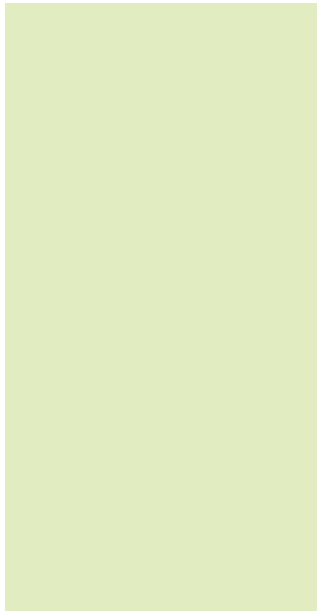


Toorak College Mt Eliza

Connecting you to a more sustainable future



EcoSmartElectricians™

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Sustainability
victoria



Never Stop Learning

Schools have always been charged with the responsibility of educating our children in the ‘three Rs’, and most do a sterling job. But as this generation passes through the school system, an emphasis on learning about the environment, and the impact each individual can have on it, has increased dramatically over the past few years.

Toorak College, Mt Eliza, on Melbourne’s Mornington Peninsula, takes environmental issues seriously and is demonstrating its commitment to the future through many initiatives at the school. Recently, it formed an environmental committee comprising the principal, parents, students and the College’s Property Manager, Jim Barber.

Jim explains that over the past couple of years, the school has moved from having an ‘interest’ in sustainability, to demonstrating its ‘commitment to the environment’ by promoting the benefits of sustainability, not just to the students, but to staff as well.

“Before I started here, the previous property manager began to instigate small, but nonetheless worthwhile changes to the way the school operated. Simple things such as turning off unnecessary lighting and heating, switching off appliances and recycling paper. On the whole, the staff were open to the changes, but it was the students who grasped the initiative and carried it forward.

“Like many of their generation, the students here at Toorak College are passionate about the issues surrounding sustainability. I frequently receive emails from the students, telling me that lights were left on, or heaters were running in empty rooms.

“During the early stages, we had recycling bins installed throughout the grounds and at the end of each school term we hire additional paper bins and encourage staff and students to recycle all their used note paper and files. All of the sensitive material is taken away, shredded and recycled, too. It’s proved very popular.”

Since those modest beginnings the school has progressed much further. Toorak College wanted to do more to reduce its carbon footprint and consulted with Accredited EcoSmart Electrician, Neil Smith from Ecolec. Neil, who has two children at the school, has been working at Toorak College, on and off, for the past 30 years, first visiting the school when working as an apprentice.

Neil is much more than a local electrical contractor who gets the odd job at the college.

“As far as the school’s concerned, Neil has been great. He’s genuinely interested in energy efficiency and sustainability and I can honestly say that Neil’s not making these suggestions because there’s a profit to be made.



“In the past, he has made recommendations that are unrelated to his work here at the school, one of which was to install covers for our outdoor swimming pools to reduce evaporation and heat loss. Since then, we have seen a huge reduction in running costs and energy consumption. This enthusiasm for energy efficiency and the environment, coupled with his industry experience, was the reason why the Principal was keen to involve him on a newly-formed sustainability committee. We’re glad he agreed.

“Neil has been instrumental in our plan to replace the old, inefficient fittings around the school, of which there are hundreds. He has recommended which energy-efficient light fittings and installed time and movement switches in various locations throughout the school.”

The college still requires adequate lighting to provide the students with security and safety at night but is mindful of wasting power. The manual task of turning the lights on and off fell to the maintenance staff, but if other duties or situations arose, the lights would be left on – or off – indefinitely. To counter this, Ecolec installed light sensors on many of the exterior lights, which removes the human element altogether. There’s no need to keep adjusting timers because of changes to daylight hours at morning or night, and security is never compromised by someone forgetting to turn on the lights. It’s also one less thing the school has to worry about and frees up maintenance staff to undertake other duties.

Although an accomplished electrician with 30 years’ experience, Neil decided to undertake the EcoSmart Electricians training to learn how to be a better environmental advocate. What he learnt was invaluable in giving him the tools to make recommendations to clients, like Toorak College, that save the environment and reduce the client’s energy consumption costs.

“It’s great to know I’m making a difference,” says Neil. “And the school is a great client to have.



“They have been very supportive of my suggestions and recommendations, but are quite proactive, too, in wanting to deliver more and more sustainable outcomes. They’re not just talking the talk. They are actively seeking solutions and I’m proud to be a part of what’s happening here,” says Neil.

Jim adds: “Just over two years ago and under guidance of Ecolec, we were able to increase our sustainability focus even further. As part of Victorian Solar in Schools, which later became the National Solar in Schools Program, we had the chance to install solar power into some areas at Toorak College. We spoke to Ecolec about our plans to generate power for our science block and wanted to look at the possibility of solar hot water for the boarding house.”

As most parents know, teenage girls and showers do not generally go hand-in-hand with energy and water efficiency, but with anywhere between 80 and 100 boarders at the school, this was one area that was seen as a priority.

Neil laughs as he describes the boarding house’s bathroom. “We installed two state-of-the-art evacuated tube solar hot water systems and – to the initial disappointment of the girls - put timers on the showers so we not only save the school on its heating bill, but also reduce excessive water usage.

“The solar system in the showers is very efficient; it captures enough energy from the sun to warm the water for that night’s showers – basically for free,” says Neil.

Ecolec, though not the installer of the system, did its homework and recommended the school install two 315-litre 30-tube units that the manufacturer claims can be up to 80 percent more efficient in the colder months when compared to flat panels. “And in the science room, which is partially powered by the sun, students can see how much energy the classroom is consuming and realise the impact that they have on the environment.”



Ecolec also recommended a 3kW photovoltaic (PV) solar array system for the building which gives the students access to a data panel and shows how much energy is captured and utilised during a typical day, in real time.

Jim says that the school is attempting to incorporate solar energy into its curriculum soon so students can study further the benefits of solar energy and how they can better manage energy consumption.

“Toorak College has always been innovative in its educational programs, and Academic Enhancement is one of our core values. This type of scheme can only benefit our students.”

Neil says the school’s vast mix of buildings, new and old (some dating back to 1928) offer a real challenge when discussing energy-saving lighting.

“We’ve systematically worked through the school, replacing old globes with energy-efficient ones and looking at other ways to reduce the energy associated with lighting.”

Neil explains that he’s taken lux level (brightness) readings in most buildings to see how best to deliver a comfortable lighting environment to the students and staff in the most energy-efficient way. He’s even reduced or removed non-essential lighting as part of the school’s environmental plan. Jim says that the recommendations Ecolec has made have delivered instant energy savings but the school isn’t prepared to rest on its laurels.

“Now we are looking at what else can we do at the school to improve the learning and working environment for the staff and students.

“We are looking at ways of achieving this without just filling classrooms with heaters and air conditioners. We are lucky enough to have specialised expertise in areas that can show real benefits, and staff who are passionate and willing to be part of this project. For example, a parent has brought to our attention



that by coating classroom roofs with heat-reflective paints, we could see not just a reduction in energy costs but perhaps more importantly, an improved learning environment. It won't suit every building at Toorak College, but we are undertaking a study to see where it can be of benefit.

The school is implementing its own sustainability process so that it can say to parents, students or the wider community, that as a large consumer of energy and water it is doing something practical and beneficial.

"The school is committed to the process," says Jim. "We are looking at what else can be done and who else in the school and wider community we can involve to get the best advice and, therefore, the greatest results in sustainability."

Jim admitted that the enthusiasm surrounding the school's initiatives sometimes needs a little tempering.

"There have been occasions where students, and parents for that matter, are keen to provide ideas and recommendations. Although well meaning, some suggestions can be a touch excessive in terms of the overall scale and cost involved.

"However, the college has set aside significant funding for ongoing sustainability investigation and implementation," says Jim. Who knows what we might be able to achieve, but we look forward to reaching our objectives with companies like Ecolec."

THE ENERGY EFFICIENT EFFECT

The energy savings incorporated at Toorak College include:

- Replacement of old globes with energy-efficient types
 - Daylight sensors on exterior lighting
 - Solar power for science block
 - Solar-powered hot water system for boarding house showers
 - Pool blankets to reduce heat loss and evaporation
 - Paper recycling
 - Turning off unnecessary lighting and equipment
 - Commencement of Sustainability Committee
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DEFINITIONS

Ecosmart Electrician: An EcoSmart Electrician is a licensed electrical contractor that has certification and accreditation in energy efficiency. These electricians have been professionally trained in energy efficient products, technologies and installations to assist you to save energy and money.

Lux: Lux is how the human eye perceives brightness.
