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Science, Technology, and Environmental Policy

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Panel
"Policy Measures in Support of Asteroid Mining and Resource Extraction in the Solar System"

There is increasing interest in both the human exploration of Mars and the commercial exploitation of the resources available in Deep Space, with at least three US companies making long term plans for some sort of asteroid resource extraction (or "mining"), and other companies interested in Lunar resources. It seems that the first customers for materials extracted from asteroids are likely to be astronauts on their way to and from Mars and that this industry may be jump-started by the NASA Mars program, with initial commercial revenues likely to be predominately from the sale of water to that customer base. (While there has been considerable attention in the press in the extraction of precious metals from asteroids, this resource is unlikely to be economically viable in the near-future.) This commercial interest led to asteroid mining being explicitly protected in the SPACE Act of 2015 (H.R. 2262 / Public Law 114-90), which explicitly allows U.S. companies to extract, own and trade resources from space. The US of course adheres to the1967 Outer Space Treaty (OST), and there has been considerable debate about the consistency of the SPACE Act and the OST.

It is my contention that now is the appropriate time to begin to address the space resource extraction policy issues that are likely to arise in the next few decades, before national and commercial policies become solidified in practice. The policy areas that need to be addressed fall in several broad categories, concerning both the establishment of a fair market and ownership of resources, equipment and data. While many of the policy issues arising may require international consensus to resolve, changes in international policy can be encouraged through the adaptation of sensible national policies and laws, and it would be natural for the United States to continue to take the lead in setting forth solutions for these problems.

Moderator
Marshall Eubanks, *Asteroid Initiatives LLC*

Panelist
Martin Elvis, *Harvard University*