

Re: International Energy Agency accepts Peak Oil (sortof)

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From: Pete Lynn (pete_at_peterlynnkites.com)

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"Fred McGalliard" <frederick.b.mcgalliard@boeing.com> wrote in message news:I801B4.929@news.boeing.com...

>

- > *Let me give you a rough idea of what we need.*
- > *Automated manufacturing at an unprecedented scale.*
- > *Launch capability at some small fraction of the current.*
- > *Which implies automation of the rocket assembly, test,*
- > *erection and launch, at a level that is hard to imagine*
- > *within the next 40 years. Then you need to actually launch*
- > *several thousand small satellites into an array (I really*
- > *don't think a massive monolithic SPS would work). You*
- > *need more automated assembly and maintenance on the*
- > *ground receiver arrays (but this is pretty simple and might*
- > *even be done today). And finally, you need some*
- > *automated way to capture broken sat elements and drag*
- > *em out of the array for repair or deorbit. If we work hard*
- > *on several of these key sticking points, we might be able*
- > *to at least decide if it can be practical in around 40 years.*
- > *Anything faster would take an absolutely incredible*
- > *research effort.*

To be honest, and as Alex knows, I am not entirely new to such things.

At the scales required we will have a substantial manned space presence anyway. There really is no need for automation except in so far as automation would be required anyway for low cost production.

While there is some debate about this, a few decades of aircraft type launch operation should yield a cost of around \$10/kg to LEO. This is based on fundamental fuel and drymass costs. Considering the flight rates of such systems, (many times a day), few launch vehicles are actually required for quite high earth to LEO mass flow rates. HEO will cost more, however, launch cost should not be the ultimate limitation in SPS economics.

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Personally I expect the development of SPS to go hand in hand with the development of manned space. Best case scenario this will not start for another decade, though once the economic balance has been tipped, it might be expected to grow quite fast. Extra terrestrial resources are probably at least a decade beyond this, at which point growth could conceivably get really interesting.

As you point out, SPS is at least a few decades away, but do not expect earth based solar concentrator technology to sit on its laurels in the mean time.

Pete.