

ESG INSIGHTS: IS PFAS THE NEXT ASBESTOS?

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Man-made hazardous byproducts have long been an issue for our health and the environment. Many people understand the deadly impact of products such as asbestos, a once common material in many building products. In addition to the devastating health impacts of asbestos, the financial impacts have been nothing short of astronomical. It is estimated by the World Health Organisation that the annual financial cost of the health effects from asbestos is around US\$2.4-3.9bn, excluding the additional costs of pain, suffering and welfare losses.



James Nguyen
Portfolio Manager

The emerging risks of 'forever' chemicals and a little Australian company trying to make a difference

Drawing parallels to the asbestos industry, our research on per- and poly-fluoroalkyl substances (PFAS) indicates that the risk with PFAS can potentially be just as great as the now well-understood risk with asbestos.

PFAS are a group of over 4,000 man-made chemicals that have been used in a variety of industries and consumer products due to their unique properties. Given their stain and water-resistant properties, PFAS is most commonly found in clothing, cookware and fire-fighting foam.

Despite the obvious appeal of non-stick and water and grease-resistant properties, the production and use of PFAS have led to widespread environmental contamination and raised significant concerns about their potential risks to human health. PFAS has been described as "forever chemicals" because they do not degrade naturally in the environment.

Studies on laboratory animals have shown the adverse effects of chronic PFAS exposure on the liver, gastrointestinal tract, and thyroid hormones. While studies of the impact of PFAS on humans have been more limited, the link between PFAS and a variety of health problems (e.g. liver, immune system damage and some cancers) has been strong enough for the USA's Environmental Protection Agency to propose strict limits on two types of common PFAS, namely Perfluorooctanoic acid and Perfluorooctane sulfonate. In addition, the European Union's Restriction of Hazardous Substances Directive restricts the use of certain PFAS, and similar regulations are either being considered or implemented worldwide.

Given the heightened scrutiny around the adverse impacts of PFAS on human health, 3M, a Fortune 500 chemicals manufacturer based in the US, has recently announced a US\$10.3bn settlement with the US Public Water Suppliers. The settlement is to help fund the monitoring and treatment or filtering of drinking water for a large portion of the US population that is currently exposed to high PFAS levels within their potable water. This settlement follows the US\$1.18bn settlement in June 2023 between DuPont de Nemours Inc, Chemours Co, and Corteva Inc and

a group of 300 drinking water providers in the US over the treatment of PFAS in drinking water.

With growing scientific evidence highlighting the dangers of PFAS exposure, the implicit admission of PFAS manufacturers to the harm posed by PFAS and the need for both treatments and finding a solution is becoming increasingly critical.

The Environmental Group and its role in addressing PFAS

The Environmental Group (ASX: EGL) is an Australian environmental engineering company that provides products and engineering services to industries to improve environmental outcomes. This includes providing solutions such as dust extraction systems, odour capturing solutions, and noise abatement solutions. The business has been in operation for almost 100 years, servicing a diverse group of customers, from resource companies to manufacturers, waste management companies and healthcare operators. Key products include exhaust silencers, industrial steam boilers, medical waste autoclaves, and dry and wet scrubbers.

Over the past five years, through the establishment of its Water division, EGL has looked to expand its capabilities into water management solutions and, in particular, the treatment of PFAS in water and soil. As part of this process, for the past three years, EGL has been working with Victoria University to develop technology focused on the removal of PFAS from contaminated waste streams. As a result of this collaboration, EGL has developed a gas foam fractionation process to treat the presence of PFAS in water, soils and biosolids. In its simplest explanation, gas foam fractionation involves bubbling gases through the contaminated material, which in turn lifts the PFAS particles to the top of the surface, with the PFAS material removed by gently vacuuming the particles. Successful trials have been conducted, demonstrating that the treatment reduced PFAS to undetectable levels. Trial study results published by EGL indicate that the process was able to extract 99.9% of PFAS from a sample of highly contaminated leachate processed (first pass), and 99.94% of PFAS from a sample of highly contaminated wash water (first pass).

As the PFAS is separated and compacted to just 1% of the initial volume, the storage of PFAS becomes less of an issue, reducing facility, operational and risk costs. In addition, the processing unit does not require human interaction, with the unit being operated from a control station. This reduces the OH&S risk by minimising employee interaction with contaminated materials.

EGL's gas foam fractionation process received patent approval in May 2023, with a 20-year patent timeframe. The company has an operational plant in Melbourne, with all documentation having been submitted to the Environmental Protection Agency to obtain the required licence to start operations. EGL expects approval to be granted in the next 3-6 months, which could be a catalyst for the company to expedite the roll out of this offering. EGL estimates that the total addressable market for this product is in the billions of dollars globally, which appears to be a reasonable estimate given the extent of PFAS contamination, and the settlements so far from PFAS manufacturers.

The Tyndall Small Companies Fund is an investor in EGL, recognising that the company possesses many of the attributes that we look for in an investment. EGL is a business that has been listed for over 30 years with proven technology. One key issue was that the company was formally run by engineers, with little financial acumen to extract value from the technology. Enter current CEO Jason Dixon in Feb-2021, a highly regarded executive with extensive waste management experience, having run and developed Tox Free for a decade before it was acquired by Cleanaway.

We can readily see what capable management can do to a business's financials. In 30 years of listed life, EGL barely made a profit. In a little over three years, Jason and his team have been able to take the business from a \$34m revenue, \$1.4m EBITDA enterprise to an FY24 estimated \$99m revenue and \$10m EBITDA business. Another attribute we like is the industry structure EGL operates in, with structural tailwinds for environmental waste management. Trading on 9-times EV/EBITDA, the business is trading on a reasonable valuation and screens as very cheap assuming it continues to execute as it has done in the past three years, delivering +20% p.a. revenue and earnings growth in its core business.

While the PFAS problem has the potential to be detrimental to the scale of disasters such as asbestos, in The Environmental Group, we believe we have found a company that can potentially deliver a solution that helps address a significant portion of the problem. That said, our investment thesis in The Environmental Group is not predicated on the success of the Water Management/PFAS solution. The PFAS opportunity to us is free optionality and one with a very large potential upside. In our view, backing current management to execute their plans is an extremely attractive risk reward proposition, while also delivering a solution to a global problem that has had devastating health and environmental impacts.



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ESG is incorporated into each and every valuation

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