

SURFACE COATINGS AND SUSTAINABILITY

The Australian Paint Manufacturers' Federation (APMF) and our members are committed to the sustainability of the surface coatings industry. This involves achieving best practices in the economic, social and environmental elements of sustainability. The APMF is also committed to the concept of a shared responsibility for product stewardship, where all elements of the supply chain that produce, sell, use and then dispose of unwanted/left-over products ensure that those products or materials are managed in a way that reduces their impact.

Here are some examples of the contributions that our industry makes towards sustainability.

ARCHITECTURAL COATINGS

As well as providing aesthetic appeal, architectural coatings protect and extend the life of buildings and structures.

Many architectural coatings are now designed to provide higher quality and increased durability, which over the lifetime of a structure requires fewer coats. This translates to greater efficiency and environmental benefits.

Modern emulsion technology used in architectural paints allows for low-VOC, near odourless paints with high scrub resistance. For more information on low-VOC paints see our VOC Fact Sheet located on our website www.apmf.asn.au.



1 Bligh Street, Sydney, Australia - Awarded six-star green status by the Green Building Council of Australia.

Architectural coatings also perform a vital role in protecting air-barriers, essential for air flow, and increasing the efficiency of heating and cooling systems in buildings.

Anti-microbial additives to architectural coatings also extend the useful life of coating systems and therefore buildings, inhibiting the growth of mildew, which is very important for hospitals, schools, homes and offices.

Finally, cool roofs or rooftops with certain reflective coatings help to reduce heat absorption associated with traditional dark-coloured roofs which then helps to reduce indoor temperatures and improve the energy efficiency of cooling systems in buildings



Pixel Building, Melbourne, Australia - One of the World's greenest buildings.

AEROSPACE COATINGS

New technology available in aero coatings help minimise "drag" in the air and debris build up which, in turn, reduces airplane fuel consumption which in turn lowers the carbon footprint.

The International Air Transport Association (IATA) have cited that a one percent improvement in fuel efficiency in the aviation industry can reduce fuel costs by \$800 m per annum. IATA estimates that saving only one minute's flight time reduces the total industry expenditure by more than \$1 billion per annum which, in turn, significantly reduces this industry's environmental impacts by lowering fuel usage.



AUTOMOTIVE

The key concerns with automotive coatings from two decades ago were the effects of corrosion and fade/gloss from sunlight, acid rain and other degradations. Most coating systems back then had an effective life of five years.

Today, advances achieved in new chemistry, formulation and processing have doubled the useful life of automotive coatings.

Powder coatings, as an alternative, can reduce the number of process steps and achieve significant reductions in energy consumption in the application stages. New waterborne technologies decrease drying times, reducing energy consumption and allowing a greater through put of vehicles that can be coated during a work shift.

INFRASTRUCTURE

Unprotected steel structures in harsh environments can lose as much as 1 mm in thickness every five years. Such loss contributes to structural weakness and the overall life of the structures, including bridges and off-shore oil rigs.

A modern protective coating reduces the corrosion process and will extend the life of the steel by 15 or more years, even in harsh offshore environments.



The Sydney Harbour Bridge – a continuous painting job since opening in 1932. Surface area 485,000 sqm.



New protection pipe coatings for water transmission, both internally and externally, also acts as barrier against chemical and climatic impacts.



PROTECTION AND SAFETY

Coatings on cans containing edible products are a crucial element of food safety, protecting food from bacteria in the environment and corrosion from exposure to the elements.

COMMUNICATIONS

It is not well known that coating systems are used in electronic equipment, including mobile phone devices, communication installations and optical fibre coatings, where coatings protect the glass fibres that transmit the telecommunication signals.



MARINE

Special marine coatings called anti-fouling coatings help reduce the growth of marine organisms on immersed areas of ships, which reduces the ship's energy and fuel consumption. Anti-fouling coatings carry tremendous eco-efficiency benefits when applied to tankers, bulk cargo and other vessel types. They reduce greenhouse gas and other emissions by an average of 9% - no small feat, since shipping counts for an estimated 2-4% of global greenhouse gas emissions.

Anti-fouling coatings also play an important role in protecting marine environments from the spread of invasive species. Increased world trade and subsequent transport of goods across the oceans and along coastlines has resulted in the introduction of non-native organisms that are harmful to sensitive marine environments because organisms attach to the hulls of ships. Anti-fouling coatings, many of which employ safe biocides, work to protect valuable ecosystems from this devastating biofouling and invasive species threat.



Finally, salt water is a highly corrosive environment. Effective coating systems and regular maintenance on ships increase a ship's lifespan many times over.

SOLAR AND WIND ENERGY

Anti-reflective glass coatings developed for solar panels are integral to the important, fast-growing solar energy market, which is widely viewed as an alternative and renewable energy source. The coating, applied to the cover glass of solar modules, strongly reduces the reflection of sunlight, which then allows more sunlight through and increased energy output.

Paints and coatings specifically designed for wind energy uses, including rotor blades for wind turbines, provide fast drying, good UV and weathering resistance, and protection against rain erosion. This is critical as the use of wind energy is booming worldwide.



PRODUCT STEWARDSHIP

Australia has just launched the world's first, all-encompassing national voluntary stewardship scheme for waste paint and paint packaging, Paintback. The program, founded by the APMF, together with paint manufacturers' DuluxGroup, Haymes, PPG, Resene and Valspar, was launched 29 April 2016 in Melbourne by the Hon Greg Hunt MP, Australia's Minister for the Environment.



[L-R: Master Painter Stephen Papdan; Federal Environment Minister the Hon Greg Hunt MP; Master Painter Damien McRyan; Sustainability Victoria CEO Stan Krpan; Paintback Chief Executive Karen Gomez; Paintback Independent Chairperson Jim Liaskos]

The program will be funded through a levy of 15 cents per litre (plus GST) on new architectural and decorative paint in Australia. An APMF application for the authorisation of a levy was approved by the Australian Competition and Consumer Commission (ACCC) to fund the collection and treatment of waste paint nationally, education campaigns and research for new uses of waste paint by Paintback Ltd, a not-for-profit organisation dedicated to the end-of-life management of waste paint and packaging.

Paintback will build upon a range of collaborative efforts between industry and governments. Australia's Environment Ministers agreed to place paint stewardship on their work plan in April 2013 and the Environment Minister nominated paint as a priority product under the *Product Stewardship Act 2011* in June 2013. The multi-stakeholder National Waste Paint Implementation Working Group completed the Scheme's business plan, economic model, five-year rollout strategy and engagement plan and voted unanimously to support an application to the ACCC for approval of the levy. For more information go to: www.paintback.com.au.