**Sustainability in Remediation Design**

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Incorporating sustainability principles into the design of remediation systems is something we all should be conducting when evaluating a project. The focus starts with evaluating ways to reduce power demand, evaluate ways to limit travel to the site for monitoring through use of instrumentation and controls, review lifecycle media usage and best means to reduce changeout frequency, and innovative solution development. As environmental concerns intensify, the need for sustainably conscious remediation strategies is paramount. This presentation addresses these topics by proposing a multifaceted framework that integrates sustainability considerations at every stage of remediation system design/operation.

When identifying reductions, it is important to quantify how much savings will be obtained by making the design consideration. The recommendation may cost the project more in capital construction so the lifecycle evaluation will need to identify a return on investment that helps highlight the sustainable approach. As the industry and technologies continually evolve it is the challenge of all professionals to strive for innovative solutions on each site that allow for sustainable practices to be applied.

Implementation of these strategies has allowed projects to have carbon footprint reductions ranging from 25% to 95% over the lifecycle of the project. These methods not only enhance the remediation efficiency but also demonstrate a commitment to sustainability.