



TAKING STOCK OF SCOTCH'S QUEST FOR SUSTAINABILITY



Scotch has engaged a local firm, Sustainable Development Consultants Pty Ltd – one of Melbourne’s largest sustainability practices – to conduct a ‘sustainability stocktake’ at the School. The stocktake, to take place during late 2021, will assess Scotch’s sustainability: where the School does well in operating sustainably, and where improvements can be made.

Environs spoke to Sustainable Development Consultants’ Director, Mr Ben de Waard.

What is your firm’s background in environmental engineering?

We are a multi-disciplinary team, employing environmental engineers as well as people with environmental planning, mechanical, civil engineering

PRODUCED FOR THE SCOTCH COLLEGE COUNCIL’S PROPERTY COMMITTEE

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SCOTCH HAS FOCUSED STRONGLY ON WASTE REDUCTION AND RECYCLING

and architectural backgrounds. The diversity in our team allows us to bring a range of skills and perspectives to bear on any project.

**How will the stocktake at Scotch be conducted?
What areas of the School will be assessed?**

We will look at documentation such as energy and water bills, and study waste management and recycling practices, and the work of the Grounds staff. But just as importantly we will speak to people – teaching and non-teaching staff and students – trying to gain as comprehensive a picture as possible of the sustainability situation at Scotch.

In what areas of sustainability do you believe Scotch has shown particular strength?

Certainly, the School's focus seems to have been on water efficiency and making good use of alternative water sources to reduce dependence on mains water, as well as on waste reduction and recycling.

How long will it take to make your assessment and report to the School?

It should be completed this year. The next steps are likely to take some years, and will be ongoing.

Will you return later to assess the School's further progress towards sustainability?

Based on the outcomes of the sustainability stocktake, the School will need to decide on the next steps. The big question facing Scotch is to determine its vision or ultimate objective for sustainability. Developing this will allow the School to define the gap between 'where we are now' and 'where we want to get to'.

When that has been outlined, the School could develop short, medium and long-term actions – an action plan, linked to its strategic plan – in order to bridge the gap.



A SAFE RETURN TO SCHOOL

BOYS AND STAFF RETURNED PROGRESSIVELY TO SCOTCH IN TERM 4



THIS PHOTO, SHOWING BOYS NOT WEARING MASKS, WAS TAKEN PRIOR TO THE LATEST LOCKDOWNS.

Preparing for the long-awaited staggered return to school during Term 4, Scotch's Property, Maintenance and Risk teams combined in a project which had its origins in March 2020, and aims to ensure that the environment on campus is as safe as possible for boys and staff.

Since March 2020, Scotch has worked with Biosafety International to manage the impact of the COVID-19 pandemic on the School's physical environment. Biosafety International's expertise includes managing airborne biological hazards, and consulting to laboratories and hospitals on infection control. Scotch is continuing to consult with Biosafety as it closely follows government health advice and guidelines.

Some of the areas on which the Scotch teams focused included:

- *Ventilation in all buildings* – ensuring an ample cross-flow of air in older buildings, and adjusting heating,

ventilation and air-conditioning units to maximise the intake of fresh air in mechanically-ventilated buildings. The School reaches or exceeds Australian Institute of Refrigeration, Air-Conditioning and Heating standards for ventilation in schools.

- *CO₂ monitoring* – automated control of fresh air supply when CO₂ levels reach specified thresholds, and spot-testing naturally ventilated spaces.
- *Cleaning* – regularly disinfecting high-volume touch points, using cleaning products approved by the Australian Register of Therapeutic Goods; providing ready access to hand sanitisers and cleaning products; and developing a deep-cleaning program for implementation if a positive COVID-19 case is identified on the campus.

These initiatives, in conjunction with mask-wearing and awareness of social distancing, enabled boys and staff to return progressively to school during October and early November.

YEAR 3 BOYS ENERGETICALLY TACKLE ENVIRONMENTAL PROJECTS



SHRUGGING OFF LOCKDOWNS TO PROBLEM SOLVE AND THINK CREATIVELY



The lockdowns in 2021 have by no means dampened Scotch's Year 3 boys' enthusiasm for environmental activities although, to their disappointment, trips to Scotch's Elliott Lodge property at Healesville have been limited.

When they have been at Healesville, the boys have made the best of their time at this beautiful location, energetically tackling a variety of environmental projects. Having studied the work of English sculptor Andy Goldsworthy, known for producing sculptures

in situ using natural materials found on the site of his sculptures, the boys set off to create a sculpture inspired by Goldsworthy's work, collecting items and working in groups to fashion a collaborative artwork.

The boys understood that their artwork was part of the environment which could be enjoyed at the time they made it, and that in time the materials used would return to the earth. It was a great way to create an artwork, while repurposing materials and caring for the environment.

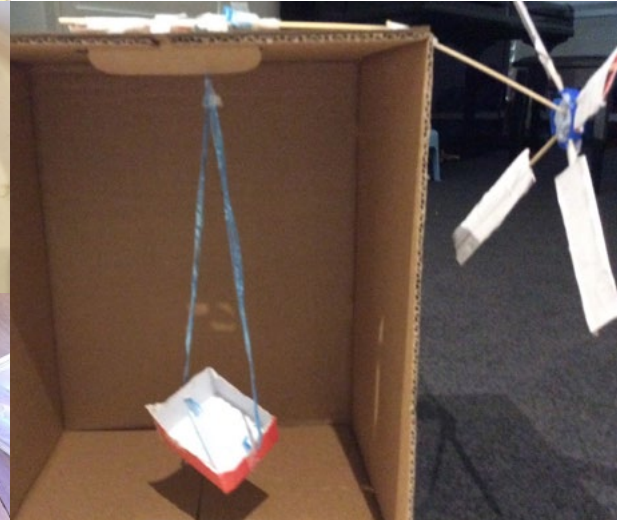
In another Healesville activity, the boys skimmed Chum Creek with nets, and then, under microscopes, examined the fascinating creatures the nets had captured. Some boys got a little wet while others became stuck in the mud, but this caused plenty of amusement and was a small price to pay in the cause of science.

During lockdowns, the focus turned to the 'five Rs' – refuse, reduce, reuse, repurpose, recycle.

The boys learned about the various types of plastics that can be found at home, and that the number inside the triangle on the packaging indicates the plastic type.



ABOVE: CREATING AN ANDY GOLDSWORTHY INSPIRED SCULPTURE (LEFT)
BELOW, LEFT AND FAR RIGHT: THE BOYS' STEM CREATIONS INCLUDED A GLIDER AND AN INGENIOUS WIND TURBINE, MADE FROM A CARDBOARD BOX.
MIDDLE: A CARROT TOP PROPAGATING IN A DISH AND A WORM FARM CREATED IN A CONTAINER



They then embarked on scavenger hunts at home to discover which plastics were most common, and their uses. They discussed ways to reduce our use of plastics, as they learned, to their concern, that most plastics end up in landfill or in the ocean, slowly becoming microplastics and entering the food chain.

The boys' enthusiastic experiments in trying to reduce food waste going to landfill included propagating vegetables from vegetable scraps – with varying amounts of success – and creating their own mini worm farm filled with vegetable and fruit scraps.

They also employed reusing and repurposing concepts to help with their STEM activities. This included using materials such as cereal boxes and bottle lids to make a range of imaginative creations, such as a marble run, a glider, and an ingenious wind turbine.

The boys have shrugged off lockdown restrictions to problem solve and think creatively, all while trying to reuse and repurpose where possible, and mindful of preventing items ending up in landfill.

NO IDLE THREAT TO OUR SCHOOL'S ENVIRONMENT

VEHICLES IDLING UNNECESSARILY POSE HEALTH THREATS



Morrison Street and Callantina Road outside Scotch at afternoon pick-up times on any school day can become virtual car parks, as parents wait for their sons to emerge. During this busy time one issue is clear: many vehicle engines are idling, some for lengthy periods.

A Scotch parent reported to *Environs* that during one afternoon pick-up time, the engine of a large four-wheel drive car parked next to hers idled for 23 minutes while the driver waited for a dilatory son to arrive.

According to the website idleoff.com.au, each idling car is releasing a mix of carbon monoxide, hydrocarbons, nitrogen oxides and other toxins that affect the health and wellbeing of students. Idleoff estimates that switching a car engine off for 20 minutes saves approximately one kilogram of CO₂ emissions.

In a report in the *Herald Sun* in July, Clare Walter, a researcher at Melbourne University's Lung Health Research Centre, said cars idling their engines outside schools creates 'a very localised high pollution area for those children'.

Ms Walter said an exposure measured in minutes is enough to precipitate an asthma attack in children. 'By reducing the idling you're reducing those peak exposures in the day, so it does make a difference.'

She said as a risk factor for premature death or disease in Australia, air pollution ranks higher than second-hand exposure to tobacco, 'yet you wouldn't have a line of parents smoking cigarettes and blowing smoke into children's faces as they walked out of the school gate. That's not socially acceptable,' she told the *Herald Sun*.

The simple fact is that there really is no reason for cars to idle for lengthy periods, because of the cost to the environment and the potential threat to our boys' health.

On this issue, Australia lags other countries, Ms Walter said. 'In most states in America it's now illegal to idle your engine unnecessarily, and the original driver for that legislation was the protection of children's health.'

SIGNIFICANT ELECTRICITY COST SAVINGS TO BE GENERATED

MORE POWER TO SCOTCH WITH NEW SOLAR INSTALLATION



Solar is emerging worldwide as a major source of electricity, and its impact is certain to grow. The International Energy Agency has estimated that in 2019 solar power generated 2.7 per cent of the world's electricity – up 24 per cent on the previous year – and by 2050 the agency expects solar to be the world's number one source of electricity.

Aware of solar power's potential, in September Scotch partnered with Energyaware, a leading local supplier of solar power systems, to install solar panels on the north-facing upper gym roof of the Glenn Centre.

To provide a stable structural base for the solar panels, 900 square metres of aluminium roofing was removed and replaced. The roofing was collected by a scrap metal recycling firm.

The Glenn Centre installation is designed to deliver 98,649 kilowatt hours per annum, or 270 kW hours per day (kW h/day) into the electricity grid. The installation will pay for itself in approximately four years, while delivering electricity cost savings of approximately \$20,000 per annum to the School.

The latest solar panel installation complements the panels on the north-facing roof of the Sir Zelman Cowen Centre for Science, which in tandem with wind turbines also on the roof, send 12-18 kW h/day to the electricity grid. (See *Environs*, issue 11.) There is also a small solar array



on the Junior School roof, delivering 5 kW hours daily.

Scotch continues to investigate further opportunities for solar panel installation. One inhibiting factor is a lack of flat roof space on the campus: many of the School's beautiful heritage buildings have steep sloping roofs, limiting the opportunities for extensive solar panel installation.

ABOVE: SOLAR PANELS ON THE GLENN CENTRE ROOF.
BELOW: THE SOLAR PANEL INSTALLATION COVERS THE UPPER GYM ROOF OF THE GLENN CENTRE



A NEW LEASE OF LIFE FOR CLASSROOM FURNITURE



PART OF A CONSIGNMENT OF SCOTCH CLASSROOM FURNITURE BEING LOADED FOR DISTRIBUTION BY ROTARY DONATIONS IN KIND

HUNDREDS OF CHAIRS AND TABLES SAVED FROM LANDFILL

Whenever redevelopment or refurbishment takes place at Scotch, the School tries to repurpose items such as tables, chairs, and desks, and fixtures such as shelving. But some items can become redundant, as new fit-for-purpose furniture and fittings are installed.

One option is simply to send these items to landfill. But, although obsolete for Scotch's purposes, these items are frequently still quite serviceable, so the School much prefers them to be repurposed elsewhere.

With the wonderful renovation of the Harbig Junior School Library over the 2020/21 summer break, an entire set of library shelving immediately became redundant. But rather than consigning the shelving to landfill, Scotch found a much more practical use for it.

The entire shelving set was instead donated to the Waverley Meadows Primary School in Wheelers Hill, where it now houses the school's book collection.

A Scotch contractor, Jenley Building Services, generously donated time to carefully remove the shelving, forklift it over the Junior School Atrium balcony, load it

onto a track and trailer, deliver it to Waverley Meadows Primary School, and install it at the school.

In a letter to the former Head of Junior School, Jon Abbott, Waverley Primary School Principal Ms Alison Lough said: 'As a small school with limited funds, it was wonderful to be able to furnish our brand new library with your recently replaced library shelving ... The school community is grateful for the assistance you provided.'

In June, in preparation for the House Home Rooms project in the Senior School, all classroom furniture from the ground floor of the Language and Culture Centre was removed. Rotary Donations in Kind (DIK) – which collects and redistributes goods donated by companies, hospitals and educational institutions – picked up 140 student tables and 140 student chairs from Scotch, and included them in a consignment which was shipped to Dili in Timor Leste, for distribution to schools, where an acute need for this furniture had been identified.

In September, 840 student chairs and 840 tables were removed by forklifts from 30 classrooms opening onto



the main Quadrangle. In cooperation with Scotch staff, DIK packed 357 chairs and 357 tables into a very large container, which was shipped to Dili for installation where needed in local schools. In October, a second container was packed with another 363 chairs and 363 tables from Scotch, for shipment to Dili.

The remaining 120 chairs and 120 tables are being temporarily stored at Scotch, which, combined with furniture from 13 Language and Culture Centre classrooms that are due for changeover during 2022, will form the basis of another two container loads for future allocation by DIK.

Scotch has donated all of this furniture, and has also made a small cash donation to Rotary to offset steeply-rising shipping costs.



SHELVING FROM THE HARBIG JUNIOR SCHOOL LIBRARY REPURPOSED AT WAVERLEY MEADOWS PRIMARY SCHOOL





ABOVE: EMERSON MARSHALL (YEAR 7) SECURES HIS BIKE UNDER THE SIR ZELMAN COWEN CENTRE FOR SCIENCE
BELOW, LEFT: HENRY LONGBOTTOM (YEAR 9) RIDES TO SCHOOL ON SUSTAINABILITY DAY

INTERNATIONAL SUSTAINABILITY DAY COMES TO SCOTCH



For the first time, Scotch participated this year in International Sustainability Day, which takes place worldwide every year on the fourth Wednesday in October.

This year International Sustainability Day was Wednesday 27 October, and to mark it, our boys were encouraged to walk, ride or run to school. Many boys took up the challenge.

To cater for the increased number of boys cycling to school, good use was made of the new bike lockup facilities located under the Sir Zelman Cowen Centre for Science.

In a world where we need to become more and more conscious of our environmental footprint, it was a great opportunity for boys to focus on environmental issues, as well as to learn more about what Scotch does to contribute to improving its effect on the environment.

To coincide with the UN Climate Change Conference in Glasgow, Senior School boys were encouraged to compost food scraps to reduce items going to landfill. A leader in each House educated the younger boys, and a container was placed in St Andrew's Square for a week as a focus, before individual House Rooms were provided with composting bins.