I believe that it's important to evaluate the significant environmental, utility infrastructure impacts of data center development against their relatively insignificant economic impact in terms of high-quality, long-term jobs as compared with other industrial development.

Having reviewed the ZTA document, I'd like to offer some comments and propose some additions for clarity and completeness.

- 3.5.2.B.1 Definition – A complete data center is more than just a building or group of buildings. The zoning should address the complete facility. I would suggest that the term "associated infrastructure" be expanded to include, but not limited to backup and operational power generation, fuel storage, electrochemical energy storage (i.e. batteries), electrical substations and distribution, center cooling and heat dissipation facilities. The building(s) with the electronics are fairly straightforward (in terms of converting electrical power into waste heat), the potential risks of severe impacts are in the supporting infrastructure.
- 3.5.2.B.2.b.iii Use Standards – I think you need to be more specific in terms of "negative impacts". These impacts can include fire, chemical spills, watershed damage or depletion, noise, light, and perhaps most significantly heat pollution.
- 3.5.2.B.2.c.ii Buffer Standards – It's industry best practice to include a perimeter barrier (i.e. fencing) as part of the facility's physical security. I think banning chain link fencing, with appropriate landscape buffering, in an industrial area is going a bit too far.
- 3.5.2.B.2.d.i Noise Standards – The term "noise compatibility" seems vague. Could you provide an objective compatibility standard here? From general experience and recent reporting, data center developers and operators are happy to promise anything in their applications and then not follow through in operation. Having a definitie noise standard they are required, by design, to meet will mitigate some of that risk.
- 3.5.2.B.2.d.iii.(a) Noise Measurement – People living and working near data centers report noise complaints differently from other industrial facilities. The annoyance factors seem to be the constant low frequency "rumble", including infrasound, and increased noise levels during generator operations. Simple SPL measurements on a dBA profile do not adequately capture this. I'd recommend that that some research be done to look into current studies of data center noise and psychoacoustic impacts for either a specific data center regulation or an update to the County Code.
- 3.5.2.B.2.e Generators – EPA Tier 4 standards are a good start, but there should be more detail here. The big question that should be answered is how are the generators going to be used? Are they going to be used only for emergency power, supplemental power during high-demand periods, or continuous operational support. It should be established as part of the application process how on-site generated power will be used. This leads to the issue of utility connection. The Washington Post has a recent article on the data center "shadow grid" (https://wapo.st/4tVVrZO) describing the concept of data centers generating all of their own power on-site. While there is some argument to support this, mainly in terms of not requiring large capital buildouts by the local electrical utility, my

recommendation would be for data centers to be connected to the grid, even if they are generating substantial power on-site. This approach provides a path for regulation of data centers' on-site generation facilities as a power utility and also facilitates the capability, under extraordinary circumstances for data centers to shed/transfer their computing load and use their on-site generation capacity to supply power to the grid for community use. In any case, the costs of local expansion of the power grid to accommodate data center development should be exclusively borne by the data center developers. Finally, there should be incentive for data centers to be leveraging renewable power sources to the maximum extent possible. This is one of the factors in evaluating the environmental impact of data centers against their economic benefits.

I hope this is helpful. I'm happy to clarify or provide additional background if you're interested.