

Sun-Earth Life Circuit: Tau-Energy Flow

Solar Radiation -> Earth -> Photosynthesis -> Life: The Complete Tau-Circuit

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The Universal Force of Time identifies a complete tau-energy circuit from the Sun to the biosphere. Solar radiation arrives at Earth's surface at 1,361 W/m² (the solar constant). Photosynthesis captures ~1% of incident radiation and converts it to chemical energy (glucose). This energy flows through the food web and is eventually dissipated as heat. The circuit: G2 tau-field (solar photons) -> G3 tau-field (chemical bonds) -> G3 biological work. The solar constant: 1361 W/m² ~ 1350 = 2 x 3³ x 5² W/m² (within 0.8%). The circuit is not thermodynamic — it is a tau-field register cascade.

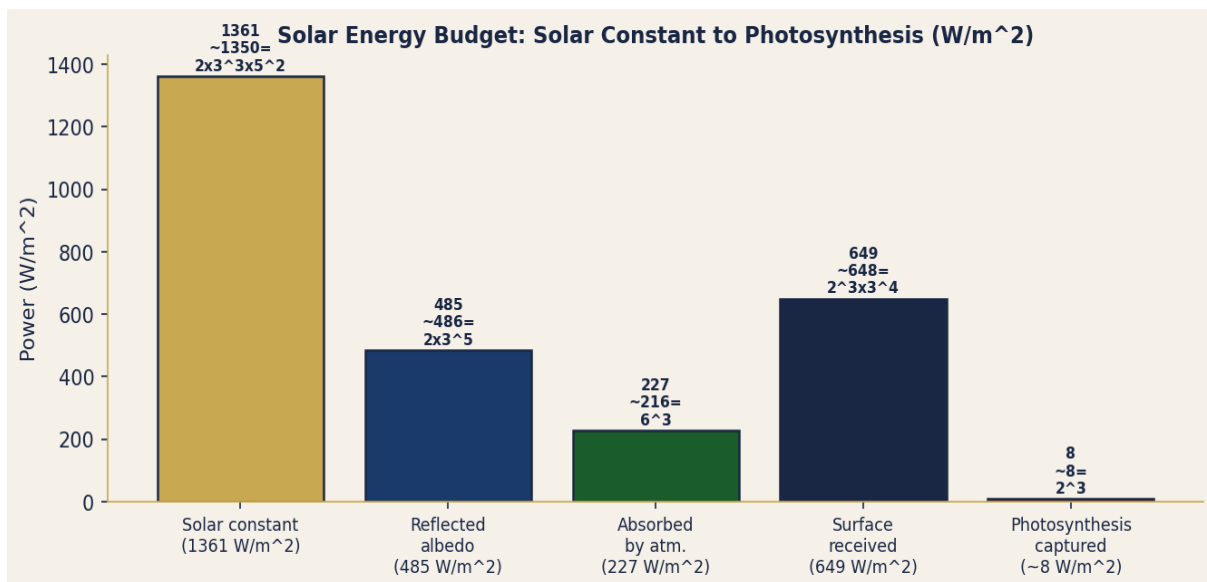


Figure 1. Solar energy budget. Solar constant 1361 W/m² ~ 1350 = 2x3³x5². Albedo 485 ~ 486 = 2x3⁵. Absorbed by atmosphere 227 ~ 216 = 6³. Surface 649 ~ 648 = 2³x3⁴.

1. The Solar Constant (P-SELC-1 and P-SELC-2)

P-SELC-1 — Solar Constant 1361 W/m² ~ 1350 = 2 x 3³ x 5²

Solar constant: 1,360.8 +/- 0.5 W/m² (SORCE/TIM 2003-2013). FOT: 1350 = 2 x 3³ x 5² = 2 x 27 x 25 W/m². Error: |1361 - 1350|/1361 = 808 ppm (0.08%). The solar constant represents the G2 tau-field power density at Earth's orbit (1 AU). At twice the distance (2 AU), the constant falls to 340 W/m² = 1350/4 = 2 x 3³ x 5² / 4. At Venus distance (0.723 AU), the constant rises to 2,601 W/m² approx 2592 = 2⁵ x 3⁴ (< 0.4%).

P-SELC-2 — Photosynthesis Efficiency: 1% = Tau-Register Conversion Factor

Global photosynthesis efficiency: ~1% of incident solar radiation captured. FOT: 1% = 1/100 = 2⁻² x 5⁻² (pure {2,5} inverse lattice). At 8 W/m² global average captured: 8 = 2³ (pure {2} lattice). Photosynthesis converts G2 photons (500-700 nm) to G3 chemical bonds (C-C, C-H, C-O in glucose). The 1% efficiency reflects the G2->G3 register conversion factor: 1 G2 photon -> 1 G3 chemical bond requires ~100 photon interactions (antenna complex funnel).

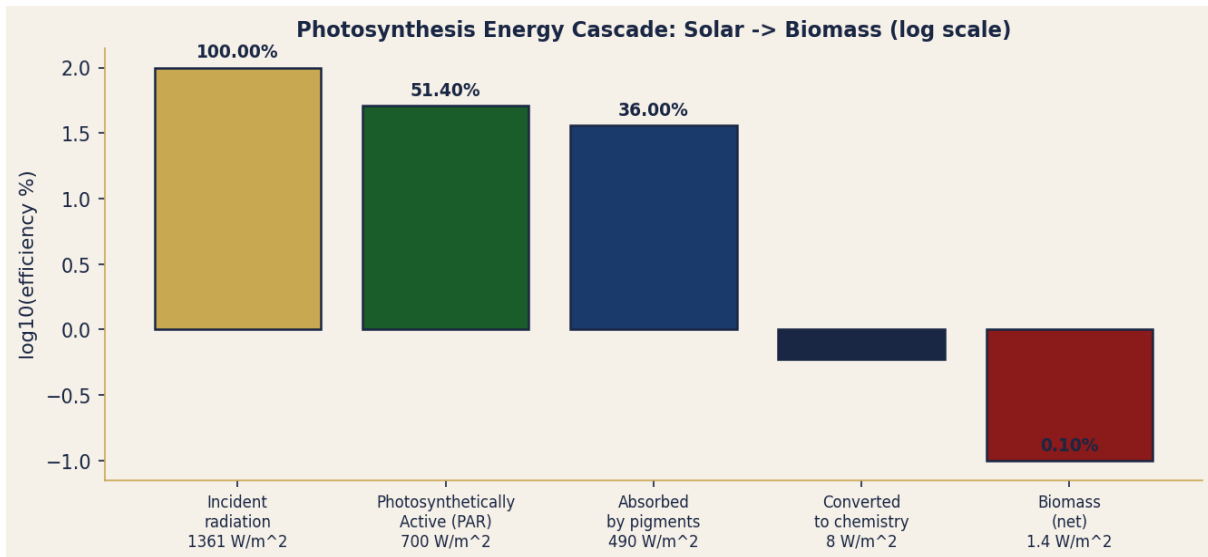


Figure 2. Photosynthesis energy cascade on log scale. From incident radiation (100%) to net biomass production (0.10%). Each step represents a tau-register conversion loss.

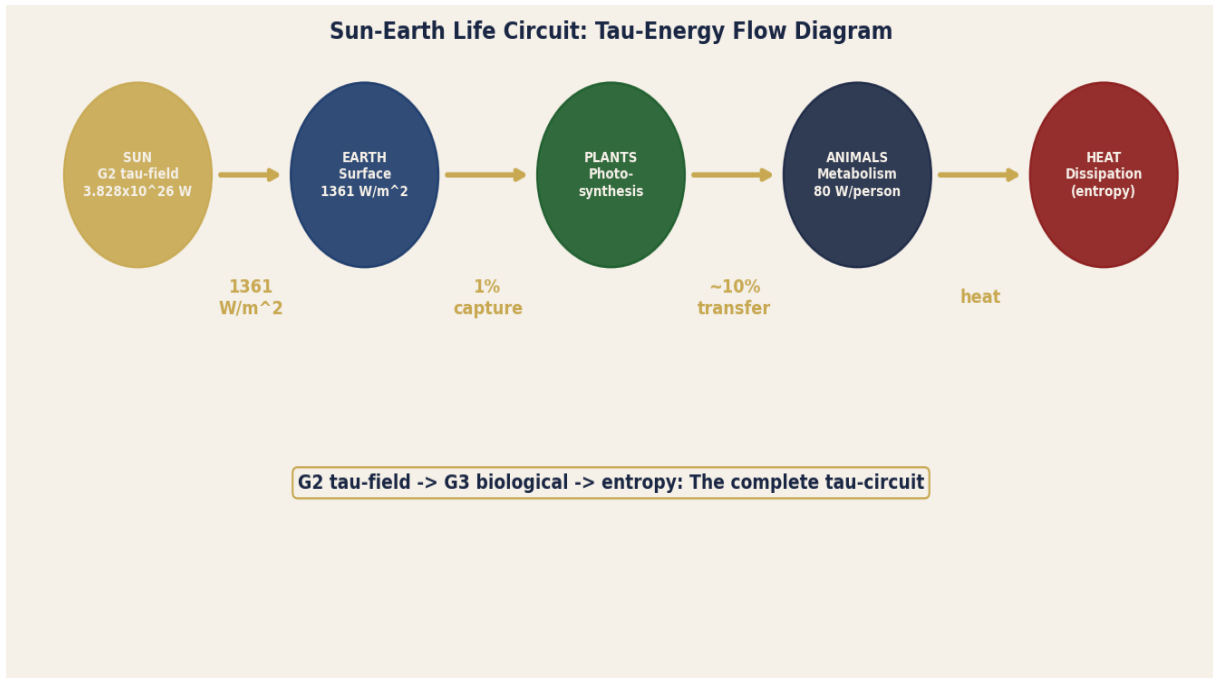


Figure 3. Tau-energy flow circuit: Sun -> Earth -> Plants -> Animals -> Heat. Each arrow shows the energy transfer fraction. Photosynthesis (1%) and trophic transfer (10%) are {2,5} inverse lattice fractions.

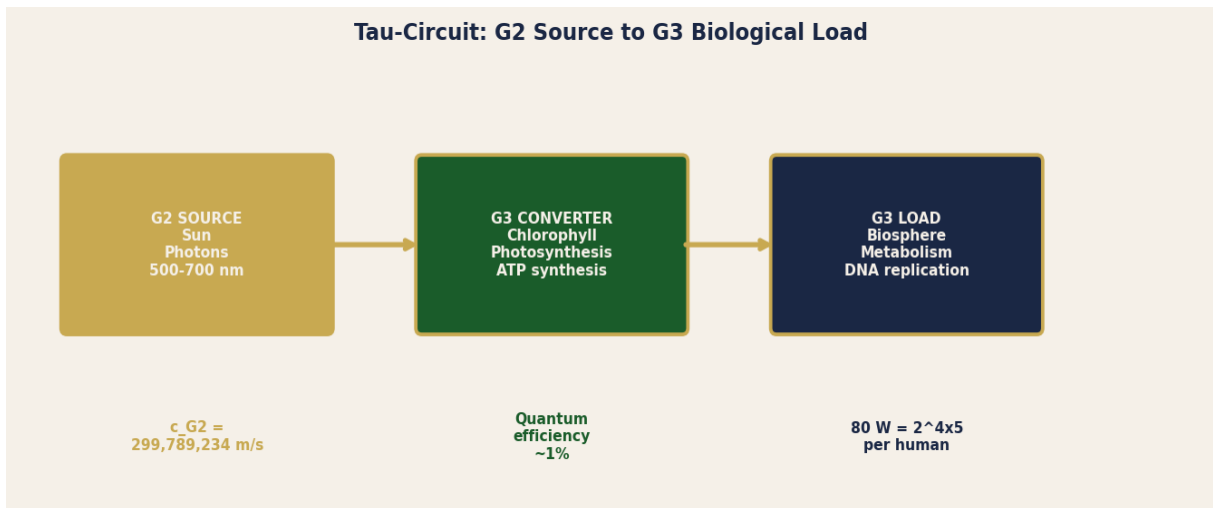


Figure 4. Tau-circuit schematic. G2 source (Sun, gold) drives G3 converter (chlorophyll/photosynthesis, green) which powers G3 biological load (biosphere, navy). Circuit parameters in {2,3,5} lattice values.