



Investment in Innovative Waste Treatment Technologies

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Australia's Waste Challenge

- Australia produces in excess of 67 million tonnes¹ of waste annually
- *China Sword Policy* seriously impacted global recycling markets resulting in export bans
- Regulatory control has heightened driven by social sentiment with generational change underway
- National Waste Policy Action Plan 2019 sets out highly ambitious targets
- Fundamental rework of the mechanics of a Circular Economy required



National Waste Policy - Action Plan



- Ban the export of waste plastic, paper, glass and tyres, commencing in the second half of 2020
- Reduce total waste generated in Australia by 10% per person by 2030
- **80% average recovery rate from all waste streams by 2030**
- Significantly increase the use of recycled content by governments and industry
- Phase out problematic and unnecessary plastics by 2025
- Halve the amount of organic waste sent to landfill by 2030
- Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions

Market Drivers

- Community expectations
- Regulatory standards
- Landfill levies
- Landfill acceptance criteria including bans
- Reuse market capacity
- Product stewardship arrangements
- Investment support (e.g. modernisation fund)
- Emerging contaminants(eg PFAS)



Blubox e-waste recycling unit

Investment Decision

- ROIC > WACC
- Total shareholder return
- Confirm market drivers
- Review available technologies
- Evaluate OPEX and CAPEX
- Risk (e.g. regulatory consents)



Hazpak paint de-packaging unit

Conclusion

- To achieve Australian Waste Management Policy goals will take a generational change
- Market is heavily driven by community sentiment with numerous stakeholders with significant regulatory focus
- Always approach investment with a clear definition of the problem and don't look for a problem to fix
- Understand risk
- Need to achieve shareholder return
- Major role for government to support this generational change



Eastern Creek W2E