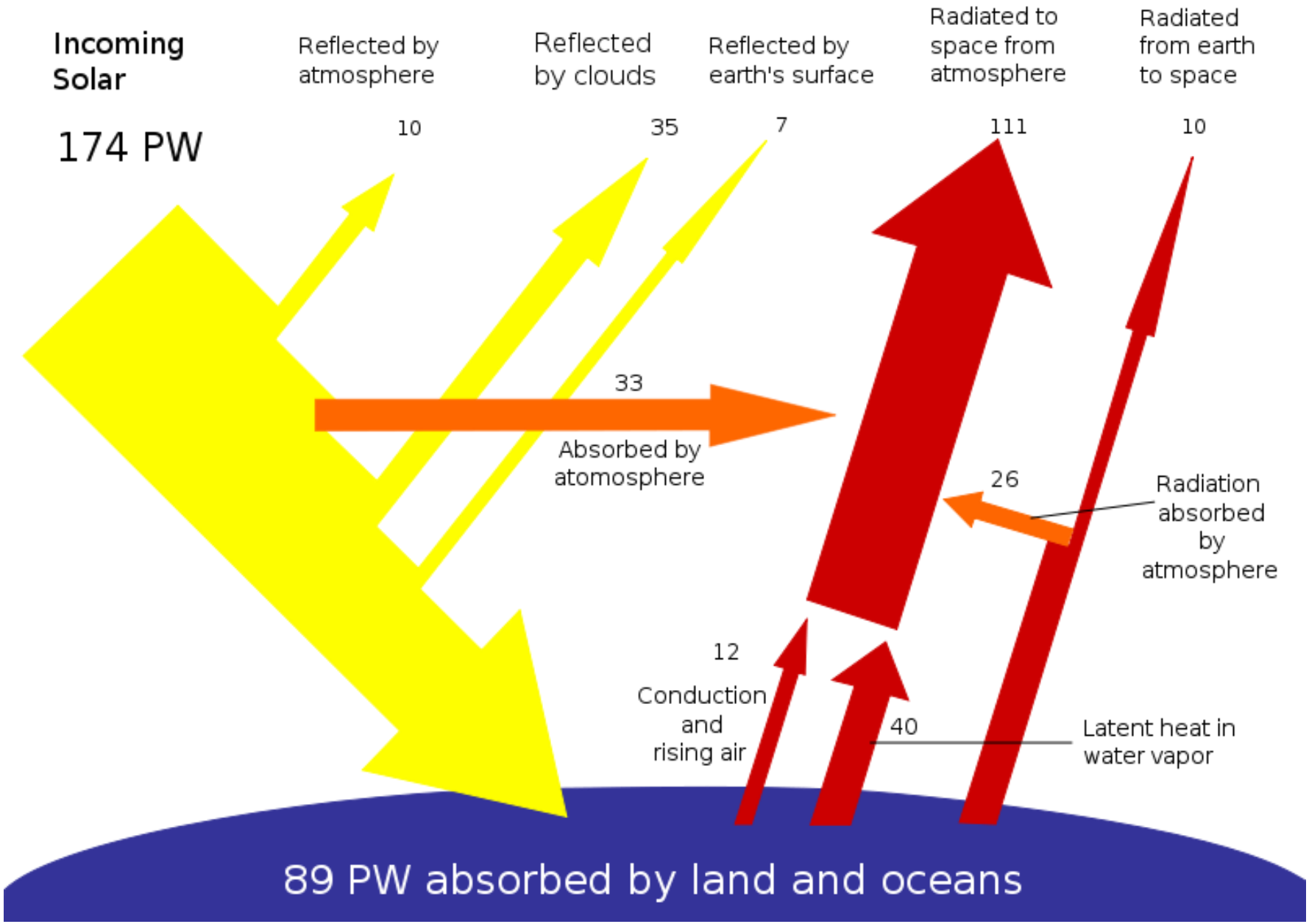
人們(生物)為什麼需要
太陽(能量)才能生存？


Incoming Solar
174 PW
Reflected by atmosphere
10
Reflected by clouds
35
Reflected by earth's surface
7
Radiated to space from atmosphere
111
Radiated from earth to space
10
33
Absorbed by atomosphere
26
Radiation absorbed by atmosphere
12
Conduction and rising air
40
Latent heat in water vapor
89 PW absorbed by land and oceans

The Earth receives 174 petawatts (PW) of incoming solar radiation (insolation) at the upper atmosphere.[1] Approximately 30% is reflected back to space while the rest is absorbed by clouds, oceans and land masses.

Sunlight absorbed by the oceans and land masses keeps the surface at an average temperature of 14 °C

By photosynthesis green plants convert solar energy into chemical energy, which produces food, wood and the biomass from which fossil fuels are derived

Yearly Solar fluxes & Human Energy Consumption	
Solar	3,850,000 EJ[6]
Wind	2,250 EJ[7]
Biomass	3,000 EJ[8]
Primary energy use (2005)	487 EJ[9]
Electricity (2005)	56.7 EJ[10]

The total solar energy absorbed by Earth's atmosphere, oceans and land masses is approximately 3,850,000 exajoules (EJ) per year. In 2002, this was more energy in one hour than the world used in one year. Photosynthesis captures approximately 3,000 EJ per year in biomass.The amount of solar energy reaching the surface of the planet is so vast that in one year it is about twice as much as will ever be obtained from all of the Earth's non-renewable resources of coal, oil, natural gas, and mined uranium combined.

Solar energy enjoys many environmental and economic advantages over other forms of energy currently used. These include:

Environmentally Friendly

Non-polluting: Solar electricity generation produces no emissions while the current alternative, fossil fuel combustion, releases more than a pound of carbon dioxide emissions for every kilowatt hour.

Non-consumptive: The suns radiation is a limitless resource that can be collected without the environmentally destructive processes of mining or pipelines.

Economically Beneficial

Cost effective: Solar generated electricity is already cheaper than conventional electricity in many major US cities. By 2027, PV will be the most cost-effective solution (even without any government subsidies or advantages from its environmental cleanliness) in nearly all areas of the United States.

Immediate and permanent savings: Properly financed systems will provide consumers with cheaper electricity from the day of installation.

Technological advancements: Improvements in solar technologies offer reduced costs and greater efficiency.

Easily Accessible

Security: The price of solar electricity does not fluctuate with politics or supply speculation; there will never be a shortage that will cause solar electricity to become unaffordable.

Already distributed: There are no expensive transportation costs for solar electricity because the sun shines everywhere.

Leapfrogging: Solar electricity will allow sun-rich developing nations to leapfrog as they are doing with wireless telecommunications to a new energy architecture without having to install expensive land-based grids.