

How to Finance a Space Mining Operation on the Moon and Near Earth Asteroids

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Abstract

According to various studies, a space mining operation would cost 100s of millions to billions of U.S. Dollars. For most investors, the prospect is either too costly to justify the risk, or the time horizon for returns is too long. As a result, we need innovative methods to finance space mining operations. In this paper, I explore several alternative financial mechanisms that have the potential to raise large amounts of capital for a sustained period of time. These methods include crowdfunding, tokenizing assets, production-based financing, and holding companies. In addition to that, I also explore and propose various government policies that would both directly finance space mining operations and decrease the initial cost by setting up space mining infrastructure. The first policy that I explore in this paper is the creation of a space bank. Similar to Climate Banks, the main objective of this theoretical bank would be to set up the necessary infrastructure for space resource extraction, thus decreasing the initial cost. Next, I proposed innovative space mining tax credits/deductions such as a modified variation of Canada's Mineral Exploration Tax Credit. The basic idea of this credit is that investors buy a space type of share known as a Flow-Through Share. When investors buy these shares, they agree to take on all or a portion of the expense. In exchange, the investor gets a tax credit (return) and is able to deduct these expenses. Finally, I perform a scenario analysis showcasing how these methods could be used. In conclusion, we now have the basic tools to finance space resource operations on both the Moon and Near Earth Asteroids.