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Powering of magnet concept and requirements

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The focus of this presentation is to address the challenge of evaluating the most effective powering solutions for the FCC-ee and FCC-hh. This involves selecting the optimal circuit configurations for the different magnet types, determining the best location for the power converters, and choosing the energy storage systems. To achieve this, we must consider various factors, such as the capital cost (e.g. impact on civil engineering), as well as the operational costs (e.g. power losses).

To assess these various factors, multiple models of the different systems, including infrastructure, magnets, power converters, cables, and losses, have been developed and interlinked.

The presentation will provide an overview of an optimisation tool that has been developed to allow for the easy testing of multiple circuit configurations, enabling a comparison of their effectiveness in minimising both total capital and operational costs.

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