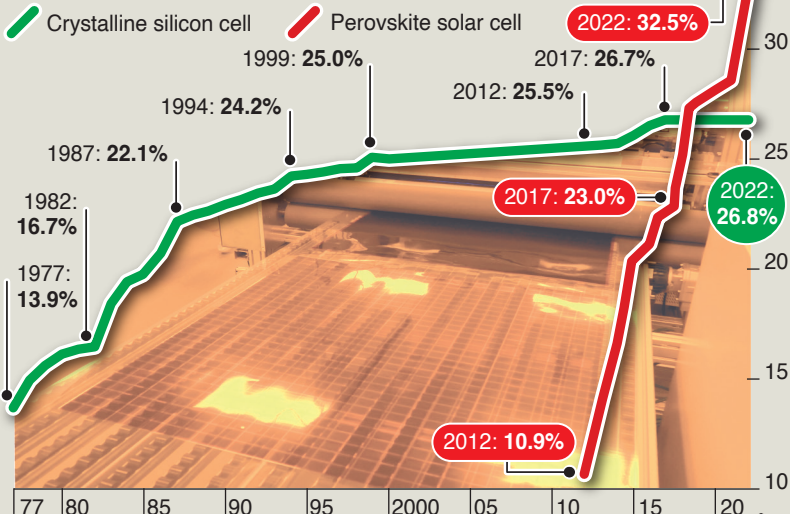


“Miracle” tandem solar cells

The production of tandem solar cells combining silicon with perovskite – a semi-conducting crystal that absorbs sunlight – follows years of academic research with the mineral, hailed as a “miracle material”

Solar cell efficiency (*Sun's energy converted into electricity, percent*)



Perovskite-silicon solar cell

Gold contacts

Cathode: Gold and layer of spiro-OMeTAD

Perovskite

Silicon layer

Anode:

Fluorine-doped tin oxide (FTO) and titanium dioxide (TiO_2) – semiconductor that conducts electrons

Glass substrate

Sunlight:

Composed of visible, infrared and ultraviolet light

Perovskite: Outperforms crystalline silicon in absorbing short wave ultraviolet – high energy part of spectrum

IF

UV