

8th Workshop on Metallization & Interconnection for c-Si solar Cells (MIW 2019)

Market Place

Topic 2: Plated contacts: are we getting any closer to mass-adoption in production?

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Different rear side metallization technologies

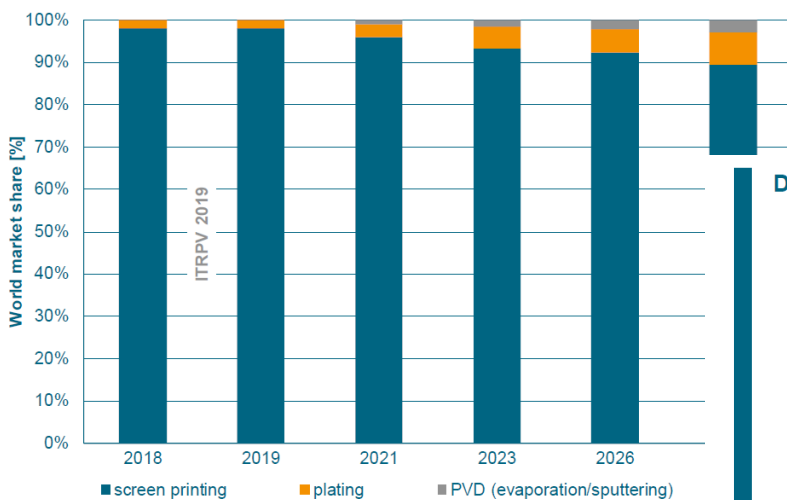


Fig. 33b: Predicted trend for different rear side metallization technologies.

IBC / Sunpower

ITRPV

Different front side metallization technologies

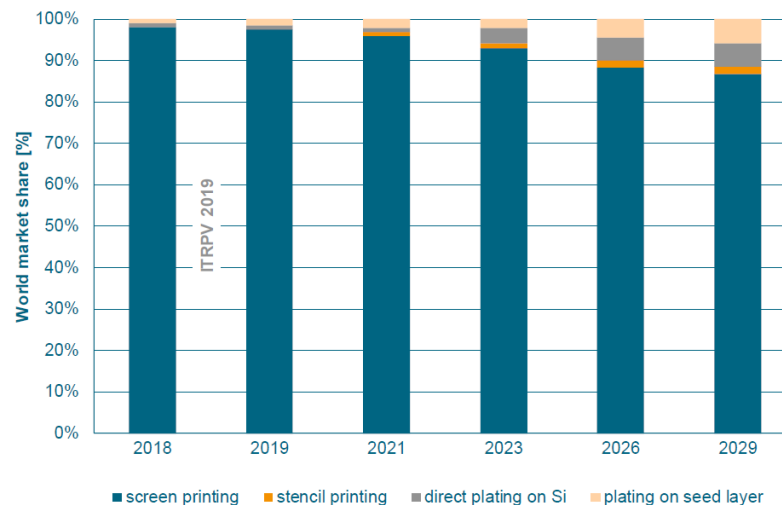


Fig. 33a: Predicted trend for different front side metallization technologies.

HJT / PERC

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Copper plating

- No cost nor technological pressure to replace screen printing on PERC
- Maybe opportunity with TOPCON / passivated contact
Ag pastes still in development
- Technological need to switch to plating
 - IBC: high line conductivity necessary
 - HJT: high paste consumption especially for bifacial cell /
low temperature paste is expensive
- Opportunity for temperature sensitive cells like PK / tandems
- Shingling: reduction of cell segments

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Ag price may increase

2019: $20.25\% \times 0.987$ (CTM) $\approx 4.91\text{W/ cell}^*$

→ $\approx 18.3 \text{ t / GWp}$

→ $\approx 18300 \text{ t @100GW} = 6.3 \%$ of world Silver market 2017**

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Medium scenario

500 GWp in 2025

=> Silver consumption for PV approximately 30% of global production

Global PV Installation and corresponding PV market

Electricity scenario (power sector)

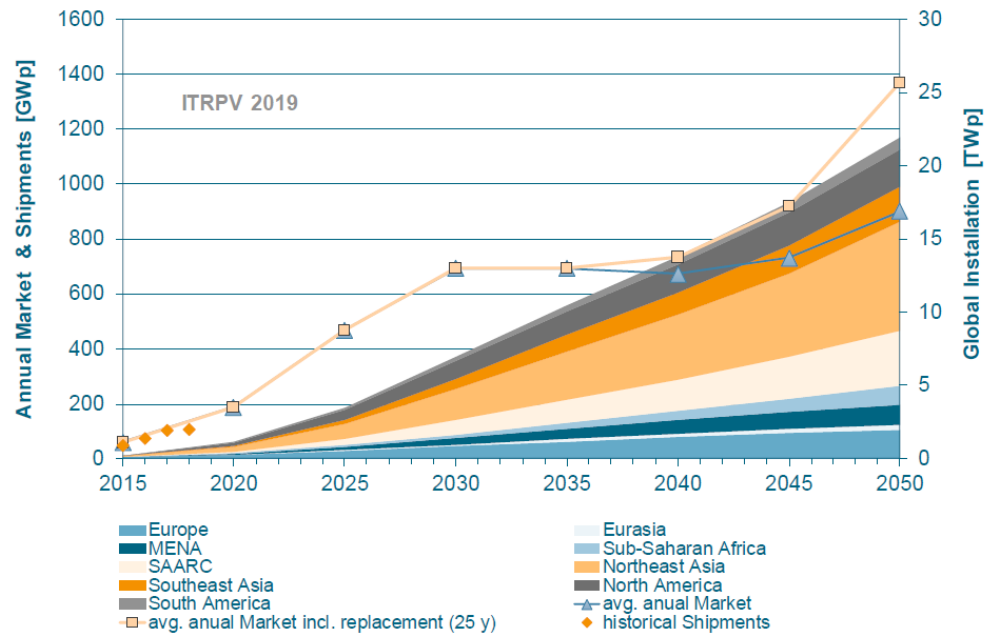


Fig. 63: Cumulative installed PV module power and 5-year average annual market for global PV module installation of 22.0 TWp in 2050 (see Table 2 and [26]).