



## **A New Approach to Geoengineering: Manna From Heaven**

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Geo-engineering, although controversial, has become an emerging factor in coping with climate change. Although most are terrestrial-based technologies, I focus on a space-based approach implemented through a solar shield system. I present several new elements that essentially render the high-cost criticism moot. Of special relevance are two seemingly unrelated technologies – the Resource Prospector Mission (RPM) to the Moon in 2018 that shall implement a technology demonstration of simple material resource extraction from lunar regolith, and the emergence of multi-material 3D printing technology that promises unprecedented robotic manufacturing capabilities. My research group has begun theoretical and experimentation work in developing the concept of a 3D printed electric motor system from lunar-type resources. The electric motor underlies every universal mechanical machine. Together with 3D printed electronics, I submit that this would enable self-replicating machines to be realised. A detailed exposition on how this may be achieved will be outlined. Such self-replicating machines could construct the spacecraft required to implement a solar shield and solar power satellites in large numbers from lunar resources with the same underlying technologies at extremely low cost.