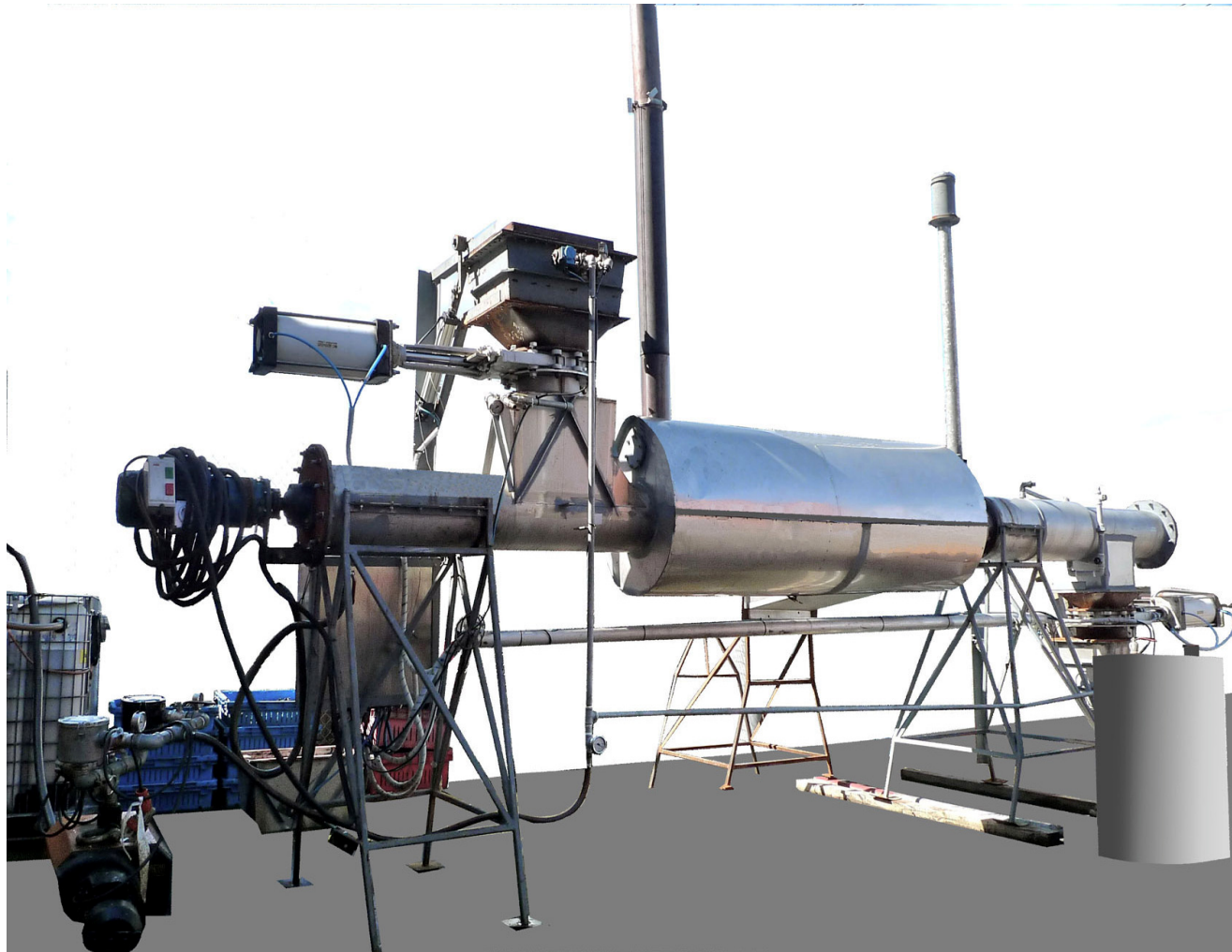
	Tonnes (000) p.a	
	Total	Landfill
Australia	230	138
NZ	55	41

Our Raw Material



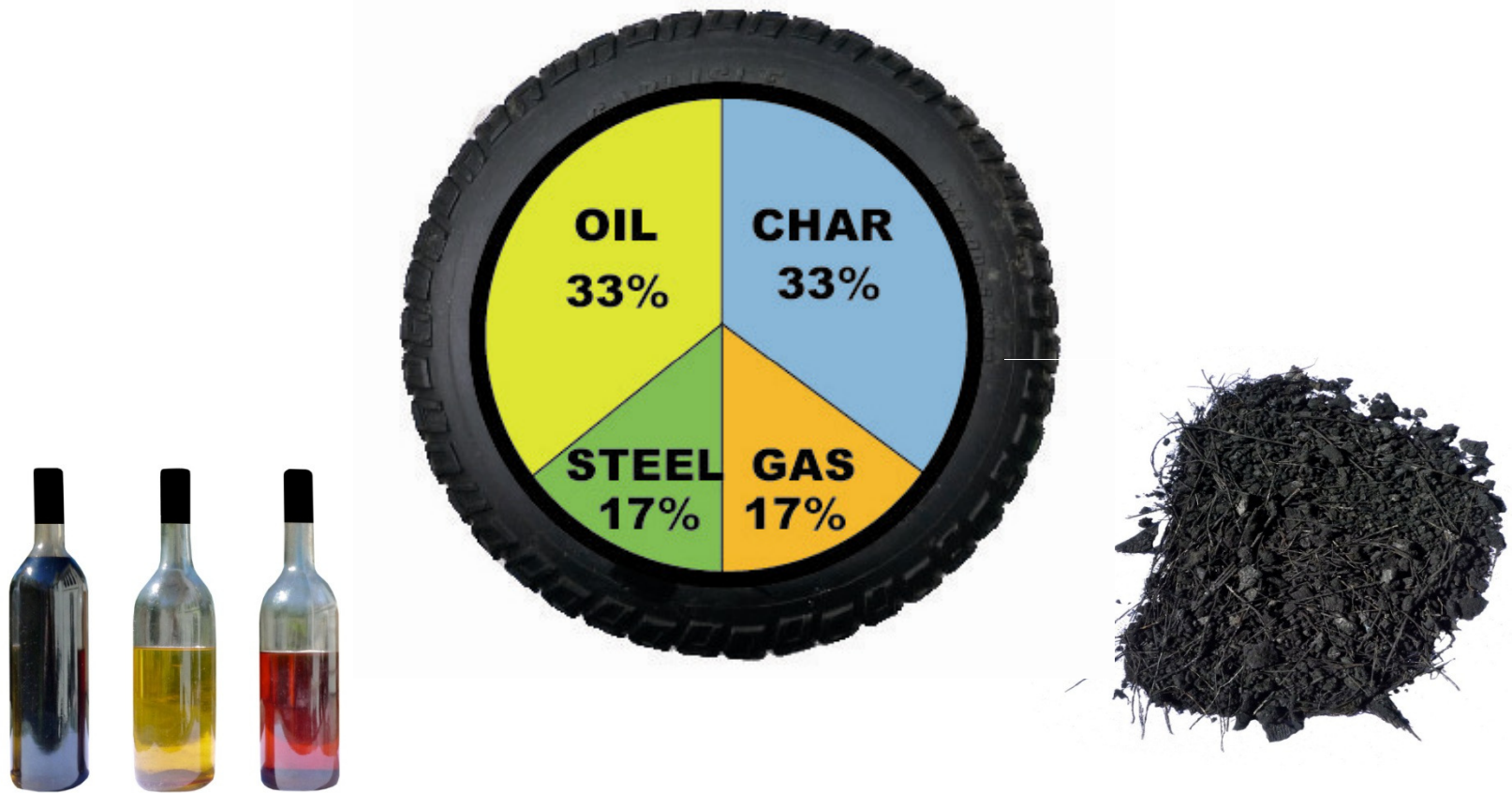
CPT

Pilot Plant



CPT

Products (by volume)



Why CPT Ltd

- It has a low capital cost proprietary process to convert used tyres to valuable products
- It has experienced management with chemical industry experience and expertise in continuous operation of industrial plants and technology partnering
- The process is commercially viable without subsidies
- Process proven on pilot plant



Current Position

- Pilot plant built
- Products have been independently tested by international standard laboratories:
 - Oil at IPL Ruakaka
 - Carbon (char) by CRL
 - Gas by BOC
 - Carbon black by Balentine

Gas Analysis

Component	Analysis
Hydrogen	30.0 +/- 2%
Methane	48.0 +/- 2%
Ethane	3.5 +/- 0.5%
Ethylene	4.5 +/- 0.5%
Propane	1.0 +/- 0.2%
Propylene	3.0 +/- 0.5%
C4 hydrocarbons	1.0 +/- 0.2%
C5 hydrocarbons	4.5 +/- 0.5%
C6 hydrocarbons	3.0 +/- 0.5%
C7 hydrocarbons	1.5 +/- 0.5%

Oil Analysis

C7-C9	21%
C10-C14	26%
C15-C40	53%

* Approx figures

Carbon Composition

	%
Sulphur	2
Zinc	3
Carbon	91

Carbon Energy

MJ/kg 28.75

Diesel Energy

- 42.82 MJ/kg

Raw Material Availability

- Tyre collectors account for substantial share of market.
- Pyrolysis is the highest added value disposal alternative to land fill.

Customers

- Steel
 - multitude of buyers
 - price based on international scrap price
- Carbon (char)
 - plant produces basic carbon black
- Oil
 - 80% is the diesel fraction but is high sulphur
- Gas
 - Internationally all gas used in house
 - New Zealand has LPG available for sale

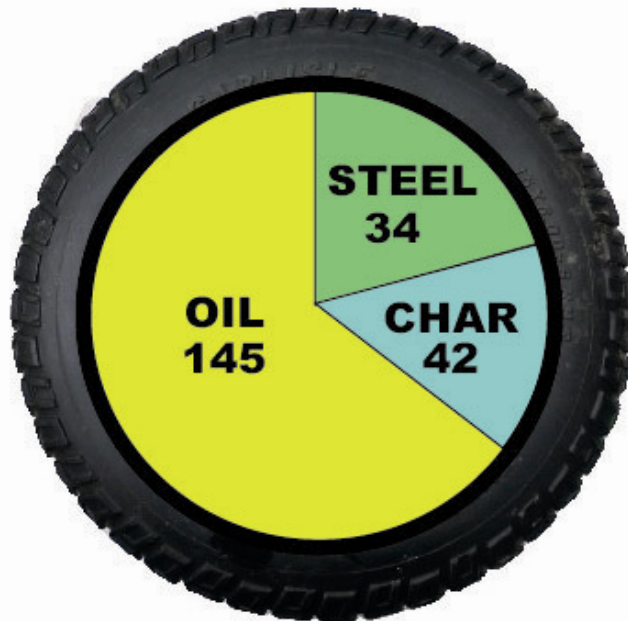
Further Value Creation

- Char upgraded to carbon black for International markets
Independently tested in US
- Extract sulphur from diesel to give wider sales opportunities

Products by value

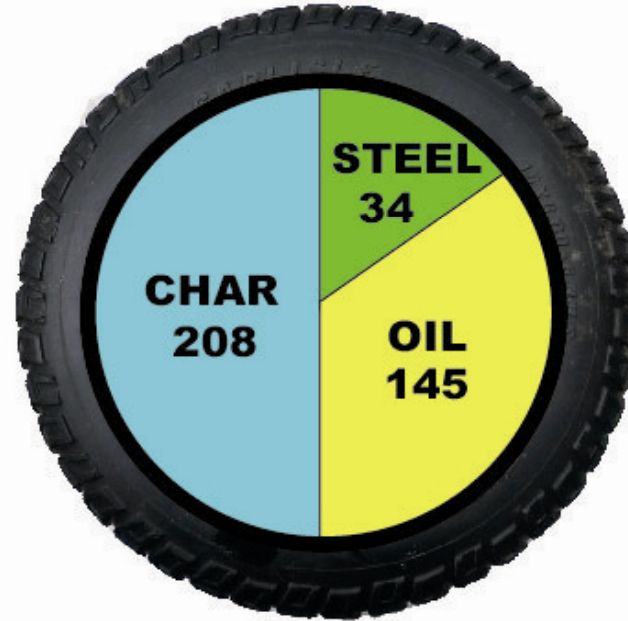
Cents per tyre

Australasian



Total 221 cents

International



Total 387 cents

Intellectual Property

- Freedom to operate established.
- Seeking patent protection for technology.
- Substantial proprietary knowledge in both processing and value adding.