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IAF SPACE POWER SYMPOSIUM (C3)
Solar Power Satellite (1)

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THE VALUE OF SPACE BASED SOLAR POWER AS HUMANKIND WALKS TOWARDS A SUSTAINABLE PLANET

Abstract

It could be argued that the human civilisation is undergoing one of the most critical transitions in its time. The energy transition from harmful methods of generation towards new and environmentally friendly means forms a critical enabler in the world's decarbonisation agenda, towards the headlined Net Zero and Actual Zero objectives. This move towards sustainable energy structures can and will help limit and ideally reverse the effects of Global Warming, aligned to the objectives of the COP21 Paris Agreement.

Sustainable energy generation can take many forms, but arguably, Solar Power has become the most ubiquitously relied upon natural source in the 21st century, exceeding capabilities of wind-farms and hydro-electric plants, largely due to its placement in the consumer market. However, it is estimated that only approximately 70

Space Based Solar Power seeks to offset this loss. Satellites already rely on Solar Power for their continued operation out in space, and so taking the leap to having this ideology power the Earth is not as far-fetched as it may have been. With positives such as experiencing the Sun's energy for 24 hours a day, with an increased intensity of 144

This Paper looks to determine the strengths, weaknesses, opportunities, and threats by which Space Based Solar Power can bring positive advancements against the current Climate Change concerns. The identification of these dimensions can help identify the system architecture and complications that need to be overcome to deliver a true benefit to the Earth as it looks to mitigate climate change issues, especially as it relates to the decarbonisation agenda.