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To:	House of Assembly - GAA
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Subject:	Inquiry into AI Data Centres in Tasmania - Submission
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See below a submission re: AI Data Centres in Tasmania

Written by:

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[redacted]

My concerns are many, but I will limit myself to making a considered and researched comment on the risk to public resources and environment should ANY data centre be constructed in Tasmania, as well as some considerations for how data centres should be reporting their impacts.

Data centres are being pushed nationwide, with pressure to 'streamline' the approval process coming from a variety of angles. Little consideration is being given to the risks they pose, including water usage, energy usage, use of potentially productive land, interruption of the water table/change in run-off patterns, use of native habitat/interruption of wildlife corridors, increased use of non-renewable resources during construction, air pollution, noise pollution, water pollution, impact on climate change, health risk to humans, and health risks to wildlife including our pollinator species.
An electromagnetic field is a physical field that represents the electric and magnetic influences generated by and acting upon electric charges. A disturbance in either the electric or magnetic field can affect the other, leading to an oscillation that propagates through space, known as an electromagnetic wave. The potential effects of EMF on human health vary depending upon the frequency, intensity, and length of exposure, and the levels required to harm humans are debated. The Australian Radiation Protection and Nuclear Safety Agency [ARPANSA] claims that there is no established evidence of long-term health effects from ELF EMF, although they do note that 'acute exposure to ELF EMF at high levels can affect the function of the nervous system' – the evidence they present is an article published by International Commission on Non-Ionizing Radiation Protection in 2010. It is recommended that more recent research be analysed to determine best practices regarding minimising the harm the ELF EMF might cause. An article published in 2025 notes that:
'Epidemiological studies and individual observations show that symptoms such as headache, dizziness, tinnitus, distraction, fatigue, anxiety, insomnia, and even increased suicide rates are more common in individuals living near cell phone towers and antennas.

An increase in neurodegenerative diseases and some types of cancer has also been reported' (Coşkun, O. & Demirel, E. C. G.).
A 2025 meta-analysis found that 'EMF exposure adversely affects reproductive health, particularly sperm quality and hormonal balance, with oxidative stress serving as a plausible mechanism' (Lamzouri, O., Ahl Laamara, R. & Drissi, L. B.). Some studies are inconclusive, but this does not mean that all EMF research should be ignored or disregarded altogether.

While many data centres are being built in areas with low population density, this is not always the case. Data centres should be required to publicly share EMF data, including:

- Disclose whether the facility will include high-voltage substations, major transformers, and new or upgraded transmission or distribution lines.
- Conduct baseline EMF measurements prior to energization.
- Perform post-energization verification EMF measurements under both typical and peak electrical loads.
- Require ongoing monitoring and periodic verification testing of EMF levels after construction.
- Require additional measurements if data center equipment is updated or changed, as well as if electrical demand increases or electrical infrastructure is expanded.
- Publicly post all EMF measurement results—including locations, dates, load conditions, equipment used, and applicable standards—in clear, easy-to-understand formats on publicly accessible websites.
- If wireless telecommunications antennas or microwave transmitters are installed on the facility, radiofrequency (RF) emissions should also be disclosed and evaluated, including projected exposure levels at nearby homes, schools, and public areas (suggested list taken from Environmental Health Sciences Montana, https://ehsciences.org/data-centers-increase-electromagnetic-fields-emf-exposure/)

Prediction, monitoring and management of all EMF data should be completed as a priority, at all stages of planning and operation.

While some data centres are built in less densely populated areas, the impact of EMF on bees has been studied for some years, and warrants serious consideration. 35% of crop production in Australia requires pollination by bees, and up to 75% of crops benefit from bee pollination (Grivas, 2018). It is well established that climate change and reduction in habitat have had effects on bee populations already, and impacts on bees should be a priority when assessing large-scale projects such as the construction of data centres. The data centre itself produces ELF EMF at varying intensities depending on a number of factors. The construction of addition infrastructure, including powerlines to supply the centre also need to be investigated for their impact on wildlife including bees. A 2018 study demonstrated that:
'acute exposure to 50 Hz ELF EMFs at levels ranging from 20–100 μT, found at ground level below powerline conductors, to 1000–7000 μT, found within 1 m of the conductors, affects honey bee olfactory learning, flight, foraging activity and feeding. ELF EMF exposure was found to reduce learning, alter flight dynamics, reduce the success of foraging flights

towards food sources, and feeding' (Shepherd, S., Lima, M.A.P., Oliveira, E.E. *et al*).
A 2023 study found that:
'EMF exposure exerted strong physiological stress on honeybees as shown by the enhanced expression of heat-shock proteins and genes involved in antioxidant activity and affected the expression levels of behavior-related genes. Moreover, California poppy individuals growing near EMF received fewer honeybee visits and produced fewer seeds than plants growing far from EMF…Our study provides conclusive evidence of detrimental impacts of EMF on honeybee's pollination behavior, leading to negative effects on plant community' (Molina-Montenegro, M. A. et al.).

It would be extremely disappointing, and yet unsurprising, to most of the Australian public if this information were not considered and furthered researched before constructing a large number of data centres across Australia. Our landscape has benefited from our small population size, meaning great swathes of land are undisturbed and provide habitat for species that deserve to thrive, not only for their own sake, but for the good they provide to humanity. We cannot live without our pollinators, and the risk of creating giant EMF producing hubs, and their associated energy corridors, is too great.

References

Australian Radiation Protection and Nuclear Safety Agency [ARPANSA], https://www.arpansa.gov.au/understanding-radiation/what-is-radiation/non-ionising-radiation/low-frequency-electric-magnetic-fields

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In addition, I reflect that the community consultation that has been offered for data centres already proposed and approved/in the approval process is totally and utterly inadequate, and has indeed been purposefully undertaken to stymie public consultation. I live extremely close to the St Leonards data centre currently in construction, and the community consultation opportunity was poorly advertised, advertised with inadequate time to respond, and the meeting to hear concerns was held on a weekday in the middle of the day, thus excluding the majority of people attending. The continued disregard for Tasmanian people and the environment cannot, and will not, be tolerated.

I appreciate you deep consideration of all submissions, and look forward to hearing positive steps made to halt data centre construction until much more detailed research has been undertaken and addition ‘red tape’ been put in place to regulate energy use.

Warmly,

Lauren Makepeace