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The problem (and opportunity) with plastics

An ESG perspective

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Key points

- *The Investor Declaration on Plastic Pollution (IDPP)*, issued by the global *Plastic Solutions Investor Alliance* (PSIA) is an opportunity to focus on the issues and find a new path forward.
- Taking action on plastics provides significant opportunities in moving towards the UN Sustainable Development Goals, and new areas for investment.
- The culmination of plastic developments creates two major investment themes: The changing profile of demand for plastics and packaged goods; and the regulatory transition to a circular economy.
- ESG engagement is an avenue that investors can use to ensure adequate risk mitigation in companies held in the portfolio, and to allocate away from poor performers.

Plastics: A seemingly overwhelming enemy of a sustainable planet

Plastics are a pervasive problem. Of all plastic packaging produced on earth, only 14% is recycled[1]. A recent study by Jambeck et al. at the University of Southern California – Santa Barbara (2015)[2] found that the ocean contains an estimated 150 million tons of plastic, with 8 million tons added annually, equivalent to a garbage truck load every minute. A much publicised 2016 Ellen MacArthur Foundation study predicted oceans will contain more plastic than fish by 2050 if no action is taken to reduce the flow of plastics into the aqueous environment.[3]

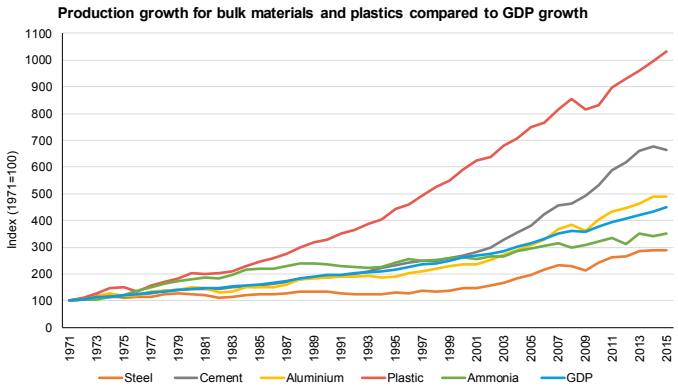
The urgent need to act on plastics has seen the global not-for-profit organisation, *As You Sow*, launch the landmark *Investor Declaration on Plastic Pollution (IDPP)*, an initiative of the Plastic Solutions Investor Alliance (PSIA), citing plastic pollution as a major risk and pledging to work with companies to find solutions through corporate commitments, plastic reduction and recycling programs, and policies. In September 2019, Ausbil became the first Australian company to sign this global declaration, which is outlined in full in Appendix 1.

Three key paragraphs, reproduced here from this Declaration, attest to the destructive impact of plastics.

> *While plastic has many beneficial uses, its production has grown exponentially for many years without sufficient regard to its environmental impacts. This trend is expected to continue as plastic production is projected to triple by 2050, yet currently only 14% of plastic packaging is collected for recycling. Most plastics are burned, buried, or littered onto land or oceans. 95% of plastic packaging material value ($80–$120 billion annually) is lost to the economy after a short first use. Without fundamental redesign and innovation, about 30% of plastic packaging will never be reused or recycled.*
>
> *Nearly all plastic is derived from fossil fuels. Plastic's contribution to global warming is substantial with greenhouse gas emissions from the plastics sector expected to grow to 15% of the total global annual carbon budget by 2050. There are also special concerns about the impact of plastic on oceans, which contain an estimated 150 million tons of degraded plastic, with four to 12 million tons added annually. The environmental cost of plastic production for the consumer goods industry is estimated at $75 billion annually, including a preliminary estimate of $13 billion of damage to marine ecosystems, including losses incurred by fisheries, and costs to tourism and for beach clean-ups.*
>
> *Scientists predict that oceans will contain more plastic than fish by 2050 if no actions are taken. Nearly 700 species have been affected by marine trash, most of which is plastic, including every species of sea turtle, and more than half of all whales, dolphins, porpoises, and seabirds. Toxins can become concentrated in degrading plastic in water, and may be transmitted to marine food webs. With more than one billion people depending on protein from the ocean, the potential human health implications are concerning.*[4]

Plastic production has grown dramatically when compared to other commodities and chemicals, and even growth in world GDP, as illustrated in Figure 1. Plastic has clearly outpaced the production of world GDP, aluminium, ammonia, cement and steel.

Figure 1: We are being swamped in plastics

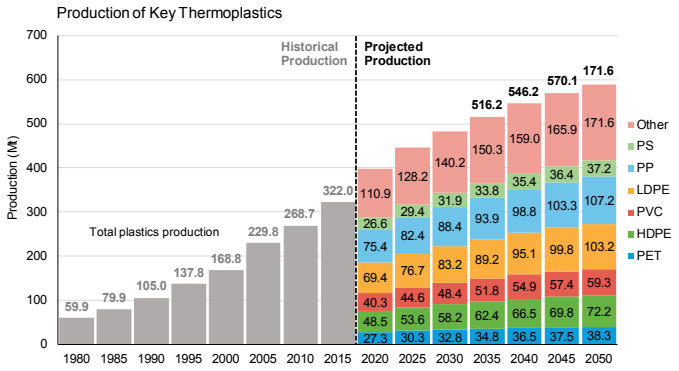


Source: IEA (iea.org)

Plastics are projected to grow significantly. As at 2015, plastic production totalled some 322 million tonnes. This figure is projected to grow to 589 million tonnes by 2050, as illustrated in Figure 2.

1 As You Sow, www.asyousow.org.
2 J. R. Jambeck, R. Geyer, C. Wilcox, T. R. Siegler, M. Perryman, A. Andrady, R. Narayan, & K. L. Law. (2015) Plastic waste inputs from land into the ocean. Science, 2015; 347(6223).
3 Ellen MacArthur Foundation. (2016). The New Plastics Economy: Rethinking the future of plastics. Retrieved from: https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics
4 Paragraphs reproduced from the Investor Declaration on Plastic Pollution, developed by As You Sow, a global non-profit organisation. Retrieved from www.asyousow.org.

Figure 2: Projected plastic production by type



Source: IEA (iea.org)

Types of plastics

There are two broad categories of plastics: thermoplastics and thermosets. Thermoplastics are those that constitute the familiar plastic objects around us in everyday life; thermosets tend to be more specialist materials and resins. Whereas thermosets cannot be effectively recycled (except by grinding them down and using them as filler material), most thermoplastics can. Resin Identification Codes 01-07, used to distinguish the main thermoplastics, are often printed on the bottom of plastic packaging and other goods in order to assist their sorting prior to recycling.

PET is mainly used to make polyester fibre, but its other key end-use is food and beverage packaging. Its key properties are its high crystallinity and strength.

HDPE is one of the most versatile plastics, used in anything from shampoo bottles to hard hats. It is made entirely of ethylene and is among the most recycled plastics.

PVC is a tough resin that is most frequently used in construction. PVC windows, doors and pipes are commonplace on construction sites and in buildings throughout the world.

LDPE was the first polyethylene plastic to be invented and is another key plastic used for packaging. It is the key constituent of most plastic carrier bags.

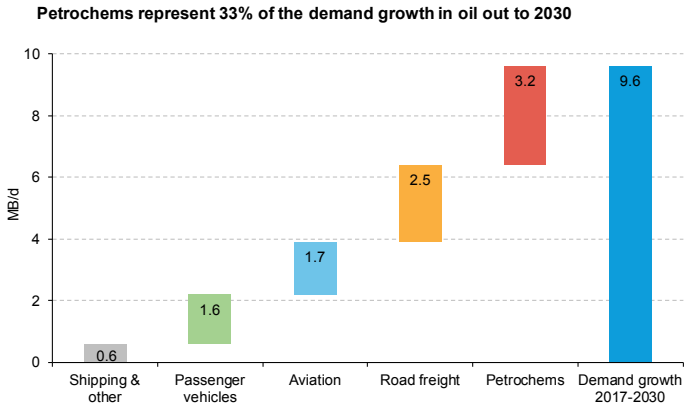
PP is a versatile plastic with many end-uses. Because it has a higher melting point than some other key polymers, it is often used in automotive applications, where high temperatures can be encountered.

PS comes in three main forms: "general purpose" "high impact" and "expandable". The latter is used in packaging applications to protect goods during transport and storage.

Other thermoplastics include polycarbonate, acrylonitrile butadiene styrene, styrene acrylonitrile, polymethyl methacrylate, polyacrylonitrile, polyvinyl acetate, and many others. They have a wide range of uses, but each is produced in much smaller volumes than 01-06 above.

Source: IEA (iea.org)[5]

Figure 3: Doubly bad: Petrochemicals consume some 3.2 million barrels of oil a day



Source: IEA (iea.org)

The impact of plastics is doubly concerning given that their production accounts for some 33% of global oil output demand growth to 2030, on the one hand depleting the earth's resource of fossil fuel and all the environmental damage that comes with this; and on the other hand transforming this oil into petrochemicals that are largely not recycled and are mostly not biodegradable. Figure 3 outlines projected demand growth for oil of which plastics account for the highest share.

Plastics are becoming politicised along with waste and energy

Alongside the phenomenal growth in plastics has come pressure on the management and recycling of plastic waste. The trade in global recycling waste changed fundamentally in 2018 when China implemented its National Sword policy and began stringently enforcing restrictions on waste imports. Until China began curbing recyclable waste materials it was importing some 30 million tonnes annually, of which around 1.25 million tonnes was from Australia.[6]

The China National Sword policy, while creating a major short-term waste issue globally, is also forcing developed countries to become more accountable for how they process and manage waste. The alternative is increasingly becoming a glut and stockpile problem that will will increase the risk of a disorderly transition.

Other countries have been quick to 'call out' developed nations in the war on waste and plastics. This is evident in the recent crackdown on waste recycling exports by Malaysia[7], where 3,000 tonnes of non-recyclable plastic was returned to Australia; the Philippines[8], in returning 69 containers of mislabelled waste to Canada; and in Indonesia[9], where they found containers of recycling paper contaminated with oils, plastics and electronics; further politicising global waste, plastics and recycling.

The key issue is that emerging economies are no longer accepting contaminated waste from developed markets, largely due to pressure from their constituencies, and they are weaponising waste in their foreign affairs policy. Across Asia, there is a lot of political will to reduce the plastic waste lost into the ocean and many governments are working on the problem, seeking opportunities such as waste to energy conversion. Importantly, there is an opportunity for Asia to leapfrog the western developed economies on waste recycling.

5 OECD/IEA. (2018). *The Future of Petrochemicals: Towards more sustainable plastics and fertilisers. International Energy Agency*. Retrieved from www.iae.org/petrochemicals/

6 NSW EPA. (2018, November 28). *Response to the enforcement of the China National Sword Policy*. Retrieved from https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/response-to-china-national-sword

7 ABC News. (2019, May 29). *Malaysia to send plastic waste back to Australia and other developed nations*. Retrieved from https://www.abc.net.au/news/2019-05-29/malaysia-to-send-tonnes-of-plastic-waste-back-to-foreign-nations/11159208

8 Bautista, R. (2019, May 30). *Philippines sends trash back to Canada after Duterte escalates row*. Reuters. Retrieved from: https://www.reuters.com/article/us-philippines-canada-waste/philippines-sends-trash-back-to-canada-after-duterte-escalates-row-idUSKCN1T10BQ

9 Lipson, D. (2019, July 10). *Indonesia to send back Australian paper waste 'contaminated' by dirty nappies and electronics*. ABC News [website]. Retrieved from: https://www.abc.net.au/news/2019-07-09/indonesia-to-ship-back-contaminated-australian-waste/11292540

10 United Nations. (2019). 17 *Goals to Transform Our World*. Retrieved from https://www.un.org/sustainabledevelopment/

The issue of plastics and their damage to the sustainability of earth and life is one critical problem that fits within the framework of the United Nations Sustainable Development Goals (UN SDGs) for 2030[10]. The UN SDG's are becoming increasingly important for companies in formulating their sustainability strategies, and for global investors as public and private money, trustees, pension funds, superannuation funds and other institutional investors increasingly acknowledge the need to account for ESG factors in a more holistic approach.

The misuse and mismanagement of plastics, directly and indirectly, adversely impacts a number of crucial sustainability goals under the UN SDGs, including:

- **Goal 3: Good Health and Well-being**. The impact of plastics has a direct and indirect impact on health and well-being in society.
- **Goal 6: Clean Water and Sanitation**. Plastic and recycling waste runoff in waterways drastically reduces the quality of potable water, and threatens ecosystems in many parts of the world.
- **Goal 9: Industry, Innovation and Infrastructure**. The recycling industry, and industry in general, is at a cross-roads in how it seeks to manage the issue of plastic.
- **Goal 11: Sustainable Cities and Communities**. Plastics directly impact the sustainability of communities. There is huge opportunity in reducing its use, and recycling its presence.
- **Goal 12: Responsible Consumption and Production**. Here lies the major commercial opportunity in adopting better recycling, consumption, manufacturing, packaging and energy practices.
- **Goal 13: Climate Change**. Plastics, waste and poor recycling and waste practices, including incineration practices, add to the threat of global climate change.
- **Goal 14: Life Below Water**. Plastics are choking and poisoning the oceans. Healthy oceans feed and sustain communities.
- **Goal 15: Life on Land**. As with the ocean, plastics are choking and poisoning life on land.

On 25 October 2019, The Australian Government, House Standing Committee on Industry, Innovation, Science and Resources launched an inquiry into Australia's waste management and recycling industries. [11] The Committee will consider opportunities to better manage industrial, commercial and domestic waste, as well as any current impediments to innovation in these sectors. Strategies to reduce waste in waterways and oceans will also be examined. These developments underscore the importance of pricing the circular economy into business models.

Recently, at a COAG (Council of Australian Governments) meeting, Prime Minister Scott Morrison proposed a ban on the export of plastic waste and announced a $20 million fund to support resource recovery onshore[12]. At a state level, we have seen a multitude of recycling funding, and a nationwide rollout of Container Deposit Schemes (currently with the exception of Victoria and Tasmania). Moving forward, it would not be surprising to see government action on increasing kerbside recovery/sorting, mandatory recycled content for packaging, further investment in RPET (recyclable plastic) production and a move towards increasing the recycled content of government sourcing.

One example on intervention is France, where they have pledged to introduce a 10% tax on packaging that utilises primary plastic in order to assist in their journey towards recycling 100% of plastics.

Moving away from virgin plastics

One of the major thematic challenges from an investment, manufacturing and behaviour perspective is the divergence in prices for recycled (RPET) and virgin (PET) plastics (PET stands for polyethylene terephthalate, RPET the recycled version). Rising demand, combined with a limited domestic and regional supply, for RPET is currently resulting in a widening price spread. As RPET becomes more expensive, so too does manufacturing using RPET instead of PET, a consideration for investors, and consumers who will likely pick up the cost as end customers. If recycled content use is further mandated by governments, this could significantly impact the business models of plastic packaging reliant companies across all sectors.

The impact of shifting consumer concerns about plastic use and its adverse impact on the environment has not been lost on global corporate users of plastic. Globally, Unilever has recently announced that they will reduce the amount of virgin plastic in their packaging by 50% by 2025, and help collect and process more plastic packaging than the company sells.

In Australia, investors have seen staples retailers, Woolworths and Coles, remove plastic bags, with Woolworths alone reporting that they have so far removed over 1000 tonnes of plastic packaging from produce and baking in the last 2-years. Ausbil expects more such pledges across the corporate world and will monitor promises against progress for the companies in which we engage.

In Australia, a number of initiatives have been announced to reduce the presence and impact of plastics on the environment. Andrew Forrest, founder of Fortescue Metals, recently announcing a seed investment of US$300 million in Minderoo Foundation aiming to build a global war chest to fund plastic recycling.[13]

Investment, plastics and sustainability

From these issues we can see two clear investment themes emerging. The changing profile of demand for plastic packaged goods, and a changing regulatory environment that is moving towards a circular economy (eliminating waste and non-recyclable materials from the economic ecosystem).

We believe consumers will drive the demand for change away from unnecessary plastic packaging. There is already a shift by major FMCG's (fast moving consumer goods companies) and other large users of plastic packaging into recycled content across their packing portfolios, as evidenced by Unilever, Woolworths and Coles in their active commitments to reduce PET plastics in their packaging. Already, FMCG's that represent 20% of global demand for PET have put into place strategies to move towards 30% PET reductions by 2035.[14]

The focus on reducing and recycling the impact of plastics in the economy will see companies and governments re-engineer what they do as part of the circular economy, absorbing these costs into their overall pricing structures. A changing regulatory environment will likely benefit recyclers and other companies exposed to managing and recycling Australia's waste streams. This includes areas such as recycling and recovery technology, chemical recycling such as pyrolysis, and waste to energy.

11 Australian Government, House Standing Committee on Industry, Innovation, Science and Resources (2019) Retrieved from: https://www.aph.gov.au/Parliamentary_Business/Committees/House/Industry_Innovation_Science_and_Resources/WasteandRecycling

12 Office of the Prime Minister. (2019, August 13). Media Release. Retrieved from https://www.pm.gov.au/media/greener-recycling-industry

13 Cox, L. (2019, September 25). *Andrew Forrest launches US$300m war on plastic to tackle ocean pollution: Mining billionaire's initiative would see manufacturers of virgin plastic pay premium for doing so*. Retrieved from https://www.theguardian.com/australia-news/2019/sep/25/andrew-forrest-launches-us300m-war-on-plastic-to-tackle-ocean-pollution

14 Ellen MacArthur Foundation. (2019, June 19). *Over 400 organisations have signed the New Plastics Economy Global Commitment*. Retrieved from https://www.ellenmacarthurfoundation.org/news/more-than-400-signatories-have-signed-the-new-plastics-economy-global-commitment

The potential for active ESG engagement

As companies respond to the rapidly changing environment, it becomes important to engage and understand how companies are managing capital allocation in an uncertain political future. Ausbil is committed to engage in the reduction of plastic and plastic waste across the manufacturing and supply chains of the companies with which we engage on ESG issues.

As the first Australian company to ratify the IDPP, and through our recent commitment to the PSIA, Ausbil will further enhance engagements on plastics, including issues such as targets for reducing the use of virgin plastics, and focus on increasing the recycling and use of recyclable plastics across the companies we monitor. This also includes looking at how plastic waste can sustainably be converted into energy.

Ausbil's active ESG engagement program involves ongoing engagement and monitoring of Australia's largest companies. Each year, Ausbil issues an engagement report highlighting the rationale, activities and outcomes from these engagements. Ausbil engages some 170 times a year on ESG issues, with boards, CEOs and executives. Our ESG engagement covers multiple areas of environment, social and governance activity; including human rights and modern slavery, climate change, and corporate governance.[15] As a signatory to the IDPP, and through our membership of the PSIA, Ausbil will utilise the global reach of this platform, whilst opening up communication around current best practice with other global investors, and the companies we research, rate and monitor as part of our ESG engagement.

Conclusion

Plastics are a major threat to the environment, and the wellbeing of society, but one that we believe can be managed, and reduced. The work of organisations like the PSIA and the UN with their SDGs provides a framework in which global corporates can be convinced to change and improve their behaviours around plastics, waste and recycling, and in the increasing use of plastic waste in sustainable energy production. Ausbil's extensive active ESG engagement approach will help further the eradication of plastics and enable better informed investment decisions. We believe the implementation of our ESG framework in our investment decisions and our active engagement, 'putting our money where our mouth is', has the power to help elicit positive change and assist returns.

About the Plastic Solutions Investor Alliance

As You Sow has launched an international coalition of investors to engage publicly traded consumer goods companies on the threat posed by plastic waste and pollution. Twenty-five institutional investors from four countries with a combined $1 trillion of assets under management have signed a declaration on plastic pollution citing plastic pollution as a clear corporate brand risk and pledging to interact with leading companies to find solutions through new corporate commitments, programs, and policies. Our initial engagements will be with four large consumer goods companies: Nestle, Procter & Gamble, PepsiCo and Unilever.

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About Ausbil Investment Management

Ausbil Investment Management (Ausbil) is a leading Australian based investment manager. Established in April 1997, Ausbil's core business is the management of Australian and global equities for major superannuation funds, institutional investors, master trust and retail clients. Ausbil manage over $12.0 billion* in active Australian and global equity investments. Ausbil is owned by its employees and New York Life Investments (NYLIM), a wholly-owned subsidiary of New York Life Insurance Company. NYLIM has more than US$561* billion in assets under management. NYLIM has a number of boutique affiliates including MacKay Shields, Candriam Investors Group, Private Advisors and GoldPoint Partners.

*as at 30 September 2019.

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15 Source: Ausbil ESG Engagement Report 2018, available at www.ausbil.com.au.

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