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good money

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Bringing healthy solar lights to Africa

Enphase Energy has joined the mission to eliminate toxic kerosene lanterns from Africa by 2020. The company has formed a charitable partnership with SolarAid, a London-based international non-profit that provides off-grid communities with access to clean, affordable solar lights.

"Affordable solar lights increase people's income by an average of 15% per month, enhance work and study time, improve health, cut carbon emissions and provide a platform for local economies to flourish," says Andrew Webb, the managing director of SolarAid.
"With the help of supporters such as Enphase we can reach off-grid communities and educate them in the use of solar, while developing a solid international network to lobby institutions and governments."

Lighting up millions of African households with solar is a dream they're actually achieving.

www.solar-aid.org



What your money is doing

Check out three ways that firms Australian Ethical invests in are shaking things up, from helping people sleep better to improving lighting in Africa.



Creating a touch-free device to improve sleep

ResMed has just taken the covers off a small device that can measure how well you are sleeping from 1.2 metres away. The 20cm high ResMed S+ uses onboard sensors to monitor a sleeper's respiration and heart rate, as well as conditions in the room. The device also has an ambient light sensor and thermometer.

The sleeper uses Bluetooth to pair the S+ with their smartphone and sync it with a ResMed app, then log the time they go to bed.

After a while, the ResMed S+

can point out patterns in someone's sleep and suggest how to get a better night's rest (such as more exercise) or isolate problem factors (e.g. the bedroom's too hot or too bright).

Powering 80,000 homes with wind turbines

Turbines have begun to turn at the 131 megawatt Mt Mercer wind farm in Victoria. The project, by New Zealand's 100% renewable energy company Meridian Energy, began generating energy in 2013 and is now at full capacity. It produces enough electricity to power 80,000 homes, eliminating a potential 500,000 tonnes per year of carbon emissions generated by fossilfuel generators.

Customers in nearby Ballarat could gain the most benefit, due to the windfarm's proximity, with Meridianowned energy retailer Powershop hoping to sign up 5000 Ballarat customers by the middle of this year. www.mtmercerwindfarm.com.au



an led bulb

uses 70-90% less energy than a standard bulb

insulation

is one of the most practical and cost effective ways to make a house more energy efficient, keeping it cooler in summer and warmer in winter and saving up to 40% in heating and cooling bills Not all energy efficient products are created equal. Look for the internationally recognised

energy star label

to make sure you're getting the real deal, visit www.energyrating.gov.au Australian Ethical invests in

15 companies

who are pioneers in providing products and services that consume less energy

The US will save

\$327 billion

in costs across buildings, transportation, industry, household and taxable energy if energy efficiency doubles as planned by 2030

10 FACTS ABOUT

Energy efficiency

The cheapest and best energy is the energy we don't use, which is why energy efficiency is key to a sustainable future.

When you turn on an incandescent

only 10% of the electricity used is turned into light. The other 90% is wasted as heat

The energy sector withdraws

water

at approximately the same rate that water flows down the Ganges or Mississippi Rivers buildings

consume around
40% of the energy in the EU.
Double the rate of energy efficient retrofits and building energy consumption could be reduced in Europe by 80% by 2050

televisions

are responsible for approximately 6-8% of global residential electricity consumption

15% of the world's

freshwater

is used for energy production purposes. Save energy and you can help save water



Is Tesla a smart investment?

With the recent arrival of the first all-electric Tesla Model S car in Australia it's a great time to ask whether Tesla (Nasdaq:TSLA) is a good investment. Sure it makes great vehicles but the run-away share price may have reached the end of the road says Nathan Lim, Australian Ethical portfolio manager, international equities.

ig things are expected of Tesla: its cars have won numerous awards, it's building an impressive network of charging stations across the US and now Australia. The company has also gained A-list celebrity followers Brad Pitt and George Clooney.

The most basic Model S sold in Australia starts at over \$101,000 but it's not just the cars that are expensive. Tesla's share price was US\$206.66 as at 10 January 2015, giving a market cap of US\$25.91 billion – a massive figure for a car manufacturer that was only targeting 35,000 global deliveries last year.

The hefty price represents a leap of faith that Tesla can reach its ambitious longer term goals, including penetrating the mass market and shipping 500,000 cars a year by 2020. But even Tesla chief executive Elon Musk suggested tapping the brakes on the lofty share price in September last year, saying the share price was "kind of high." And in January, he told an industry gathering in Detroit that the company wouldn't be profitable under generally accepted accounting principles until 2020.

While 500,000 deliveries a year by 2020 would come closer to justifying the current stock price, it's a big leap for a company still in its infancy. Even one of Tesla's most vocal supporters, US bank Morgan

Stanley, has recently expressed doubt whether that number will be attainable.

The stock is currently "priced to perfection", which means the company would need to execute its plans to the letter to justify its current share price.

COMPETITORS NOT ASLEEP AT THE WHEEL

While some may argue that Tesla has the potential to push forward and dominate its category, much like Apple did with the iPod and the iPhone, it would appear that Tesla's competitors are going to be much quicker to offer strong alternative products.

Apple had its own way for a while before Samsung put up a strong challenge, and now cheaper Chinese manufacturers are compromising the profits of both.

That cycle may happen a lot faster in the electric vehicles market. For example, BMW recently introduced two fully electric cars (the i3 in May 2014 and the i8 in August 2014) and is already challenging Tesla in the US (see chart next page) with more models due this year. Meanwhile, General Motors is desperate to see Tesla in its rear-view mirror and plans to introduce a next-gen Chevrolet Volt later this year. The Volt will not only carry five passengers but also travel 80km on a full charge before switching to petrol – which is some 30%

Tesia's Model S has electrified Aussie EV enthusiasts, arriving in the country at the end of 2014.



Three companies that may be a better investment than Tesla

Although investing in Tesla seems likely to present substantial downside risk, Australian Ethical already invests in a number of companies that will directly benefit from category growth of electric and hybrid vehicles.

Polypore International (Nasdaq:PPO) Provides the separator material for lithium batteries that go into many electric cars.

Denso Corp (Tokyo:6902) Toyota's largest supplier, which provides various components for its hybrid vehicles.

Infineon (Xetra:IFX)
Delivers high-performance technology such as battery management and brake energy regeneration which extend the travel range of electric cars.

further than the current model. Hot on their heels is the Chevrolet Bolt - it'll launch in 2017 and boast a range of 320km on a single charge. Other automakers with electric or plug-in hybrid electric vehicles on the horizon in 2015 are Audi, VW. Volvo, Daimler and Mitsubishi,

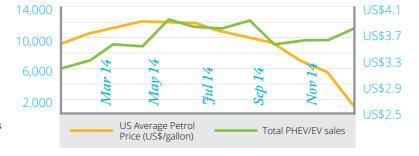
IMPERVIOUS TO FALLING OIL PRICE

The good news for all manufacturers is that total sales of electric vehicles (i.e. full electric and plug-in electric cars, excluding hybrids like Toyota's Prius) have seen steadily increasing sales despite the substantial fall in petrol prices from US\$3.89 a gallon in April 2014 to around US\$2.50 in January 2015. Research firm Stifel reports that American sales of electric, plug-in hybrids and Prius-type hybrids "held up surprisingly well" in December 2014, despite petrol prices continuing to fall in that month.

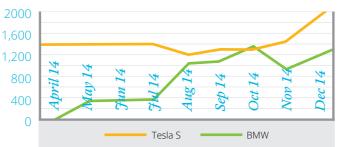
This all counters the widely held view that electric vehicle sales would collapse with the oil price.

Tesla's stock price to date has been fuelled by a heady mixture of charismatic CEO, exciting technology and environmental credentials. But when even the company boss expresses concern at the giddy heights its shares have reached, and at a time when the innovation cycle is faster than ever before, it might be wise to diversify any investments in electric and hybrid cars.

Plug-in hybrid electric vehicles/electric vehicle sales vs US average petrol price



Tesla vs BMW unit sales



Urban mining — cashing in on trash Forget about below-ground mining. There's a growing push from economists and industry to map and make use of the resources found in 'urban mines' – such as those mobiles found in your kitchen drawer or old metal infrastructure. hree billion new middle-class on how Australia can look beyond the mineral resources consumers are expected to enter found below ground. global markets in the next 15 The researchers will identify new business models years, taking on the lifestyles and technical innovations to process "urban mining" and technologies of established commodities - the metals found in discarded products in

economies. That means demand for more infrastructure and more technology, which means demand for more metals.

How to supply that demand is of increasing concern. "The era of cheap and easily available resources is passing," says Dr Damien Giurco, research director of the Institute of Sustainable Futures and leader of the Wealth from Waste cluster.

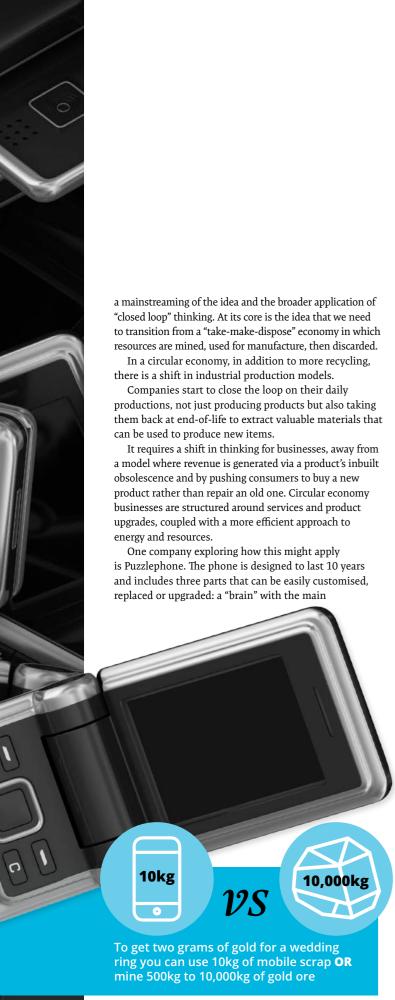
Based at the University of Technology Sydney (UTS) but involving collaborations with CSIRO, Monash University, University of Queensland, Swinburne University of Technology and Yale University in the United States, the Wealth to Waste program is focused

homes or businesses or locked up in landfill.

DISPOSING OF OUR DISPOSABLE CULTURE

Unlocking the potential of above-ground metal stocks is essential if Australia is to maintain a competitive advantage. "We need to look ahead to see where Australia would fit in a world where one of the really significant economic opportunities is a change of thinking around circular economies," says Giurco.

The concept of the circular economy isn't entirely new, having its root in the "cradle-to-cradle" approach that has been the bedrock of sustainable design. However, it sees



electronics, a "heart" with the battery, and a "spine" with an LCD screen. Google is working on a similar concept, the Project Ara with both products expected to be released in 2015/16.

RECYCLING OUR APPROACH TO RECYCLING

As the Puzzlephone demonstrates, achieving a circular economy isn't just about having a will to find a way – there is a need for new thinking and new technology.

For the researchers at UTS, their focus in the Wealth from Waste program is on building new business models to support circular economies. A key concern is how Australia can build capacity to process our own waste.

The world is experiencing historically low recycling rates. In an era where energy efficiency and the need to transition from fossil fuels to renewable energy sources is increasingly urgent, this is of huge concern. Recycling requires significantly less energy per kilogram of metal produced than primary production. It can also help mitigate the local impacts of mining on communities.

But it's not just the environment and communities that are feeling the impact of a reduction in recycling. Research by the Wealth from Waste program has found that more than \$2 billion dollars is lost annually from the Australia economy due to the failure to recycle waste metals.

"We've found that recovering the 5 million tonnes of metal such as iron, aluminium and copper locked up in landfills or discarded products could provide up to 70% of Australia's metal consumption each year," says Giurco.

Australia's current approach to waste is markedly different to countries in Europe and Scandinavia. Sweden not only sends just 1% of its waste to landfill, it also imports garbage as a profitable industry. Their mining industry has even jumped on the waste bandwagon – Swedish company Boliden, for example, both mines and recycles metals.

In Australia, there has been less pressure to recycle. "We are losing the infrastructure in many cases to recycle metals locally. Even things like steel cans from dog food or tinned tomatoes, they are being exported overseas because we have lost the ability to recycle them ourselves," says Giurco.

Although it's not all bad news - advances in technology mean that the economies of scale once needed to make



local manufacturing operations feasible have shifted. "On a number of manufacturing fronts we are seeing not just miniaturisation, but a modularisation of processing," he says. This transition from industrial-scale to smaller scale plants means it's easier for small communities and local councils to take control of local recycling initiatives.

A MATTER OF DESIGN

Establishing data on just how much metal can be found above ground and how much it's worth is one of the objectives of the research program.

Central to the hunt for urban metals is e-waste (electronic waste), of which there is 50,000,000 tonnes worldwide.

Recycling program Mobile Muster estimates
Australians are sitting on 23.5 million unused mobiles.
While no-one doubts there is a plethora of metal to be found in Aussie homes, extracting that metal isn't just a matter of people surrendering their discarded tech.

As technology has evolved, it's become increasingly difficult to recycle modern products. Contemporary tech contains complex mixes of almost every imaginable metal, material and compound. For example, a mobile phone can contain more than 40 elements including base metals such as copper and tin; and precious and platinum group metals such as silver, gold and palladium.

For the past few years, researchers at Swinburne University led by Dr Akbar Rhamdhani have been using thermodynamics to investigate the technical challenges and pathways to extract metals and alloys from discarded materials, affordably, sustainably and competitively.

Their research is being channelled into Wealth from Waste, with the dream that Australia will become a world leader in metals recovery. Wealth from Waste researchers from the University of Queensland have begun workshopping ways to advance metal recycling in Australia, collaborating with government departments and industry partners including Sims Metal Management – a company that Australian Ethical invests in.

In a world where reserves of natural resources are falling and becoming harder to extract, it makes sense to close the loop and make better use of what we have.

Value available from urban stocks

\$5 billion per year in Australia

Iron 68%

Aluminium 13%

Copper 10%

Other 9%

GOOD MONEY 11

A young resident Brunswick getting involved in the

Building community—brick by brick

You've aligned your super with your values – but what about your property investments? Two developers are setting the bar high with award-winning apartment buildings that are price competitive and include pioneering community initiatives and design.

few years ago Jodi Newcombe had reached a crossroads, the Melbourne arts and sustainability professional was living in a rental and leasing out an underperforming inner-city investment property.

Although she wanted to become an owner-occupier, her apartment hunt had started off badly.

"The Melbourne apartment market is pretty depressing
- the build quality is poor, the quality of design is poor
and the quality of community is really, really poor," she
says. Newcombe lived on her own and was concerned
by the absence of a community feeling around her
investment property. "People didn't even say hello in

the hallway. I just knew I wanted a place that would actually have a community and neighbours." The project's sustainability credentials were the final vital ingredient. "Having worked in the sustainability sector all my life, I needed somewhere that fitted with my values," she says.

Jodi finally came across The Commons, a 24-apartment development in the gritty backstreets of Brunswick built with ambitious sustainability objectives in mind. She bought a two-bedroom apartment off the plan.

A LANDMARK SUSTAINABILITY PROJECT

Sustainable development has boomed in Australia's commercial property scene due to initiatives like the Green Star rating system. But there has been less leadership in the small to medium size multi-residential sector. This lack of developers pioneering sustainable apartment blocks was a bugbear for Jeremy McLeod, The Commons' architect, and for developer, Small Giants.

"We decided the best way to influence the market was to build our own project," says McLeod. The original intention was to create a zero-car, zero-carbon building that would subscribe to a triple-bottom line mentality.

It had to be sustainable, affordable and livable. "It was really about this idea of reduction. We decided we would give people what they needed rather than what realestate agents thought people wanted," he says.

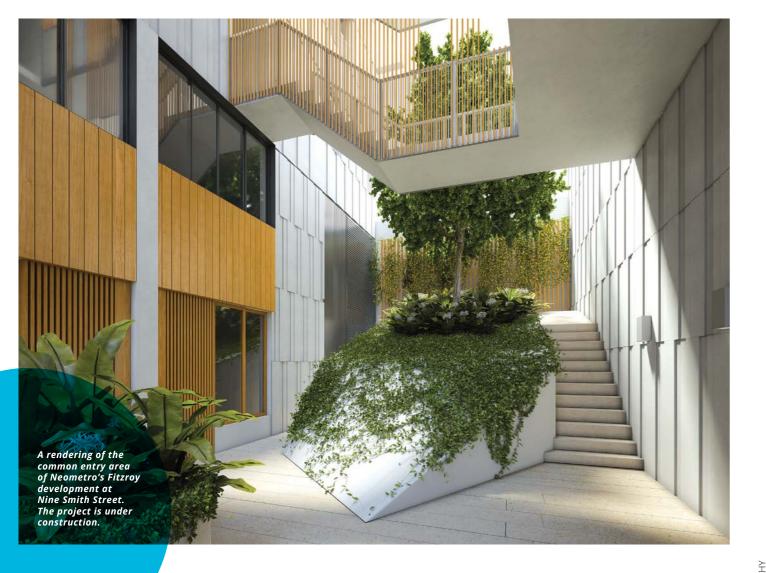
The architect created a design that omitted the standard features of many other developments in the area: underground carpark, individual laundries, second bathrooms, plasterboard ceilings, individual boiler systems and – perhaps most controversially – air-conditioning.

Developer Adam Borowski from Small Giants jokes that at times it felt they were spending all their time selling what they weren't putting in rather than the actual features. But it's all a matter of perspective. Savings on conventional features led to The Commons incorporating exemplary sustainable-design elements. The money that would have gone towards car-park excavation was funnelled into European double-glazing and advanced insulation. Instead of car spaces there are 70 bike spaces, and the services and ductwork that would have been hidden behind plasterboard became a design feature.

Exposing the wiring, piping and concrete ceilings helped with thermal mass and had the added benefit of giving the apartments expansive ceiling heights of almost three metres. Taking out a second bathroom and internal laundry gives each apartment more floor-space, improving their livability. But perhaps the biggest gains are in the community feeling that the reductionist design has fostered.

"No apartment has its own laundry, and when you are doing your washing on the rooftop you quickly meet all your neighbours. Meeting people over washing laundry is a good way to break down barriers pretty fast. After that happens a few times, there are no awkward silences!" says McLeod.

McLeod and his wife bought an apartment in The Commons, with the aim of living there for 12 months for research purposes. The architect says his wife is in love with the community feel and doesn't want to move out. On the data side, things have also been promising.



During a heatwave in 2014 the building wowed residents by staying comfortable. The energy savings are working too. "My electricity bill last month was \$43," says McLeod. Ironically, he paid more for the metering than the actual electricity – usage was only \$11.

BANK VALUERS WON OVER

The concept behind The Commons isn't new. In the 1960s, European cities invested in housing stock with shared rooftops and spacious, single-bathroom apartments. But since the 1980s, property has become more maximalist than reductionist.

In the contemporary market, shifting perceptions of what the apartment property market should look aren't just challenging consumer ideas about what's emotionally desirable in a home. McLeod says bank valuers struggled with their valuations of apartments in The Commons. Now there is a precedent, future projects should be easier to finance.

"Since The Commons was completed, some of the properties have been resold with quite a capital increase on what people paid for them. It proved that there is market value," McLeod says.

Following on from The Commons popularity and it winning a swag of awards, in January 2015 it was reported that McLeod had joined forces with a group of prominent architects and investors to build another apartment development. Located across the road from The Commons, the new 20-apartment project, to be called The Nightingale, involves a partnership with architects

Six Degrees, Andrew Maynard and Clare Cousins. Although the local Moreland Council wasn't due to consider the proposal until February 2015, strong demand triggered a ballot to allocate the units which will sell for between \$400,000 and \$645,000.

CREATING COMMUNITY BY DESIGN

Elsewhere in Brunswick, another property developer is shaking things up.

VicTrack recently awarded Neometro the tender to redevelop Brunswick's Jewell Station. The \$70 million project will revitalise the station and see two rundown, low-rise buildings on the eastern side of the historic railway station redeveloped into 100 residential apartments.

An emphasis on social and community outcomes is key to the project, with Neometro's plans providing open space with shops, cafe, community garden and public art. Although the site is not yet under construction, the community has already moved in, with not-for-profit urban farming group 3000 Acres installing a no-dig veggie garden on site.

Neometro was the first property group in Australia to be a certified B Corp (a US-based accreditation of businesses that sets high standards in community, environmental, governance and social endeavours). Small Giants is also a B-Corp and there is a friendly rivalry between the two businesses: they show each other their projects and learn from each other's innovations.

One of the main differences is in Neometro's consistent

design pedigree, Tutton says. "We've been creating modernist architectural buildings for 25 years, working with the same design team, which means our product has evolved but there is a consistent DNA." At its core, that DNA is threaded around the belief that social and community outcomes are best bolstered by exemplary design.

Tutton stresses that, for them, design isn't about superficial details – although Neometro apartments are definitely design-magazine worthy. The company has a focus on building livable apartments with thriving communities. "Quality design results in apartments that are better for living in. That might sound like a sweeping statement, but there is evidence-based research that shows properly acoustically treated apartments, with proper ventilation, have a myriad of positive mental and physical outcomes for the inhabitants," he says.

INVESTMENT WITHOUT DAMAGE

The same research shows that as more urbanisation occurs, and population density increases there is a need for "investment without damage" within our community. This includes opportunities for residents in apartments to be encouraged to engage socially.

The process of fostering culture and creating shared community assets starts well before construction has begun. In 2013, not-for-profit art gallery Slopes opened its doors (rent free) at Neometro's building project, Nine Smith Street. In front of a building on-site that was set to be demolished was a pop-up café while in the carpark were urban veggies from 3000 Acres.

"We invest in the cultural fabric, not just in the arts, but with social enterprises. We believe in taking assets The money that would have gone towards car-park excavation was funnelled into European double-glazing and advanced insulation. There are 70 bike spaces instead.

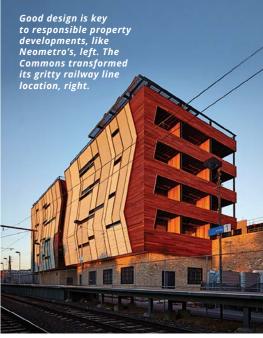
that are being unused and opening them up to the arts." Tutton stresses that this is not at the expense of commercial outcomes – it helps achieve them. "Many developers aren't cognisant about the role arts and community play in making it possible to develop a site successfully in the first place."

Critics of these projects have called them elitist, and Neometro does tend to be more high-end. However, The Commons and The Nightingale are price competitive with other Brunswick developments. A broad segment of the community bought into The Commons, from young families, to downsizers, and one or two ethical investors who made use of their self-managed super funds.

"When you look at things that are happening on the fringes in parts of Sydney, Melbourne, San Francisco and New York, eventually what is an outlier will shift towards mainstream. That is happening in property too," says Tutton.

His perspective is supported by Jodi Newcombe and the others who've found everything they wanted – and more – in their new homes. "I didn't expect just how lovely it would be," says Newcombe. "The community is just amazing. There are drawing classes in one apartment every Monday night, a beehive on the roof, community barbecues once a month in summer and even a rooftop gardening committee. It just shows if you give people a little bit of scope they will do amazing things!"





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GOOD MONEY 15

Green energy electrifies local communities

to mention lower power bills consortiums of not-for-profit and commercial organisations are generating and buying their own renewable energy and selling it to the community. In Sydney, the movement gained momentum one early autumn evening in 2013. An all-ages crowd from a

of their own energy destiny and a commitment to renewables - not

GOOD MONEY 1



Groups all over Australia are taking control of their energy needs as part of a worldwide movement that could short-circuit the business models of major power suppliers.



broad range of networks gathered in Redfern Town Hall to hear speakers such as UNSW renewable energy professor Mira Watson and the founder of influential website RenewEconomy, Giles Parkinson.

"We didn't have a budget, so it was very minimal,"

Net-Works participants with Interface carpet tiles made from recycled nylon. Is your carpet dolphin-friendly? Coastal clean-ups and carpets combine in Net-Works, an initiative providing a livelihood for poor coastal communities and an ingenious source of recycled material for Interface carpets.

> he environmental cost of making millions of square metres of carpet a year is staggering. Not only is most new nylon petroleum-based, but in Australia and New Zealand, 5000 garbage trucks of commercial carpet make their way into landfill each year.

> Thankfully, a chief executive in a company that Australian Ethical invests in, is trying to make a difference. Ray Anderson is CEO of American carpet-tile manufacturer Interface. For decades he has been committed to 'Mission Zero' – a project to eliminate any negative impact that the firm has on the environment by 2020.

> Ten years ago, Interface began working with yarn supplier Aquafil to find innovative ways to help eliminate virgin fossil fuels from their carpets. Aquafil pioneered a system that can regenerate used nylon product and carpet fluff, turning it into a Nylon-6 yarn.

Interface wanted to do more so they organised a workshop with industry partners to thrash out how they could access additional waste nylon. Heather Dietz, Interface's co-innovation communications manager, says it opened up all sorts of interesting questions such as "Could we create a dolphin-friendly carpet?"

Dr Nick Hill of the Zoological Society of London (ZSL) drew the group's attention to the devastating impact

discarded nylon fishing nets were having on marine environments. Fishing nets take up to six hundred years to break down, and during this time they continue to catch and kill marine life with no human benefit.

The group began thinking: "What if we could design a collaborative, inclusive model which brought some of the poorest people into the world into a global supply chain, increased our access to post-consumer recycled nylon, while cleaning up the environment at the same time?" says Dietz. The result is Net-Works.

Net-Works is an inclusive business model. It empowers fishing communities in developing countries to collect the discarded fishing nets, clean them and sell them back into the program by way of community banking groups. Nets are then sent to Aquafil, to be regenerated into nylon yarn and finally Interface carpet tiles.

Net-Works is a wonderful example of "the circular economy" (described in detail in the "Urban Mining" article on page 9). It provides a truly restorative loop in carpet tile production. The program currently operates in 14 sites in the Philippines and will soon expand to Cameroon, Africa.

"To date, 41,400kg of nets have been collected from our Philippine sites. Stretched end to end, that would cover the distance around our planet!" says Dietz. If you want to think about that in marine terms - that's more than the weight of an adult humpback whale! Pretty impressive.

The Net-Works process



COLLECTING **AND CLEANING**

The local communities collect, aggregate discarded nylon fishing nets.

16 GOOD MONEY



The old nets are then sold through Net-Works, providing participants with a supplement to



A mechanical baling machine developed for the project compresses and packs the nets without



SHIPPING

The nets are shipped to Aquafil.



REGENERATION

Aquafil's **ECONYL®** Regeneration System turns the Nylon 6 from the waste nets into 100% recycled carpet yarn.

PRODUCTION

Sydney's skyline

large-scale solar

like this one at

Sydney Theatre

is set for more

panel arrays

Interface purchases this 100% recycled yarn and turns carpet tiles.

their income. electricity.

says organiser April Crawford-Smith, "but a concept like this spreads quickly because people want to know more."

During the forum, a workshop was proposed to consolidate the group. A body dedicated to supporting and advocating on behalf of the community energy sector, Community Power Agency, offered to facilitate the workshop.

The result is Pingala, a non-profit association committed to building community-funded solar projects, enabling roof-owners and investors to reap the rewards of renewable energy. Armed with renewable energy engineers and solar panel specialists, Pingala assesses the technical feasibility and pricing of each project, proceeding only when modeling indicates a minimum 5% return for investors. It's forecast that solar would be installed on local sites such as schools, clubs, organisations and businesses.

"The host site doesn't pay anything upfront. Instead they pay a fair rate for electricity [generated from the panels] and then they own the solar panels over a time frame," explains Crawford-Smith. The fixed rate allows Pingala to repay the cost of purchasing the panels, with many projects already in development and some ready to start.

"It's a massive learning curve for us," says Crawford-Smith. "Some of us may be lawyers or accountants but we're all covering new ground. The legal and financial framework is quite different for a \$500,000 project to that of a local pub."

"We intend to make it as accessible as possible," she says, "so that anyone with spare cash can be a part of this."

MAKING A COLLECTIVE IMPACT

The community renewable energy sector might be relatively new in Australia, but there are plenty of projects to support. According to the Community Power Agency (CPA) approximately 60 groups are in operation and of these, 11 are already generating energy.

Local groups are following in the footsteps of an international surge of community-owned clean energy projects motivated by a desire for individuals to take control of energy at a household level. This growing interest in community energy in Australia not only benefits locals nationwide, but also Australian Ethical investors through holdings in Vestas and First Solar.

Vestas is the only global energy company dedicated exclusively to wind energy. They recently won a 42MW wind-turbine order for one of the largest citizen-owned wind power plants in Germany. Meanwhile, First Solar in the United States has partnered with the Clean Energy Collective to develop community solar projects that allow people to use solar without putting panels on their roofs.

As Crawford-Smith from Pingala sees it, "There's only so much that an individual can do. It's only when you come together that you start to see the bigger impact – we're always keen to hear from people with financial expertise too."

EUREKA - WE'VE BUILT A NEW BUSINESS MODEL!

Meanwhile in Victoria, Dave Kerin is driving the notion of collective impact in a slightly different direction with the Earthworker Co-operative.

The initiative is committed to creating sustainable jobs and clean-energy solutions across Australia. Its first venture is the Eureka's Future Worker's Co-operative: a worker-owned factory that manufactures solar hot-water systems in Morwell in the coal-dominant Latrobe Valley.

Elsewhere in the state, a unique partnership means production is already underway. Everlast, a solar hotwater tank manufacturer in Dandenong, is in the process of becoming part of the Co-operative. Threatened jobs have been saved and a crowdfunding campaign brought in close to \$80,000. According to Kerin, all of Everlast's workers want to come over to the new model by becoming worker-owners – including the boss.

Kerin has spent the past 16 years studying cooperatives, such as Mondragon in Spain's Basque country, while manufacturing withered at home. Today, he leads an unlikely army of co-operative champions with trade unionists, business owners, activists, environmentalists and local councils all onboard. "We're united by our determination to create jobs that never leave our shores," says Kerin. "The jobs for us are the profit."

Based on enterprise bargaining agreements (EBAs) between unions and employers, the new business model allows workers to purchase solar hot-water systems through salary sacrificing. This reduces their hot-water bills and produces years of energy returns. In addition, a unique partnership with customer-owned BankMECU*, offers a low-interest loan to purchase a Eureka's Future hot-water system.

"It's a new model based on product, so there's no gap between labour, sales and investment," Kerin explains. "We want to move from solar hot water to the full range of green technology: solar thermal, large wind and small "We want to move from solar hot water to the full range of green technology: solar thermal, large wind and small wind, and biomass."

wind, and biomass." They are negotiating four EBAs: a university, major council, community-based agency and Earthworker's own, Eureka's Future. "We've picked three models that cover major employers in the Australian economy," says Kerin. "If we get 10% of that market, we could still keep up with the work."

With membership from as low as \$20 a year, he hopes to sign up 100,000 members initially in the hope that – that one day – all Australians might become "Earthworkers." "It's not a lot of money but we can do a lot with it," says Kerin. "People can help build the micro-capital needed to start other co-ops."

With plans for a Eureka's Future Workers Co-operative in each state and territory, and an indigenous co-operative, Kerin aims to achieve 5% intake of indigenous worker-owners and work with Aboriginal apprentices. They are also committed to donating 5% of all the surplus from Earthworker Co-operatives to a social justice fund. Solar-roof ventilators have already been installed in two low-income houses in partnership with the Father Bob Maguire Foundation.

"It's really interesting to see that no-one opposes our social justice mandates," says Kerin. "It's tapped into something that political analysis simply doesn't show: that is, if people can see a way to do things, Australians will get behind it."



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Shopping for supermarkets

Even something as seemingly innocuous as the Woolies around the corner can have a negative impact on the things you care about. But that doesn't mean writing off all supermarkets says Australian Ethical's head of ethics, Dr Stuart Palmer.

hat Australian Ethical does and doesn't invest in can surprise people.
Even clients who have been with us a long time have queries about our process.

Questions about what we invest in are the most common, although we're also queried about sectors we don't invest in. Supermarkets are a frequent battleground, with some investors concerned about the problems they cause while others emphasise their benefits.

So, what do we really think about supermarkets? Although we invest in Whole Foods Market (a North American chain) we don't invest in the two Australian monoliths, Coles and Woolworths. Why? Not because we don't like their sales volumes or margins, or other investment metrics. It's because before we undertake a detailed financial analysis of them we investigate their alignment with our Ethical Charter – just like we do with any other company.

This means we need to look at all the activities of a business. In Australia, the broader Coles and Woolworths

groups do more than run supermarkets: Coles is owned by Wesfarmers which also owns coalmines, and Woolworths owns pubs and poker machines. These activities alone are enough to rule out both companies under the Charter.

But let's focus on our approach to the actual supermarket side of things. Our starting point is that a business which helps people efficiently purchase food and other staples can positively contribute to human wellbeing. But unfortunately, there are also many ways in which supermarkets can harm people, animals and the environment.

HARD, SOFT AND SLIPPERY SELLING

Some items sold by supermarkets may hurt their consumers, particularly if they are consumed excessively. How do we assess this potential for injury? On the one hand, we think that individuals should be able to choose those things that they consider will best advance their interests. On the other hand, we believe that advertising and cultural influences often make it hard for consumers to make fully free and informed choices. That's one of the reasons we scrutinise

the sale of alcohol by supermarkets. We worry that alcohol marketing and societal attitudes to alcohol can encourage overconsumption – consumption that's clearly not in the interests of individual drinkers or their communities. We also worry about blatant false advertising: remember Coles' "baked today" bread that had been partially baked months earlier in Ireland?

COLLATERAL DAMAGE

The process of producing products that supermarkets sell can also harm those who aren't their customers, including animals and the environment. Intensive and factory farming practices are often environmentally unsustainable and cause animal suffering. Palm oil (an ingredient in many processed supermarket foods) can have wide-ranging impacts on wildlife and communities through land clearing and child and trafficked labour.

We have seen some attention paid to animal welfare – with moves to phase out caged eggs, or to comply with RSPCA standards for home-brand eggs and chicken meat – but there is much more to be done. This includes increased transparency about the conditions in which animals are raised and the meaning of labels such as "free range".

SUSTAINABLE SUPPLY?

Relationships with suppliers can also be troubling. Coles and Woolworths exercise unprecedented power through their size, market share (of around 75%) and their house brands for a growing range of products. This power can be abused to impose uneconomic prices and unfair trading terms on the farmers and manufacturers whose goods stock supermarket shelves. This in turn can force suppliers to adopt unsustainable practices of their own, whereas we think supermarkets should actually exercise their influence to improve social and environmental impacts of their supply chain.

Following action last year by the ACCC (the Australian consumer watchdog), Coles admitted to "crossing the line" in demanding payments from suppliers. The ACCC is also looking at claims that Woolworths bullied suppliers

by pressuring them to make up profit lost through discounting by the retailer. These practices can not only harm suppliers but also make it harder for smaller and independent supermarket operators to survive.

LOOKING AFTER THEIR PEOPLE?

Some parts of the supermarket sector have a poor record of staff treatment, with cases of payment below award rates and high levels of casual and contract labour. At the same time though, supermarkets can give a diverse range of people the opportunity to find flexible work, learn valuable vocational skills and progress a career both within and outside the sector.

Given these diverse positive and negative potential impacts, some of the questions we look at when assessing supermarket companies are:

- What product lines does the company earn most revenue from? What restrictions does it place on the products it sells? What shelf space does the supermarket provide for organic, sustainably farmed and fair trade produce?
- How does the supermarket manage its supply chain – both to ensure fair treatment of suppliers and to reduce negative social, animal and environmental impacts of production?
- What steps are taken to minimise the environmental footprint of supermarket stores themselves?
- What's the marketing track record of the supermarket?
 Is there a history of misleading product claims?
- How does the supermarket rate as an employer of choice?

We assess and balance these and other dimensions of supermarket businesses. Whole Foods Market, for example, earns ethical points under our Charter for its focus on organic food and sustainably farmed and produced products. But it performs less strongly in other areas, including employee relations.

Rarely do we encounter perfect companies. Our biggest challenge is often the balancing of positive and negative aspects of a business. Ethical investing isn't always easy but it's well worth the effort.

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good money is a publication of Australian Ethical Investment

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