

Remarks of the National Space Society to the National Space Council Staff Regarding Novel Space Capabilities.

14 November 2022

SSP Speaking Points:

SSP has the potential to revolutionize the energy market.

- Unlike traditional alternative-energy systems; it can provide baseload power 24/7
- It is adaptable; power can be routed to where it is needed regionally
- Low terrestrial footprint compared to other energy sources

There is growing interest:

- China, Japan, and UK have initiatives to demonstrate SSP viability

The energy market is massive.

- Whoever can lead in SSP has the opportunity to lead in the development of near earth space.
- The US needs to act quickly to be a contending leader in this technology.

The primary barrier is cost; relating to launch and manufacture

Launch costs have been driven down by the commercial sector; and

In space manufacturing costs forecasted to be reasonably affordable in the near term

To effectively make use of government funds the US should use NASA's successful Commercial Orbital Transportation Services (COTS) model.

Notably, this plan was successful even with a relatively small commercial launch sector;

Here, the commercial sector for energy generation is massive.

The NSS Proposes:

Department of Energy, Commerce, and Defense; engage in commercial partnerships [using NASA's..] to produce...

1. ...a systems-level demonstration of solar energy collected in space and delivered to the ground in useful form.
 - Goal is 100kw demonstration. Need not be profitable or full scale.
2. At least two commercial partners (CPs).
3. Payment is fixed price and milestone driven.
 - Milestones will vary depending on CP and can be either technical or financial.
4. Is expected to require a \$500 million government investment over five years.
5. Each CP proposal must
 - Require significant CP funds.
 - Include at least one high cost power consumer as a customer.
 - Deliver usable power from orbit to Earth for at least one year.
 - Propose a realistic path to gaining any necessary frequency allocation.

By investing this \$500 mill over a five year period – with two CPs – to produce a 100kw demonstration of SSP technology, The US can remain in the running to lead in SSP technology and retain a strong advantage in leading the development of near earth space.

The November 2022 update to NSS position paper "A Public/Private COTS-Type Program to Develop Space Solar Power" was submitted to as part of this response.