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Battery-storage 'living lab' wins AFR Higher Education Award

19 November 2020

Sustainability Strategy puts Prof Maschmeyer's research on display

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The University of Sydney has won the inaugural AFR Higher Education Award–Sustainability for supporting chemist Thomas Maschmeyer and his game-changing innovations, including a solar light bench prototype rolled out on campus.

The University of Sydney was recognised today for its commitment to sustainability and in particular the support of innovations by leading renewables scientist Professor [Thomas Maschmeyer \[https://www.sydney.edu.au/science/about/our-people/academic-staff/thomas-maschmeyer.html\]](https://www.sydney.edu.au/science/about/our-people/academic-staff/thomas-maschmeyer.html), which are focused on two of society’s most vexing challenges – the need to bolster renewables to power our world and deal with the waste resulting from human activities.

University of Sydney Vice-Chancellor Dr Michael Spence congratulated the Australian Financial Review on recognising the importance of sustainability by creating a dedicated category for the first time in the [2020 AFR Higher Education Awards \[https://www.afr.com/work-and-careers/education/covid-19-drives-afr-higher-education-awards-2020-20201111-p56dm5\]](https://www.afr.com/work-and-careers/education/covid-19-drives-afr-higher-education-awards-2020-20201111-p56dm5) announced today and said the University was thrilled with the result.

“The University of Sydney has really focused on taking a strong position on sustainability and action on climate change through our new [sustainability strategy \[https://www.sydney.edu.au/news-opinion/news/2020/08/26/university-of-sydney-commits-to-climate-action-sustainability.html\]](https://www.sydney.edu.au/news-opinion/news/2020/08/26/university-of-sydney-commits-to-climate-action-sustainability.html),” Dr Michael Spence said.

“We know that many of the solutions must come from our universities and we believe the new batteries by Professor Thomas Maschmeyer’s spin-off Gelion, which we’ve rolled out on campus, could play an important role in helping electrify our economy.”

Professor Maschmeyer’s creation and commercialisation of two [Eureka Award-winning \[https://www.minister.industry.gov.au/ministers/karenandrews/media-releases/eureka-prize-winners-champions-science\]](https://www.minister.industry.gov.au/ministers/karenandrews/media-releases/eureka-prize-winners-champions-science) technologies won the 2020 [Prime Minister’s Prize for Innovation \[https://www.sydney.edu.au/news-opinion/news/2020/10/28/PM-prize-science-innovation-2020-thomas-maschmeyer-gelion-licella.html\]](https://www.sydney.edu.au/news-opinion/news/2020/10/28/PM-prize-science-innovation-2020-thomas-maschmeyer-gelion-licella.html) and has been strongly supported by the University through research, testing and spin-out agreements for years, especially in the past 18 months in-line with development of our sustainability strategy. This includes support of [Licella Holdings \[http://www.licella.com/\]](http://www.licella.com/) and [Gelion Technologies \[http://www.gelion.com/\]](http://www.gelion.com/), companies Professor Maschmeyer co-founded while at Sydney, which are commercialising the technologies. The first technology, the [Catalytic Hydrothermal Reactor \[https://vimeo.com/290621271\]](https://vimeo.com/290621271) (Cat-HTR™) platform, can avoid landfill by chemically refining end-of-life plastic or other organic waste, into high-value products, including chemicals and plastics.

In addition to being embraced worldwide, Cat-HTR™ is being used at a commercial demonstration plant in Somersby, NSW and is behind joint ventures with major industry players include in the United Kingdom, with a [philanthropic licence \[https://www.sbs.com.au/news/timor-leste-could-become-\]](https://www.sbs.com.au/news/timor-leste-could-become-)

[the-first-plastic-neutral-nation-thanks-to-australian-technology](#)] for the technology issued to East Timor last year, which earned praise this year from Sir [David Attenborough](#) [https://www.youtube.com/watch?v=ZyvTNX7LxR8&feature=emb_logo].



Professor Maschmeyer's second innovation, the *Endure*™ battery technology, was [rolled out on campus last month \[https://www.sydney.edu.au/news-opinion/news/2020/10/19/university-technology-spinoff-Gelion-delivers-smart-solar-bench.html\]](https://www.sydney.edu.au/news-opinion/news/2020/10/19/university-technology-spinoff-Gelion-delivers-smart-solar-bench.html), in collaboration between University Infrastructure and Gelion. The technology, which embeds [zinc bromine \[https://vimeo.com/286819395\]](https://vimeo.com/286819395) technology in solar photovoltaics, is targeting untapped remote off-grid markets and also presents a new in-principle path for renewables, e.g. as a hedge against lithium-based technologies facing supply chain pressure.

Professor Maschmeyer said the installation of Gelion's first commercial product at the University acted as a living laboratory in a real-world environment, while putting the research on display to inspire others.

"Partnerships like these, that encourage the translation of research from the laboratory into commercial applications, are one of the important elements that help drive innovation," Professor Maschmeyer said.

"The AFR Higher Education Awards promote such leadership and thereby exerts leadership itself. I congratulate the Australian Financial Review on their vision and in promoting excellence across the board."

Sustainability at Sydney was also recognised earlier this year when the University placed [first in Australia and second globally \[https://www.sydney.edu.au/news-opinion/news/2020/04/22/the-impact-rankings-2020.html\]](https://www.sydney.edu.au/news-opinion/news/2020/04/22/the-impact-rankings-2020.html) in the 2020 Times Higher Education Impact Rankings, based on the UN's Sustainable Development Goals. Our application included details about the Gelion Smart Bench rollout plans and the recycling plant gifted to East Timor.

Last month, Professor Maschmeyer participated in a [Sydney Ideas panel on renewables \[https://www.sydney.edu.au/engage/events-sponsorships/sydney-ideas/2020/energy-sustainability-and-policy.html\]](https://www.sydney.edu.au/engage/events-sponsorships/sydney-ideas/2020/energy-sustainability-and-policy.html) (now available via podcast) with NSW Energy and Environment Minister Matt Kean. At the event, Professor Maschmeyer discussed ideas for battery scale-up to transition to a low-carbon economy.



Introducing the Gelion 'smart bench'

- ▲ A prototype for this next-generation battery storage to power a renewables future.

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“

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– Professor Thomas Maschmeyer

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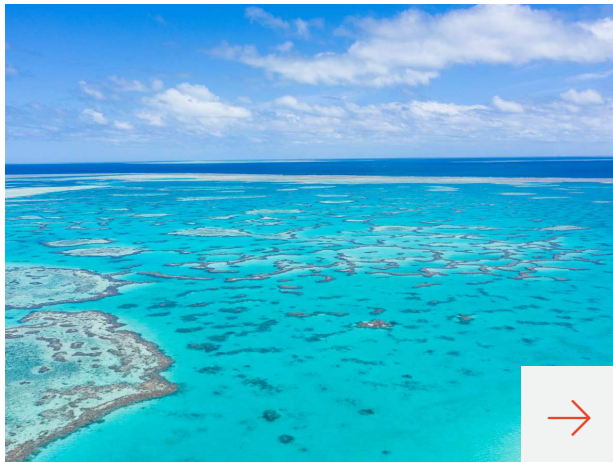
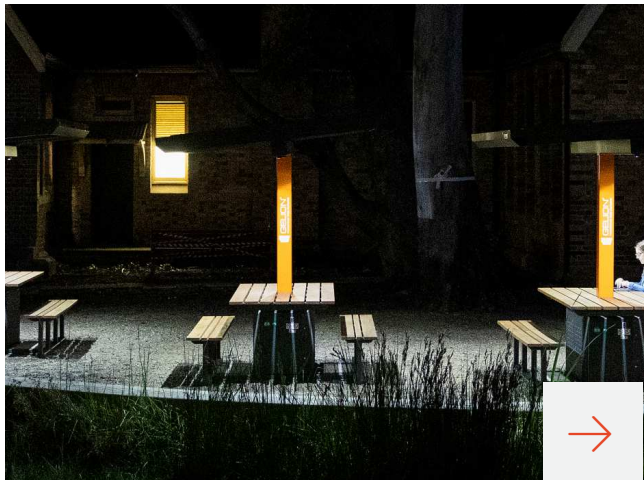
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