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Past, present and future of nuclear energy in Colombia from the deployment of SMRs

This presentation delves into the evolving role of nuclear energy, particularly Small Modular Reactors (SMRs), in Colombia's electrical sector. It addresses the country's increasing energy demands against the backdrop of climate challenges and the limitations of traditional hydroelectric power and intermittent renewable sources like solar and wind energy. Nuclear energy, especially SMRs, is presented as a viable, robust, and sustainable solution.

The historical context of nuclear energy in Colombia is explored, charting its evolution and the shift towards sustainable nuclear technologies. The focus then shifts to the technical feasibility of integrating SMRs into the National Interconnected System (SIN), highlighting their scalability, safety, and operational flexibility. SMRs are especially suitable for areas where large nuclear plants are impractical, providing a stable electricity supply and complementing renewable sources.

The future potential of microreactors in remote areas like La Guajira and the Amazon is also highlighted, considering their ability to tackle geographical and infrastructural challenges, support autonomous operations, and contribute to water desalination and local living conditions.

The presentation concludes by envisioning the role of nuclear energy in decarbonizing Colombia's electricity sector, including repurposing existing infrastructures like coal plants. This strategic shift towards nuclear power aligns with international commitments like the Paris Agreement and enhances Colombia's global energy standing.

Additionally, the innovative concept of 'pink hydrogen' production using nuclear technology is examined. The potential of pink hydrogen in storage, transportation, and industrial applications is discussed, positioning Colombia as a leader in sustainable and innovative energy solutions while fulfilling its climate change commitments.

Country OR International Organization

Colombia

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Confirm that the work is original and has not been published anywhere else

YES

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