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Comparison greenhouse gas emissions electro vs. peramagnet magnets (preliminary)

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Electromagnets are traditionally used in particle accelerators to control the beam. It's possible to replace them with permanent magnet (PM) devices. This talk examines the environmental impact of electromagnet devices vs PM ones, using a few examples from the CLARA accelerator at STFC's Daresbury Laboratory. The CO₂ cost of electromagnet devices is typically dominated by the energy use in its operational phase.

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Session Classification: Contemplation of Rare Earth Elements in the context of sustainability