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Type: **Early Career (Eligible for Oral or Poster)**

Sustainability studies for the Cool Copper Collider

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The successful continuation of high energy physics probing regimes of ever-higher energies using conventional experimental methods is unsustainable both fiscally and environmentally. The already visible effects of climate change put additional pressure on the HEP community to develop techniques to mitigate the carbon footprint of large-scale collider experiments through direct and indirect greenhouse gas emissions. We propose a set of benchmark physics measurements that summarize the required physics output of an e^+e^- Higgs factory. We argue that C^3 fulfills the main goals of a Higgs factory with the lowest environmental impact based on these benchmarks. We will also discuss specific strategies for mitigating C^3 's carbon footprint, including powering strategies for the liquid nitrogen plant required for operating the high-gradient accelerating cavities.

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