



**EnviroTalks – November 2021**

# Important Notice – Disclaimer

This presentation and the information contained within it (the “**Presentation**”) has been prepared by, and is the sole responsibility of Pearl Global Limited (**Company**). Statements in this Presentation are made only as at 17 November 2021 and the Presentation remains subject to change without notice. The Presentation is provided solely for the use and benefit of the person to whom it is provided (the “**Recipient**”). The Presentation is not a prospectus, disclosure document, product disclosure statement or other offering document under Australian law or under any other law. This Presentation has not been filed, registered or approved in any jurisdiction.

**Confidentiality** - The Presentation has been provided to the Recipient on a strictly confidential basis solely for the purpose of providing information about the Company.

**Non reliance** - This Presentation is of a general nature and contains selected information only and does not purport to be complete or contain all of the information that may be relevant to the opportunity. The Presentation is provided solely for information purposes and should not be relied upon by the Recipient. No representation or warranty, express or implied, is made by any person as to the fairness, accuracy, completeness, reliability, timeliness, suitability or correctness of the information, opinions and conclusions contained in this Presentation. This Presentation does not purport to summarise all information that a Recipient should consider when making an investment decision and should not form the basis of any decision by a Recipient.

**Not financial product advice** - The Presentation is provided for general information purposes only and is not a financial product or investment advice or recommendation to acquire any securities in the Company. The Presentation is provided without taking into account any person’s objectives, financial situation or particular needs. It should not be relied on by the Recipient in considering the merits of any particular transaction, including the opportunity. Recipients of this Presentation should make their own assessment of an investment in the Company and should not rely on this Presentation. Recipients should conduct their own research into the financial condition, assets and liabilities, financial position and performance, profits and losses, prospects and business affairs of the Company and its business, and the contents of this Presentation. Recipients should seek legal, financial, tax and other advice appropriate to your jurisdiction.

**Past and future performance** - Past performance information included in this Presentation is provided for illustrative purposes only, should not be relied upon and is not an indication of future performance. This Presentation contains certain forward-looking statements with respect to the financial condition, operations and business of the Company and certain plans and objectives of the Company. Forward-looking statements can be identified by the use of forward-looking terminology, including, without limitation, the terms “believes”, “estimates”, “anticipates”, “expects”, “predicts”, “intends”, “plans”, “targets”, “aims”, “outlook”, “guidance”, “forecasts”, “may”, “will”, “would”, “could” or “should” or, in each case, their negative or other variations or comparable terminology. These forward-looking statements include all matters that are not historical facts. Such forward looking statements involve known and unknown risks, uncertainties and other factors that because of their nature may cause the actual results or performance of the Company to be materially different from the results or performance expressed or implied by such forward looking statements. Such forward looking statements are based on numerous assumptions regarding the Company’s present and future business strategies and the political and economic environment in which the Company will operate in the future, which may not be reasonable, and are not guarantees or predictions of future performance. No representation is made that any of these statements or forecasts will come to pass or that any forecast result will be achieved, or that there is a reasonable basis for any of these statements or forecasts. Forward-looking statements speak only as at the date of this Presentation and to the full extent permitted by law, the Company, and their respective affiliates and related bodies corporate and each of their respective related parties and intermediaries disclaim any obligation or undertaking to release any updates or revisions to information to reflect any change in any of the information contained in this Presentation (including, but not limited to, any assumptions or expectations set out in the Presentation).

**Disclaimer** - To the maximum extent permitted by law, the Company and its related bodies corporate, directors, officers, partners, employees, advisers, consultants and agents exclude and disclaim all liability for any expenses, direct or indirect losses, damages or costs incurred or suffered by the Recipient or any other person arising from or in connection with use or reliance on (in any manner) the information or the Recipient’s participation in the opportunity, whether the expenses, losses, damages or costs arise because of negligence, default, misrepresentation or some other cause, and whether or not they are foreseeable. To the maximum extent permitted by law, the Recipient (on its own behalf and on behalf of each of its representatives) unconditionally and irrevocably releases the Company and its related bodies corporate, directors, officers, partners, employees, advisers, consultants and agents from all claims and liability. The Company holds this release for itself and on trust for its related bodies corporate, directors, officers, partners, employees, advisers, consultants and agents.

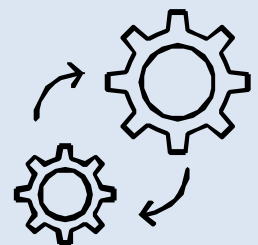
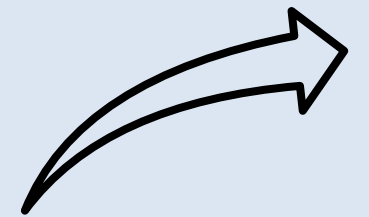
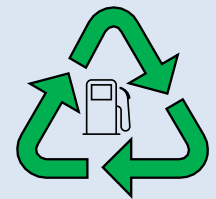
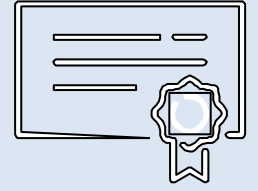
# Australia appears to lack both the will and capability to manage its waste tyre problem at home in a sustainable manner



- 85%<sup>1</sup> of Australian waste tyres are either sent offshore or buried.
- This is a global problem.

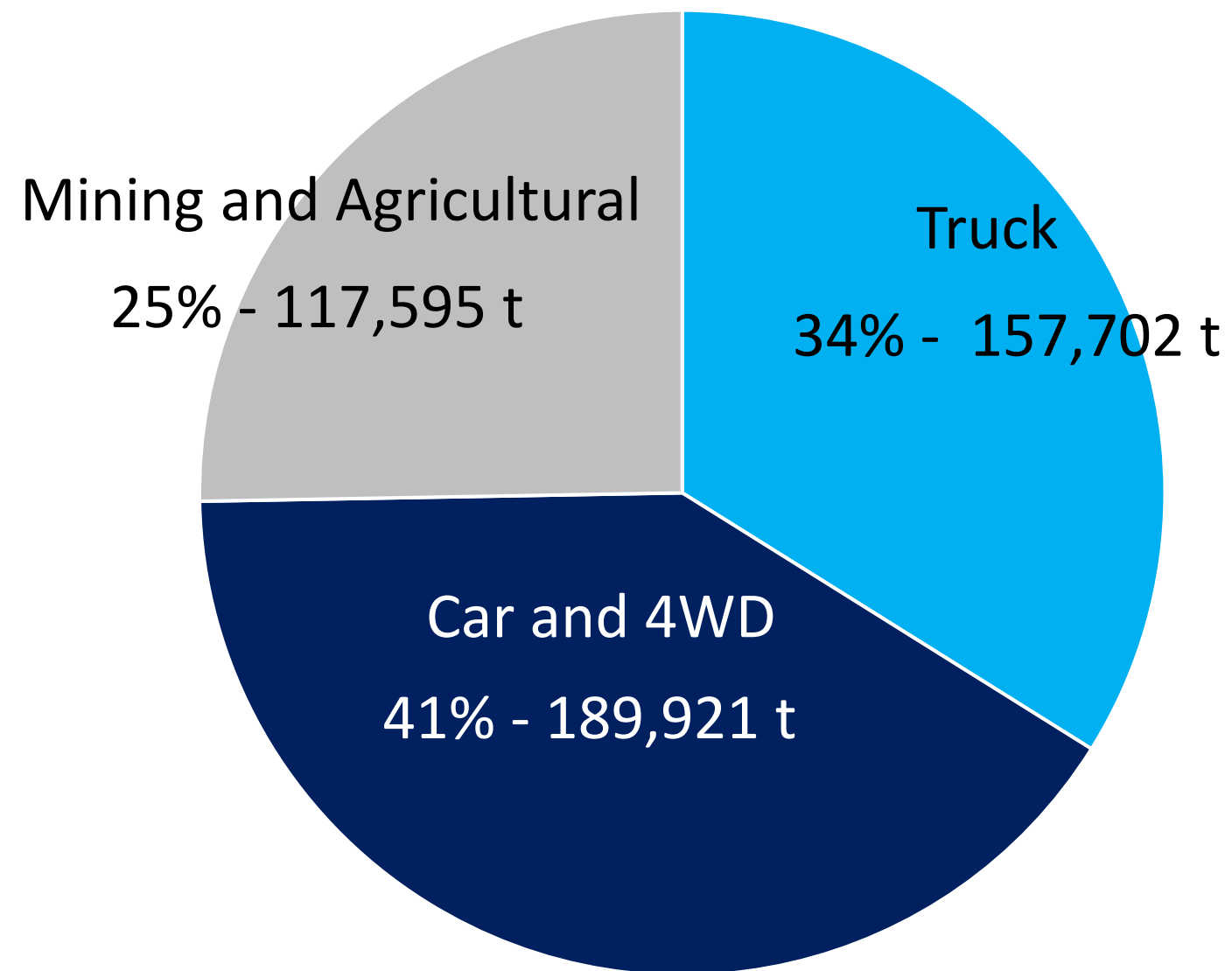
# Pearl Global has a solution

- Pearl Global collects and processes end of life tyres using globally unique proprietary technology - patent applications have been accepted.
- Tyres are processed into diesel fuel alternatives, steel and carbon char.
- Pearl Global's process is fundamentally different to traditional pyrolysis - environmental and end product outcomes are superior.
- Pearl Global currently processes approximately 3,500 tonnes of tyres p.a. and is focused on ramping its activity to process around 10,000 tonnes per annum.
- These processes are complemented by tyre crumbing operations which provide other circular economy solutions, and synergies for partners and customers in the Asphalt industry especially.
- The company is looking to expand from its base in Stapylton, South East Queensland, to establish major regional footprints across the country and potentially offshore.



# Car and 4WD Tyres are the single largest segment of end of life tyres in Australia

Market Composition<sup>1</sup> – tonnes of tyres disposed of

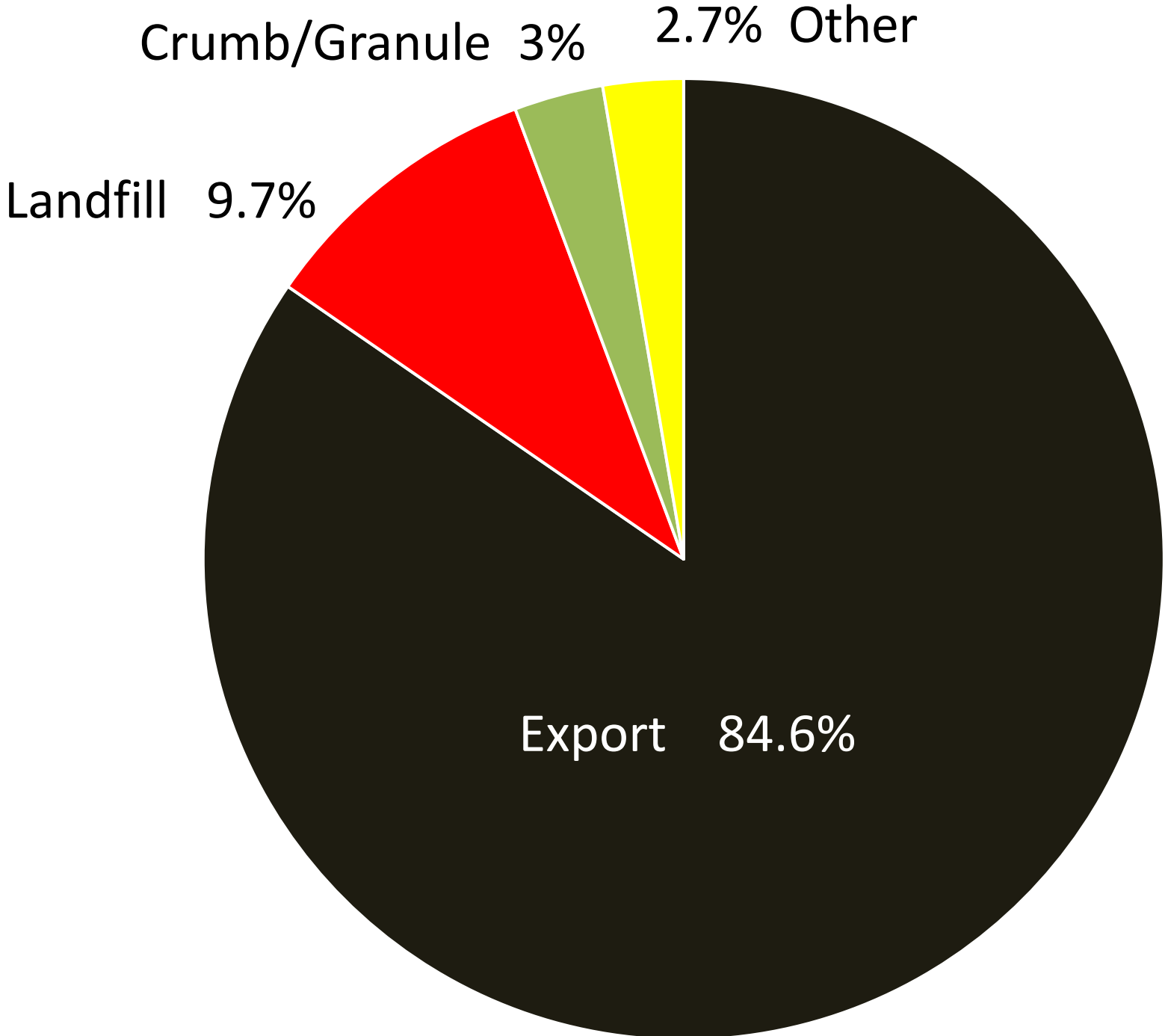


- Car and 4WD tyres, ie. for passenger vehicles, account for more than 40% of end of life tyres.
- 190,000 tonnes is ~ 19 million individual tyres.
- Truck and Mining/Agricultural tyres make up the remainder.
- The local market for sustainable recovery of end of life tyres is largely untapped.

1. Source: Used Tyres Supply Chain and Fate Analysis, Tyre Stewardship Australia, June 2020,

# Almost 95% of Australia's Car & 4WD end of life tyres are either exported or end up as landfill

Fate<sup>1</sup> of used car & 4WD tyres

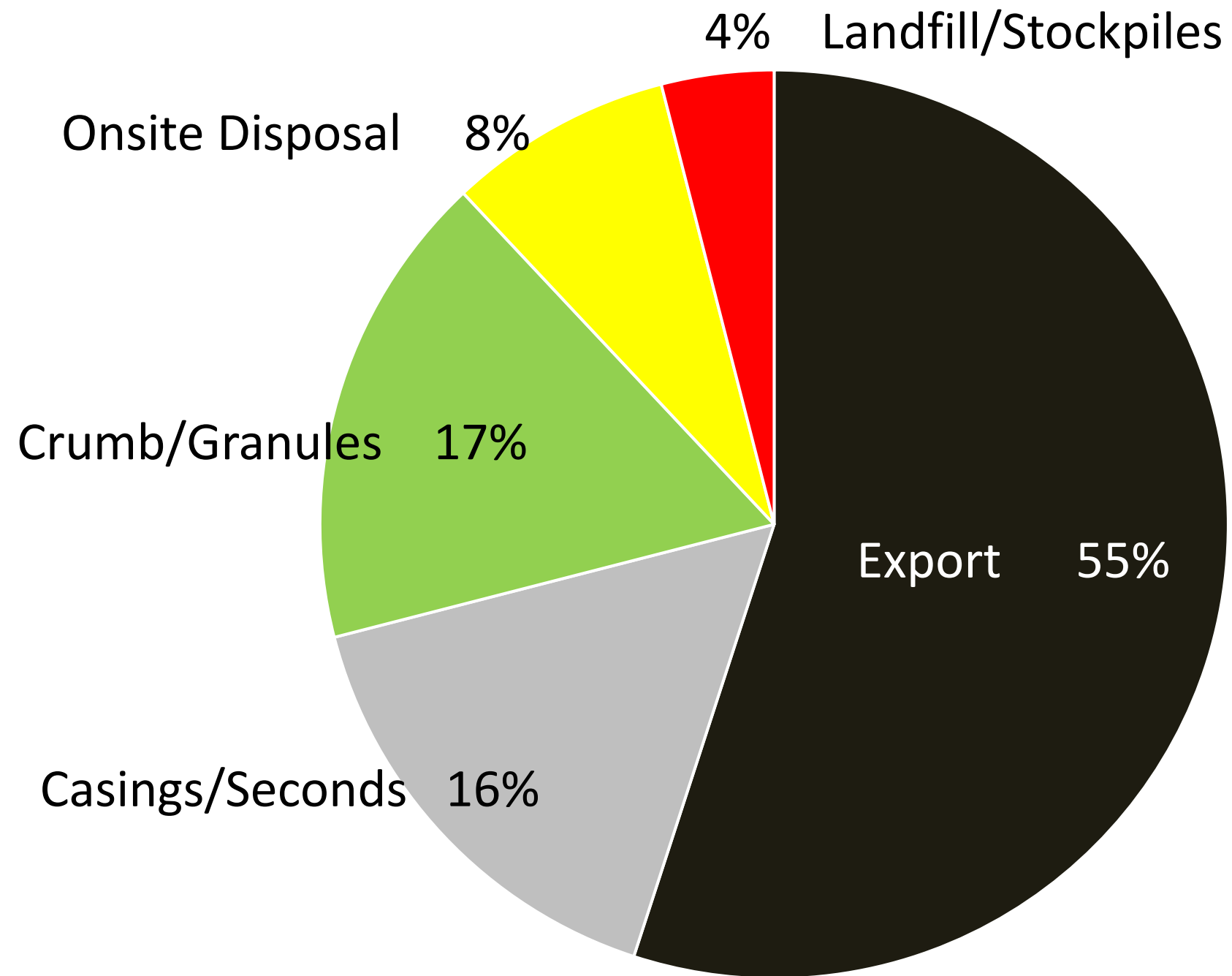


- The majority of passenger vehicle tyres are exported as their synthetic content is often problematic for re-processing.
- Of the exported tyres, a large portion is burnt as a fuel supplement in cement kilns, boilers or furnaces.
- Overall, only a very small proportion are recovered sustainably.
- A government ban on the export of whole car & 4WD tyres comes into effect from 1 December 2021.

1. Source: Used Tyres Supply Chain and Fate Analysis, Tyre Stewardship Australia, June 2020,

# A higher grade of rubber allows end of life truck tyres to have a wider range of uses

Fate<sup>1</sup> of used truck tyres

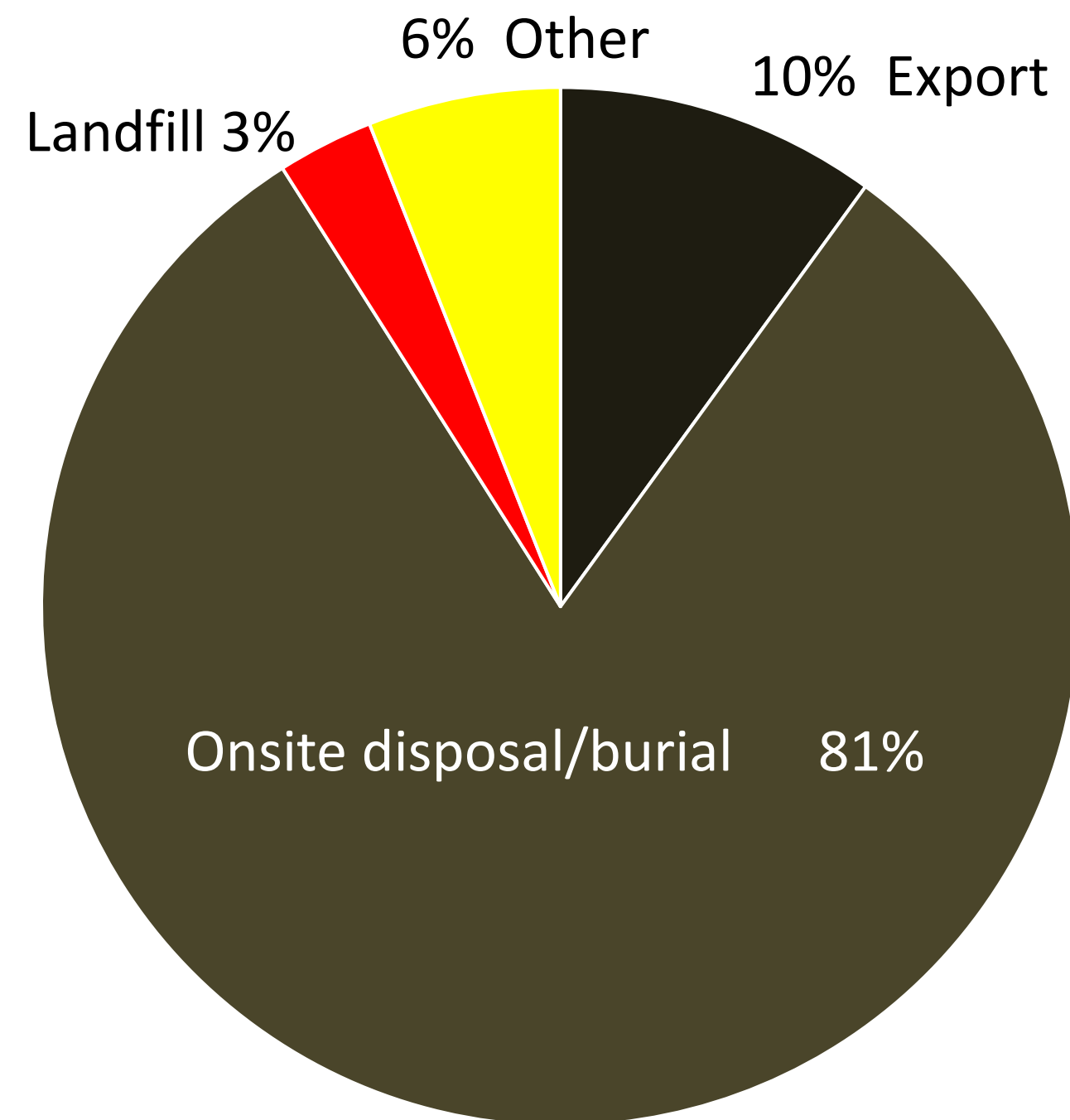


1. Source: Used Tyres Supply Chain and Fate Analysis, Tyre Stewardship Australia, June 2020,

- Truck tyres are better suited to a range of commercial and industrial applications, particularly crumbing.
- Pearl's approach has been to target truck tyres for both thermal desorption and crumbing.
- This provides a sustainable solution, with crumbing also servicing other requirements of existing customers.
- Pearl has recently begun commercial production from its crumbing plant, producing both granules and crumb for Queensland customers.

# More than 80% of end of life Mining and Agricultural tyres are buried

Fate<sup>1</sup> of used Mining and Agricultural Tyres



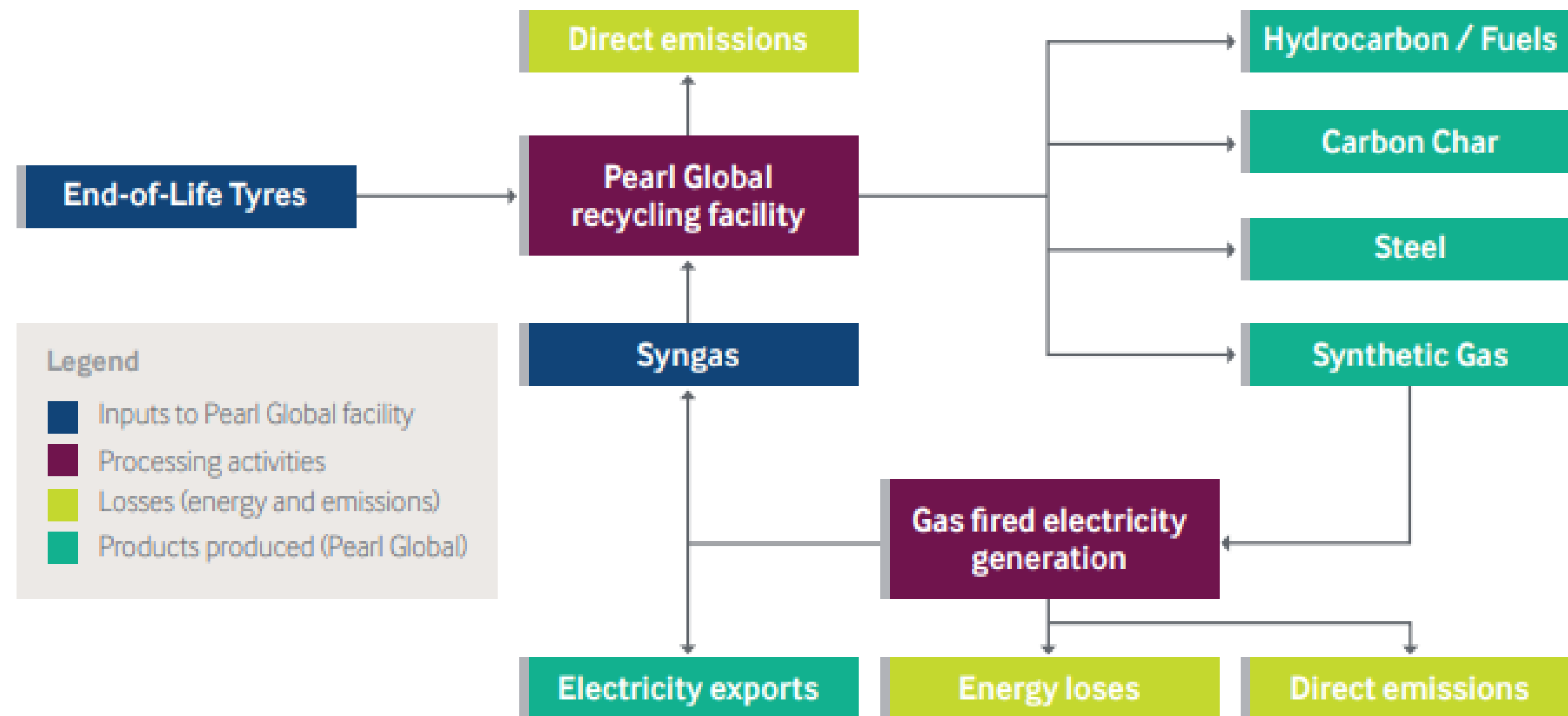
- The 81% of Mining and Agricultural tyres that are buried is equivalent to approximately 95,000 tonnes.
- Pearl Global intends to invest in the collection and shredding infrastructure needed for Mining and Agricultural tyre recovery.
- The company's existing Queensland location, and relationships with existing customers and tyre manufacturers, are strategic advantages for Pearl's investment in Mining and Agricultural tyres processing solutions.

1. Source: Used Tyres Supply Chain and Fate Analysis, Tyre Stewardship Australia, June 2020



# Pearl Global's activities strongly align with circular economy objectives

## THE PEARL GLOBAL TYRE PROCESSING FACILITY



- Pearl Global is driving towards its own energy and carbon efficient production processes.
- Future implementation of power co-generation capacity will allow the company to directly reduce its carbon footprint.

# There are limited solutions for the disposal of end of life tyres

Disposal Method	Environmental Impact of Disposal Method	Car & 4WD Tyres	Truck Tyres	Mining and Agricultural Tyres
Export	Negative	✓	✓	✓
On Site Disposal / Burial	Negative	✓	✓	✓
Crumbing	Positive	✗ <sup>1</sup>	✓	✓
Pearl's Clean Thermal Desorption Technology	Positive	✓	✓	✓

Pearl is uniquely placed to exploit its **competitive advantage** of being able to provide a sustainable and environmentally sound solution to the imminent **challenge of disposing of car and 4WD tyres**.

Pearl's crumbing operations augment its ability to provide value adding solutions to the disposal of an even wider range of tyres.

<sup>1</sup> Whilst car and 4WD tyres can be crumbed, their nylon weave is problematic in the crumbing process and the synthetic content of the rubber material limits the ultimate end uses

# The Pearl Global Solution is fundamentally different to traditional Pyrolysis

	Pearl Global Thermal Desorption	Traditional Pyrolysis
Processing Method	<b>Low Temperature</b>	High Temperature
Outputs	<b>High quality and saleable</b>	Low quality
Emissions	<b>Low, and available for power co-generation</b>	High
Operational platform	<b>Continuous</b>	Batch

Pearl Global's solution employs a thermal gradient temperature management process for which global patents are pending.

The high quality outputs, combined with low emissions, are unique to Pearl Global's process.

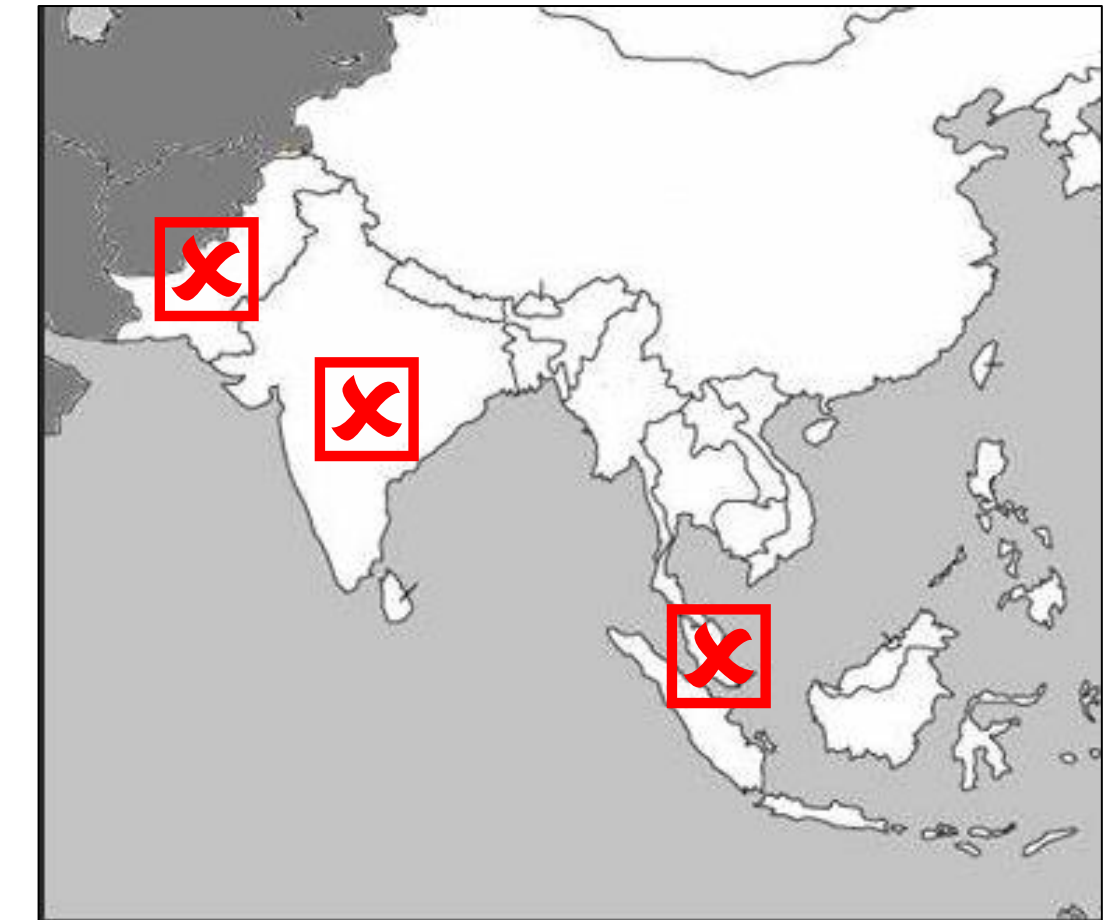
The infrastructure is modular with the ability to roll out to sites of varying sizes.



Thermal desorption units at Pearl Global's Stapylton site.

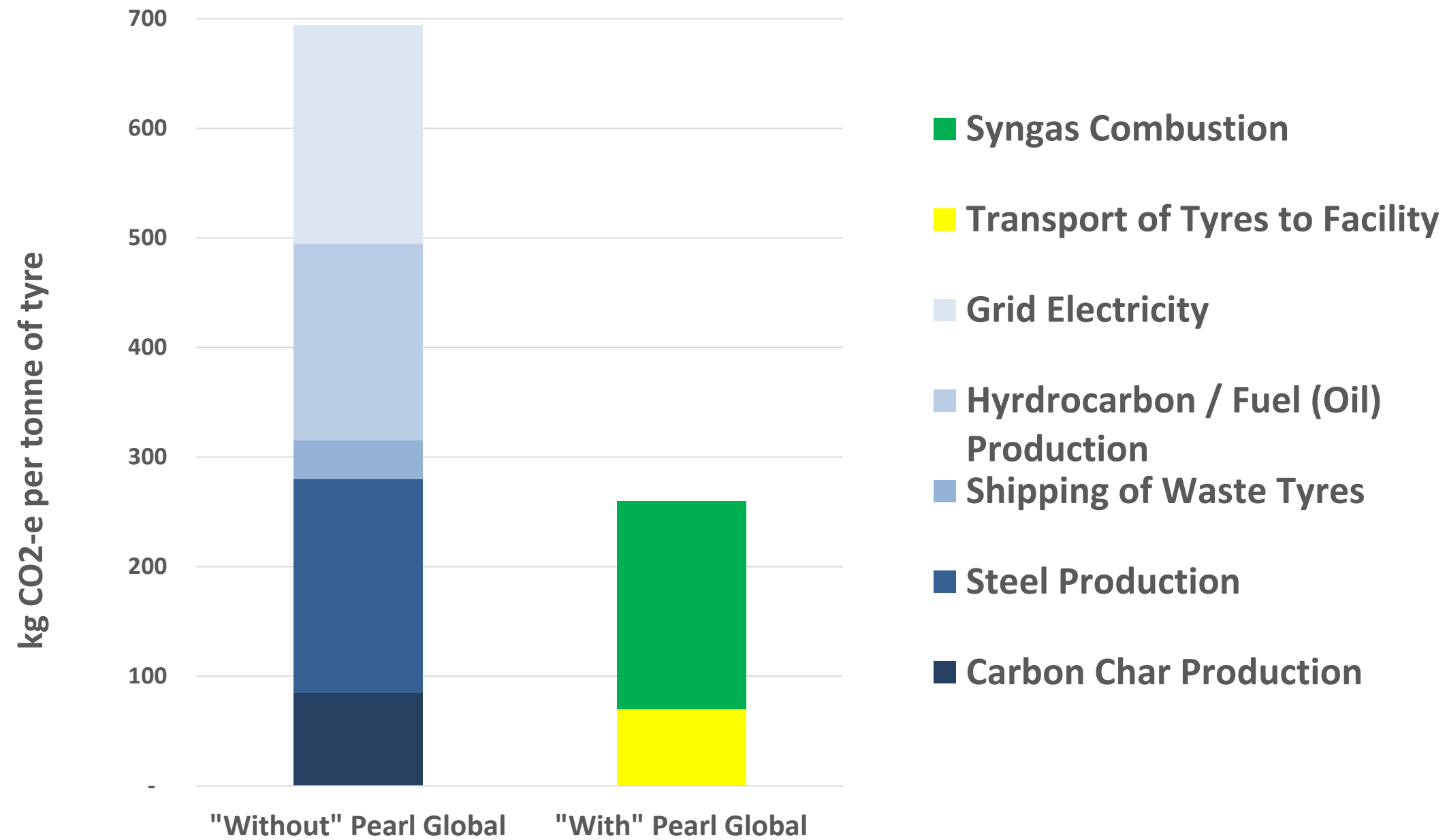
# Pyrolysis operations have been shut down in other countries

- In Malaysia, India and Pakistan tyre recycling and processing plants have been shut down as they have failed to manage the pollution generated by poorly controlled and unsophisticated pyrolysis processes.
- Pearl Global's patented technology delivers best practice environmental outcomes.
- Additionally, synthetic gases produced from the desorption process are also suitable for power co-generation.



# Pearl Global's process significantly reduces greenhouse gas emissions

## EMISSION COMPARISON FOR THE "WITH" AND "WITHOUT" PEARL GLOBAL SCENARIO

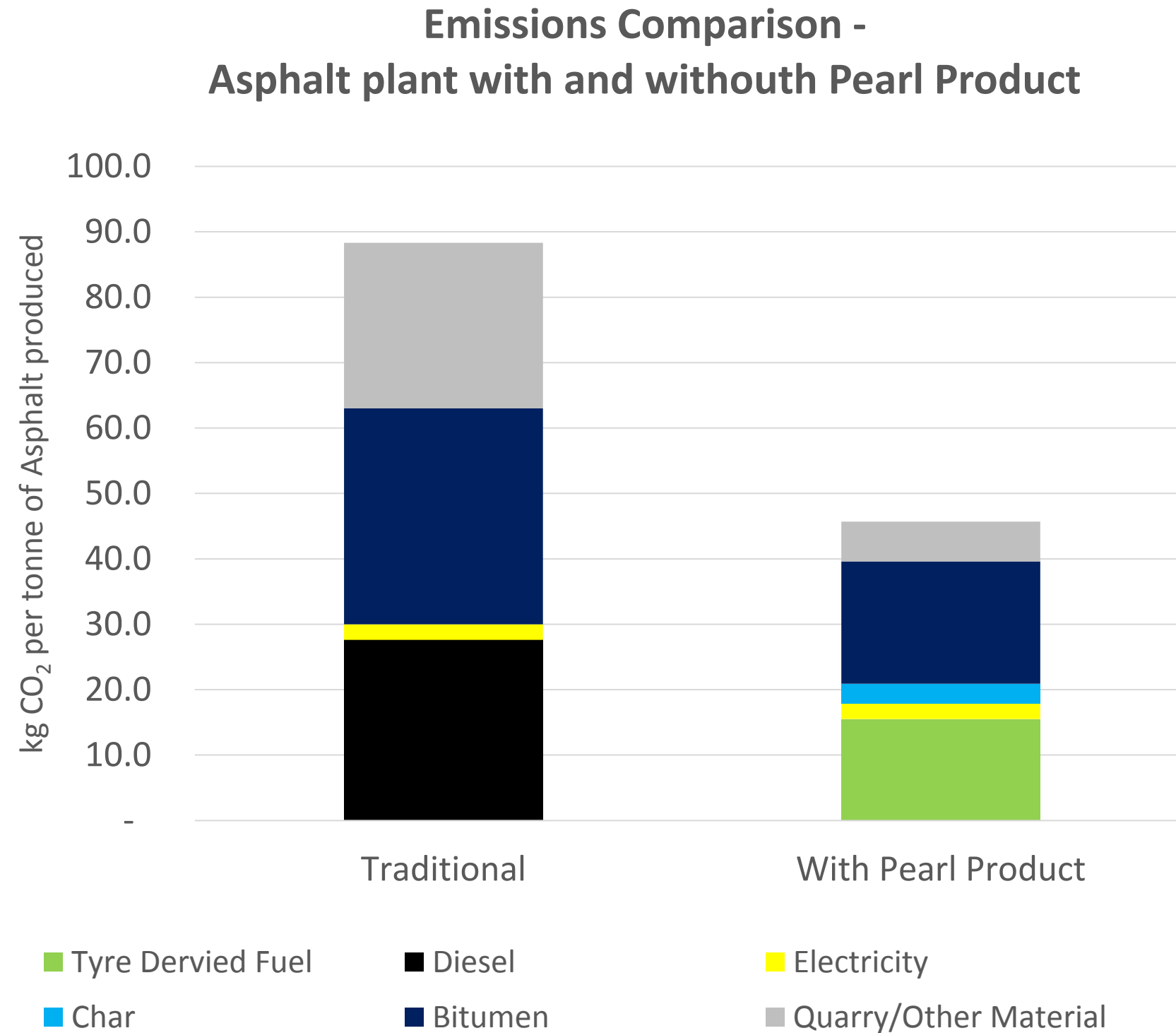


There is a reduction in CO<sub>2</sub>, by more than half, where Pearl's processed are used to produce fuel oil, carbon char and steel.

**Note:** Figure excludes the biochar sequestration benefits that would be realized if Pearl Global supplies carbon char produced to the agricultural industry.

**Source:** RPS Pty Limited report to Pearl Global and ROC partners, *Lifecycle Greenhouse Gas Benefits from Tyre Recycling*, 2020

# There is an almost 50% reduction in CO<sub>2</sub> emissions from the use of Pearl Global's products in the Asphalt industry

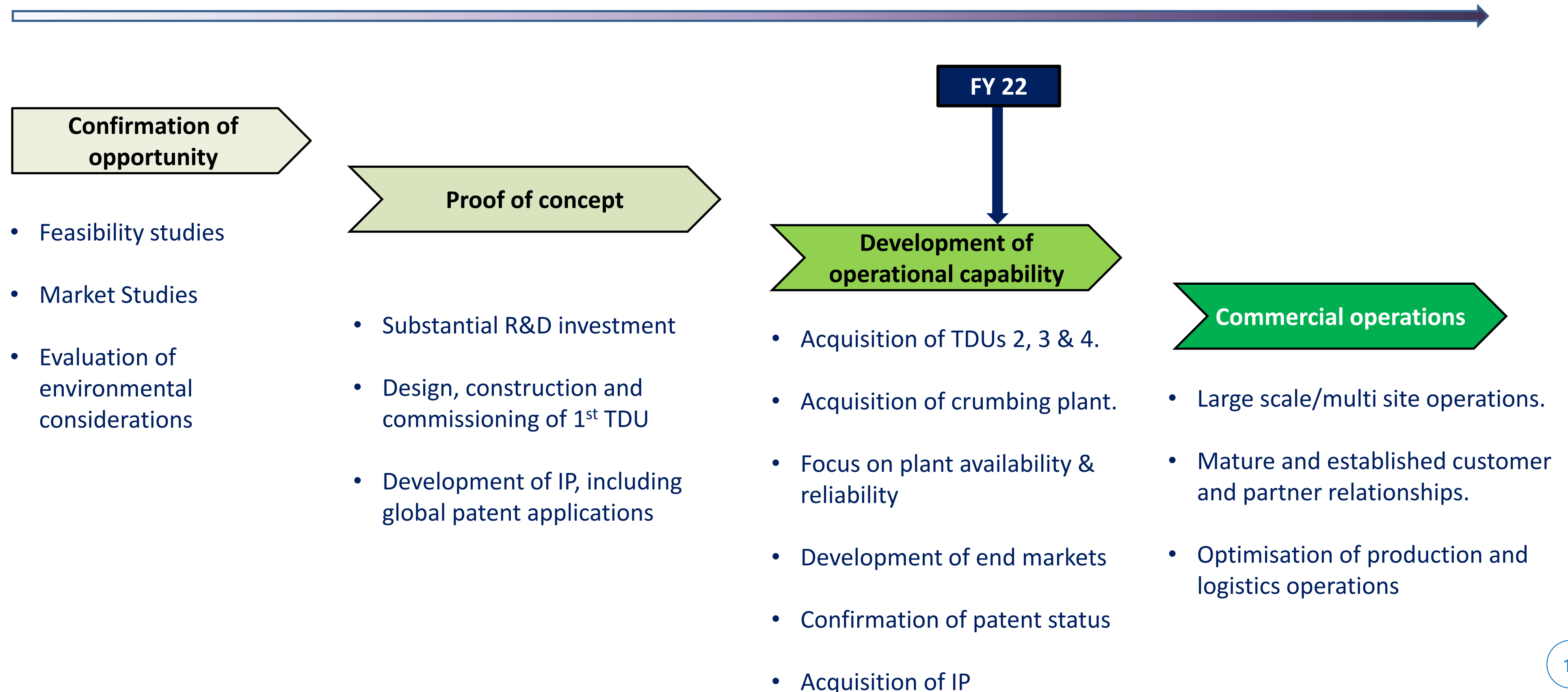


- Widespread adoption of Pearl's products within the Asphalt industry will result in far-reaching positive environmental changes.
- As well as environmental benefits, the products generate efficiencies within the Asphalt manufacturing process.

Source: Austek Asphalt, 2020

# Since inception, Pearl Global has focused on progressing through the phases necessary to develop tyre recycling technology to the point of commercial viability and sustainability

## Timeline since inception



# Questions - where to from here?

