

The Rest Mass Value of The Earth and the Moon

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Abstract

Here we will look at the value of the whole Earth if looked at as just as rest-mass energy that theoretically could be extracted. As it is very silly to use up our own planet (our home) as energy a slightly better alternative is to sell of the moon to aliens. So yes we will calculate what the value of the Earth and the moon as a value just from an energy perspective. However if advanced aliens every visit us, they possibly will just look at the Earth as a clump of fuel, if they are nice they pay us for it and leave us to keep the moon, or if they have empathy they will let us keep the Earth and even pay for the moon.

Key Words: Rest mass energy, value of energy, aliens.

The Value of The Earth and The Moon

For an alien civilization that fully master $E = mc^2$ the minimum value of the Earth should be the value of its rest-mass energy. The rest mass energy of the Earth is

$$E = Mc^2 \approx 5.972 \times 10^{24} \text{ kg} \times c^2 = 5.32 \times 10^{41} \text{ Joule} \quad (1)$$

One Kwh is about is about 3.6×10^6 Joule. If we assume a wholesale price of 5 cents per Kwh then the energy value of the Earth is

$$\text{Value Earth} = \frac{Mc^2}{3.6 \times 10^6} \times 0.05 = 7.45 \times 10^{33} \text{ USD} \quad (2)$$

Similar for the Moon we have

$$\text{Value Earth} = \frac{Mc^2}{3.6 \times 10^6} \times 0.05 \approx \frac{7.35 \times 10^{22}}{3.6 \times 10^6} \approx 9.17 \times 10^{31} \text{ USD} \quad (3)$$

In the world there per 2020 there is about 37 trillion USD, that is 37×10^{12} USD, that is not even close to be able to pay for the whole earth or the moon. This also mean we have very good reserves, and if the financial crisis get deeper we can consider selling off the Moon to some wealthy aliens.

Disclaimer

The energy price can swing a lot, we therefore reserve us the right to alter the Price off the Moon at any future date. Any Aliens reading this must be prepared to pay the market price. Delivery: FOB.