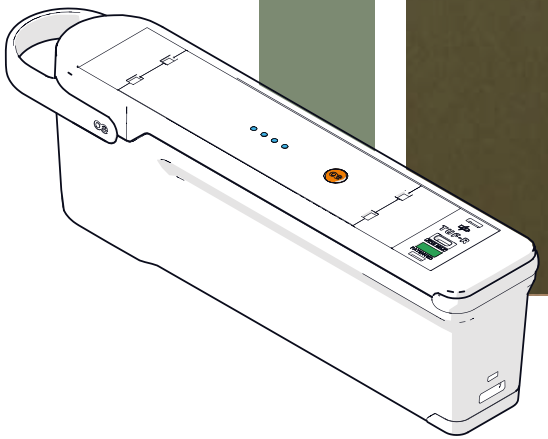
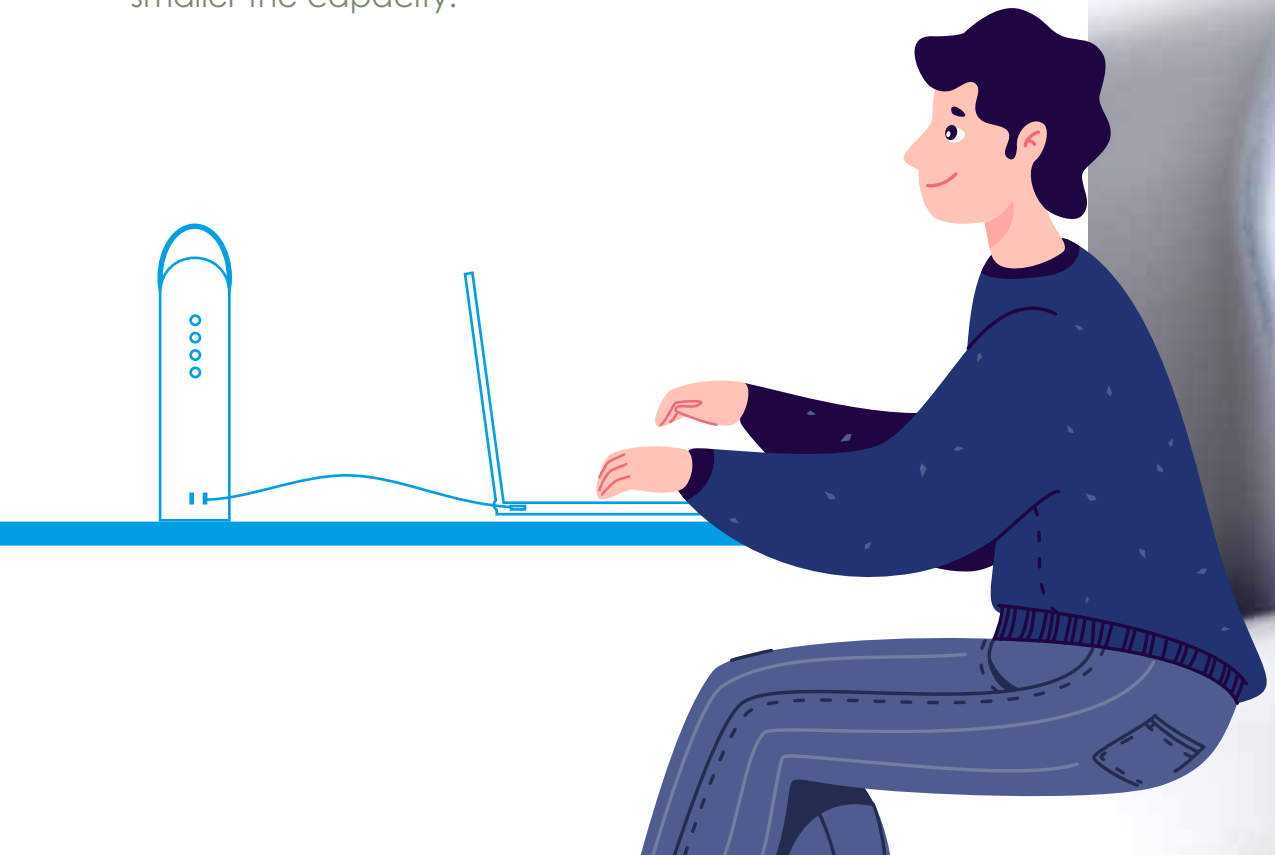
MOBILE POWER IN COMMERCIAL SPACES



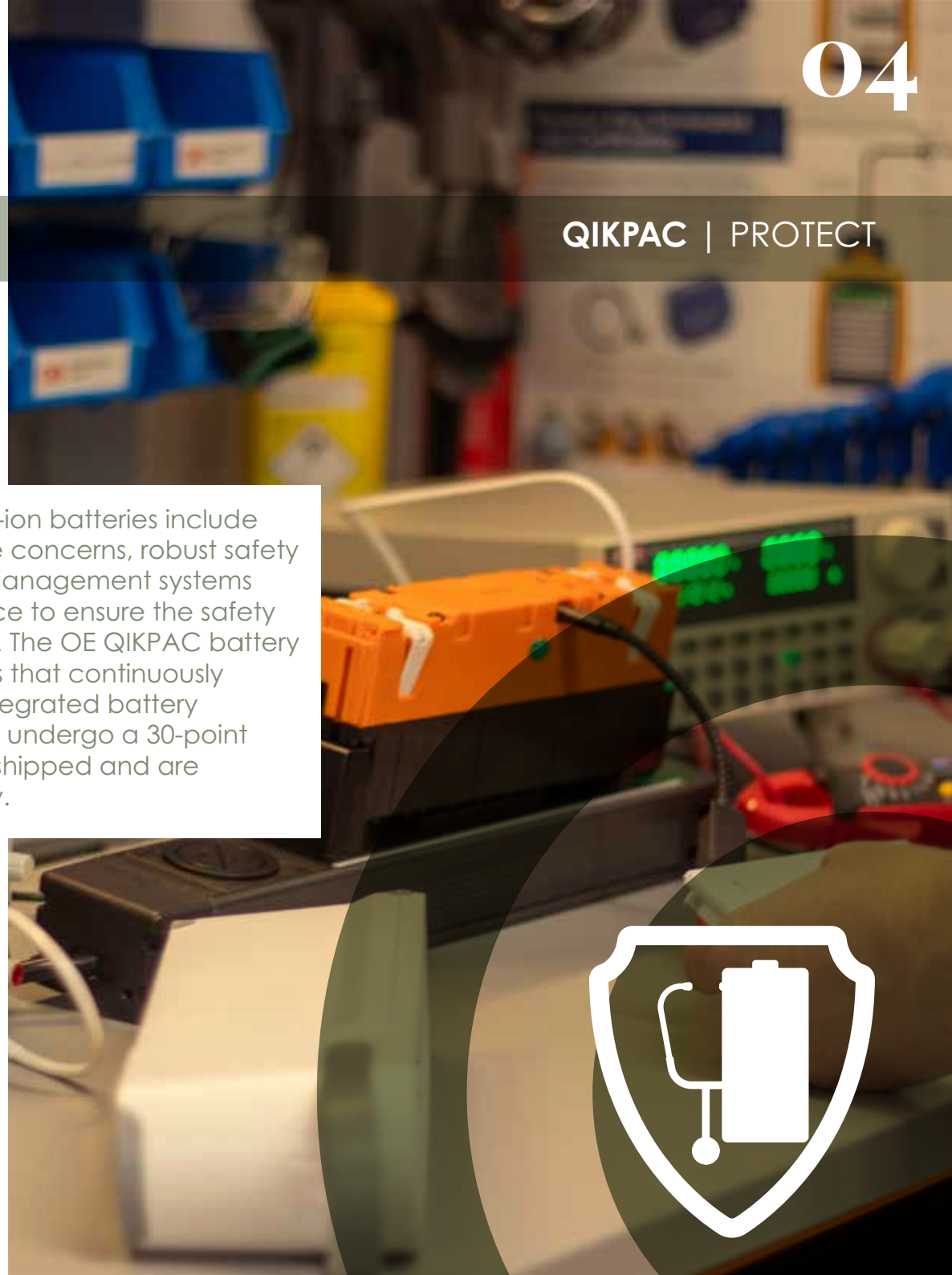
As the global push for sustainability continues to gain momentum, businesses are actively seeking energy solutions that are reliable and environmentally friendly. One technology that has gained traction in workspace settings is the use of lithium-ion batteries. This white paper aims to explore all aspects of powering spaces with lithium-ion batteries.

Lithium-ion batteries have a remarkable energy density, allowing them to store a significant amount of energy in a small and lightweight package. They are commonly found in mobile phones, power tools, laptops, and some larger appliances. In an office environment where space is limited, the compact nature of lithium-ion batteries allows for efficient energy storage without taking up much room. There are now several battery solutions available on the market with a small enough form factor to enable office workers to utilise mobile power. Of course, the size of the battery determines its capacity; the smaller the form factor, the smaller the capacity.



QIKPAC | PROTECT

Safety concerns associated with lithium-ion batteries include the risk of overheating. To address these concerns, robust safety measures, such as advanced battery management systems and thermal monitoring, must be in place to ensure the safety and well-being of people and property. The OE QIKPAC battery includes programmed-in safety features that continuously monitor the battery status through its integrated battery management system. QIKPAC batteries undergo a 30-point factory acceptance test before being shipped and are independently certified to ensure safety.



Free up your design with mobile power.

The adoption of mobile power in the form of lithium-ion batteries has opened up new design possibilities for commercial spaces with potential savings in power distribution. By utilizing battery power, there is less reliance on hardwired power provision, which can be costly and inflexible. Mobile battery power eliminates the need for cables, leading to a safer and less cluttered workspace.

Furniture with inbuilt and independently powered laptop and smartphone charging can be placed anywhere without the need for a fixed power supply. Mobile battery power for workstations will provide power for laptops, smartphones, monitors, and often the sit-to-stand mechanism on the desk itself. This increased flexibility can save time and money while enabling a workspace that can easily adapt to the changing needs of the company.

One of the key advantages of lithium-ion batteries is their extended lifespan compared to traditional batteries. This longevity translates to reduced maintenance costs and fewer replacements, making them a cost-effective choice for office applications.

The lifespan of a battery depends on factors such as how it is charged and discharged. Fast charging and allowing the battery to completely run out of energy can shorten its lifespan. For example, allowing a lithium-ion battery to drain to 0% from a top charge of 100% (a common practice for smartphones) can result in a decay in power storage after only 500 charge cycles (around 18 months), as is often experienced with mobile phones.

Programming optimized charging cycles into lithium-ion batteries will extend their lifespan. The OE QIKPAC battery is programmed to operate between 10% and 90% charge. QIKPAC will shut down at 10% and charge to 90% of capacity. This minimal limitation extends the longevity of QIKPAC batteries significantly, increasing its charging cycles to an estimated 1,500.*

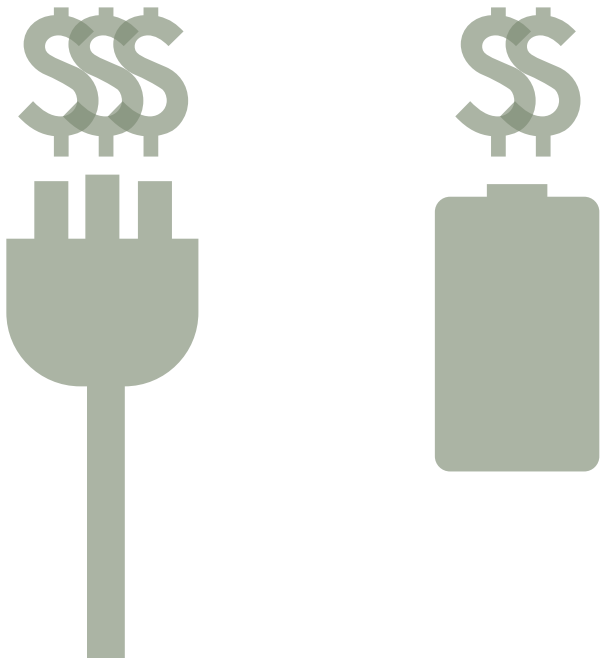
*After 1500 the capacity is still at 70% therefore QIKPAC is still usable for many more charges

From an environmental sustainability perspective, lithium-ion batteries are considered more eco-friendly than their counterparts. Their recyclability and reduced dependence on toxic materials contribute to a greener energy solution for offices, aligning with corporate social responsibility initiatives. Several recycling schemes around the world are focused on recovering critical materials from used lithium-ion batteries and reintroducing them back into the supply chain. Australia's Envirostream is one of these companies, which effectively recovers 95% of a used battery's reusable materials. Additionally, lithium-ion batteries play a crucial role in the transition to sustainable, renewable energy by storing energy harvested from wind and solar sources.

Lithium-ion batteries exhibit high performance efficiency, allowing for quick charging, lower self-discharge rates, and a reliable power supply. In the dynamic and fast-paced environment of offices, where uninterrupted power is crucial, the efficiency of lithium-ion batteries makes them a suitable choice. Well-designed battery management systems ensure that batteries can deliver enough power not just for laptops but also for entire workstations or acoustic booths. A suitably sized battery could power these devices for a full workday, and it can be easily recharged overnight.

While lithium-ion batteries offer long-term savings, the initial investment can be perceived as a barrier for some businesses. The higher upfront cost may discourage immediate adoption, necessitating a thorough financial analysis to justify the investment over the battery's lifespan.

In some cases, the cost of installing a battery solution compared to the cost of conventional electrical installations can be relatively low.



The production of lithium-ion batteries has raised concerns about our reliance on scarce raw materials. The emergence of a robust battery recycling industry is, however, providing a sustainable solution.

Lithium-ion batteries are 95% recyclable, returning the recovered resources back to the battery manufacturing sector and creating an almost circular battery economy.

In Australia, we have our own onshore battery recycling company, Envirostream, ensuring there is no longer any reason for spent batteries to leave Australian shores or end up in landfills.

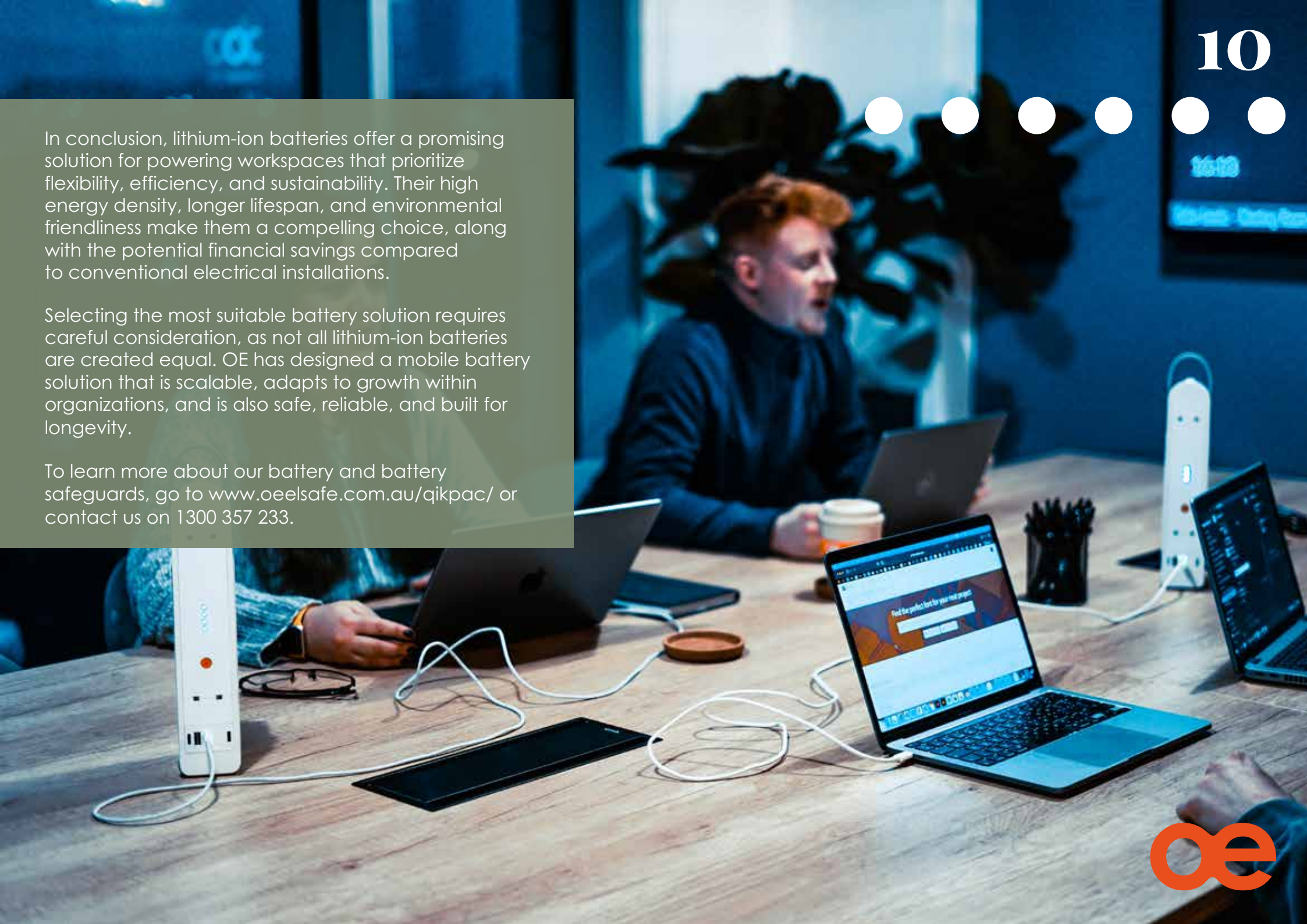
Australia also has its own battery stewardship organization, B-Cycle, which brings people, businesses, and communities together to make sure that no used battery goes to waste.

B-cycle Battery Recycling

In conclusion, lithium-ion batteries offer a promising solution for powering workspaces that prioritize flexibility, efficiency, and sustainability. Their high energy density, longer lifespan, and environmental friendliness make them a compelling choice, along with the potential financial savings compared to conventional electrical installations.

Selecting the most suitable battery solution requires careful consideration, as not all lithium-ion batteries are created equal. OE has designed a mobile battery solution that is scalable, adapts to growth within organizations, and is also safe, reliable, and built for longevity.

To learn more about our battery and battery safeguards, go to www.oeelsafe.com.au/qikpac/ or contact us on 1300 357 233.



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