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SPACE POWER SYMPOSIUM (C3)
Space-Based Solar Power Architectures / Space & Energy Concepts (1)

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ENERGIZING EARTH'S FUTURE WITH CLEAN BASE LOAD POWER FROM SPACE TO EARTH

Abstract

This work conducts a thorough investigation on electrical energy and it's infrastructure in the modern age. Both conventional and non-conventional energy sources are analyzed in terms of their availability, reliability, efficiency, environmental impact, and economic viability. This work looks at phasing out and reducing humanities dependency on conventional energy sources over the next five to ten decades through gradual replacement with non-conventional energy sources and smart technology. In particular, Space Solar Power Satellite (SSPS) systems offer the opportunity to supply humanity with clean base load power from space to Earth indefinitely for millennium to come. Social, political, economic, and technical challenges of SSPS systems are discussed. Possible avenues to help mitigate these challenges is covered. A plan for phasing in SSPS systems as a major supplier to humanities electrical energy demand over the next five to ten decades is presented. This paper provides a detailed vision of a disruptive technology that could one day transition humanity to a new era of how we generate and deliver energy.