

Note: chart from UNSW

### 6 main areas of interest

1. The Sun, the Light
2. Surface reception
3. Front metal efficiency
4. Main material for light-electricity conversion
5. Back surface and Back(up) materials
6. Eco usage

### 1 useful equation for enlightenment

$$W_{alt} = \left\{ [q \cdot A \cdot \int_{E_g}^{\infty} \frac{d(n\phi_{ph})}{d(h\nu)} (1 - R(h\nu)) \cdot SR(h\nu) d(h\nu)] \times \frac{E_g}{q} - (I_{ph}^2 \cdot R_s) \right\} \times Time$$

Annotations for the equation:

- $\int_{E_g}^{\infty} \frac{d(n\phi_{ph})}{d(h\nu)}$ : Increase the numbers of suns
- $(1 - R(h\nu))$ : Reduce the reflection
- $SR(h\nu)$ : Optimize the absorption
- $\frac{E_g}{q}$ : Reduce the recombination
- $(I_{ph}^2 \cdot R_s)$ : Reduce the series resistance

Other annotations: Larger area, 3D; Make best use of the light spectrum; Eg: the trade-off

SolarElectricity you get

More updates <http://km2000.us/solar/>

## ['Solar Cell' Interaction Chart\* ]

\*Interaction chart: Used to relate fields

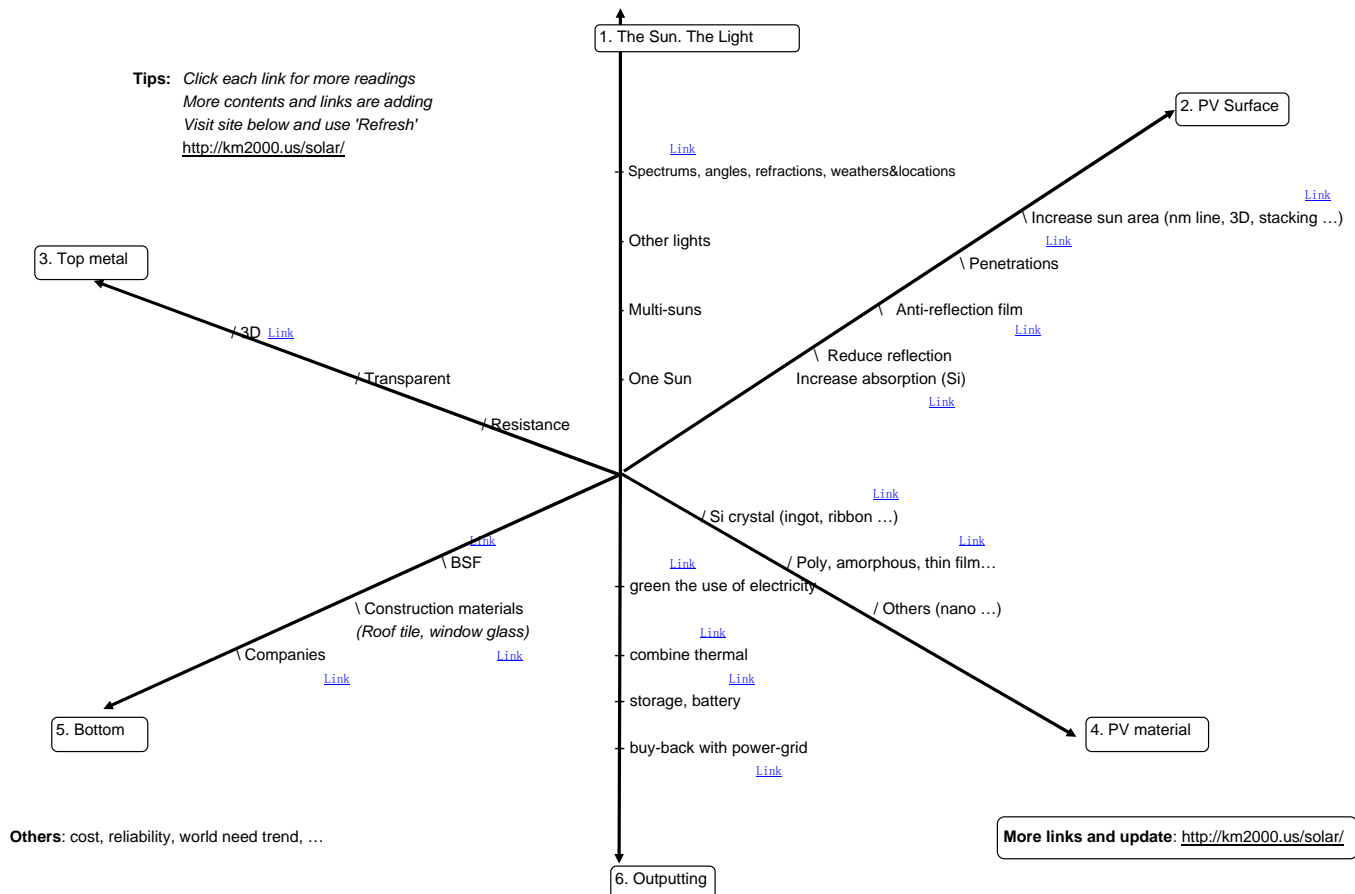


Chart by Franklin, franklin@km2000.us