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Whole Life Cycle Assessment approach for linear colliders

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Arup is working with CERN and KEK to evaluate and understand the environmental impact of three linear collider options, the Compact Linear Collider (CLIC) Drive Beam and Klystron, and the International Linear Collider (ILC). The first phase of this study concluded in 2023 which evaluated the construction environmental impacts of CLIC and ILC. Phase 2 started in early 2024 which includes the construction environmental impacts of the tunnel service systems and injector complex, and whole life cycle environmental impacts of the machine componentry. This talk will cover the whole Life Cycle Assessment (LCA) approach, high level overview Phase 1 LCA results, and the progress towards completing the Phase 2 LCA for the tunnel service systems, injector complex and machine componentry.

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Primary author:EVANS, Suzanne (ARUP)Presenter:EVANS, Suzanne (ARUP)Session Classification:Industry

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