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9th SYMPOSIUM ON STEPPING STONES TO THE FUTURE: STRATEGIES, ARCHITECTURES, CONCEPTS AND TECHNOLOGIES (D3)
Concepts, Technologies, Infrastructures and Systems for the Exploration and Utilisation of Space (2)

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USE OF SPACE RESOURCES ON EARTH, FACT OR FICTION?

Abstract

Many books and papers have been presented touting the benefits of Space Solar Power, mining the Moon for He3 or Platinum Group Metals (PGMs), or mining the asteroid belt for basic industrial metals. How close are we now to realizing any of those opportunities, and at what time in the future will the cost of earth-derived electricity and/or critical metals make space resources cost competitive? We have assembled a comprehensive data base on future earth power-plant technologies, remaining mining resources, and future world supply and demand models. We will exercise the world models versus calendar year to project future supply and demand situations and the effect on future critical metal prices. Simultaneously, we will project space transportation technologies and predict future prices for space based solar power and materials mined and processed on the moon, and then projected to the earth's surface.

Logic says that at some time in the future, space resources will become competitive with ground-based resources as nonrenewable earth resources are depleted. The purpose of this study is to both project how soon that might happen, and at what time in the future, space resources most certainly will be cheaper when delivered to earth than diminished earth-based resources.