Trustee Notebook *Sam Borthwick*

As I write this, spring is very nearly spent, and summer beginning to rear its head- the ferries are brimming over, the broom is being bravely challenged for control of the roadside (shout out to the Broombusters for their valiant efforts) and I think we are all bracing ourselves for what's set to be an especially busy summer, as people eschew travel southward in favour of more westerly, less politically fraught, climes.

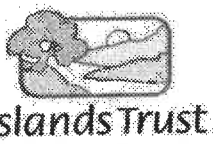
I am once again, am in the position of writing this article while still in preparation for a Local Trust Committee that will be several weeks old by the time you read this, so this time- I won't dwell on that, but instead on what's still to come for all of us, broadly, and more specifically at the upcoming Trust Council.

At the March Trust Council, I introduced the topic of the use of Artificial Intelligence, including generative AI and LLMs (large language models) and asked staff to review and identify areas in which this technology may being deployed at the Islands Trust.

These technologies are becoming more and more pervasive, and their development, use, and the ethics surrounding both are mired in controversy. Personally, I have all sorts of thoughts about the rise of AI, where it's come from, where it's heading, and the people who are behind this sudden, almost unavoidable mass adoption, but, for the sake of this particular discussion, I'm going to try to keep my points fairly high-level.

For starters, I do not think it's necessary, nor appropriate for Trustees, or Islands Trust staff to make use of these tools in their official duties. There is a tremendous amount of both reading and writing required of both staff and elected people in any local government, but the Trust in particular deals almost solely with land-use planning, on a relatively small scale, with a clear environmentally-oriented (more on this in a moment), community-driven mandate in communities where bespoke solutions are the rule, not the exception. Each island's distinct Official Community Plans reflect and underscore this reality.

The quality of AI output is routinely over-hyped, and even if it were to get to a point where it was outputting human-quality material nine times in ten, when significant decisions and work are automated something crucial is bound to eventually get missed, and in the long run that's bound to effect real lives, human and otherwise, whose value is incalculably beyond the savings in effort.



For all that the quality and ethics of using these programs is debatable, there is an undeniable component to these technologies that cannot be ignored, especially by bodies such as the Trust where environmental protection is a core value- the cost of developing and running this technology is vast, and growing exponentially.

Scientists have estimated that the power requirements of data centres in North America increased from 2,688 megawatts at the end of 2022 to 5,341 megawatts at the end of 2023. Globally, the electricity consumption of data centres rose to 460 terawatts in 2022. This would have made data centres the 11th largest electricity consumer in the world.

In 2021, researchers from Google and the University of California at Berkeley estimated the training process for Open AI's GPT-3 alone consumed 1,287 megawatt hours of electricity (enough to power about 120 average U.S. homes for a year), generating about 552 tons of carbon dioxide. In addition- each time an AI model is used, for example to summarize an email from a constituent, or a lengthy meeting agenda, that query consumes energy- the average ChatGPT query consumes about five times more than a normal web search.

In addition to the cost of running the programs themselves, the physical computing equipment in data centres requires chilled water to absorb excess heat generated by the process, and that cost is not insignificant- it's been estimated that for each kilowatt hour of energy a data centre consumes, it requires two litres of water.

Google's data centres used around 5 billion gallons of fresh water for cooling in 2022. Additionally, it is estimated that water usage from AI could reach somewhere around 1.7 trillion gallons of water by 2027. This is "more than the total annual water withdrawal of...half of the United Kingdom."

For me, the nature and scope of the work we do at the Islands Trust behooves us to make our processes *more* human, not less, and as always- in all things- that we must be conscious of the environmental cost of our passing through the world. I don't think that's too much to ask.