



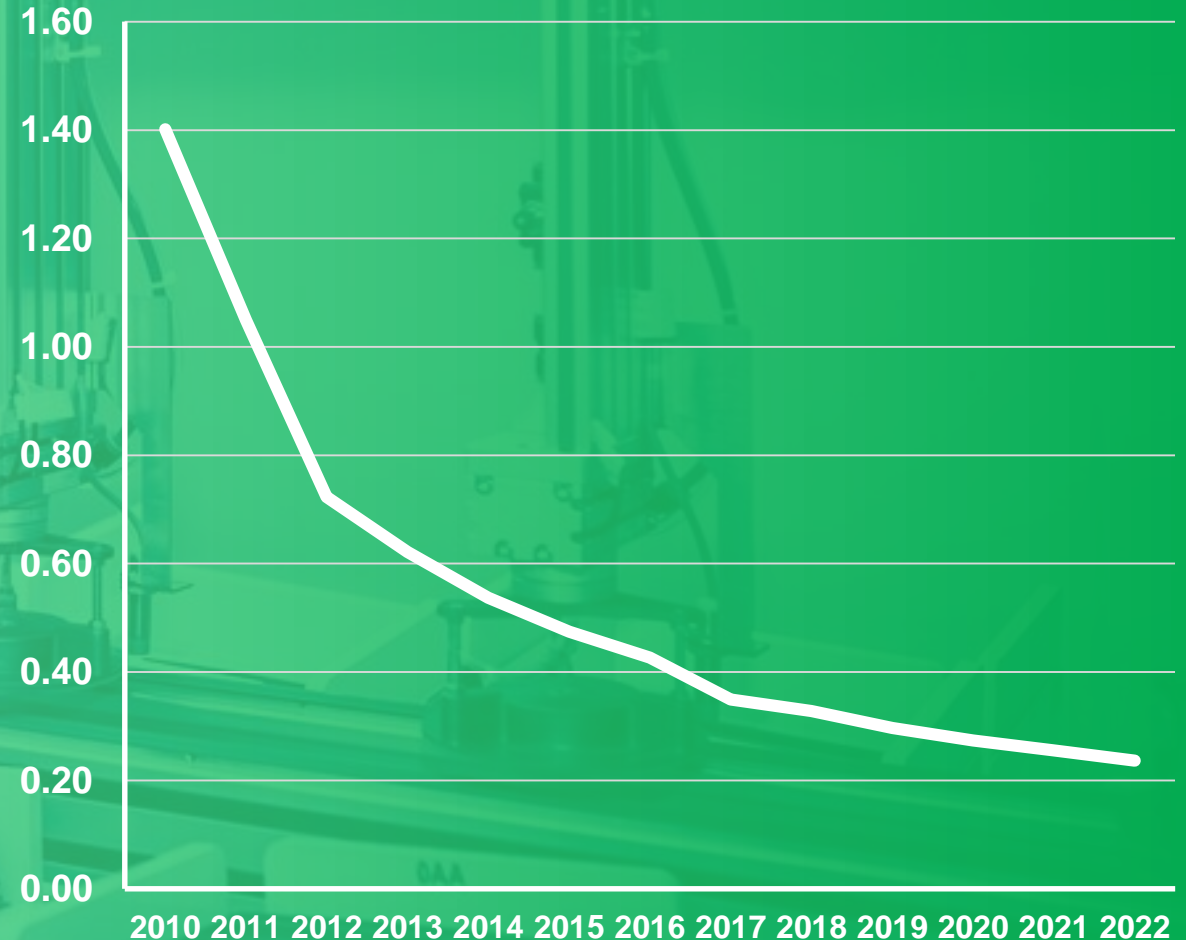
IHS Markit™

5 Trends Shaping the Solar Technology Industry

#1. The scalability of solar is driving down manufacturing costs

From 2021, over 500 million solar panels will be manufactured globally every year, allowing continued cost reduction via economies of scale.

Average solar panel manufacturing cost (\$/W)



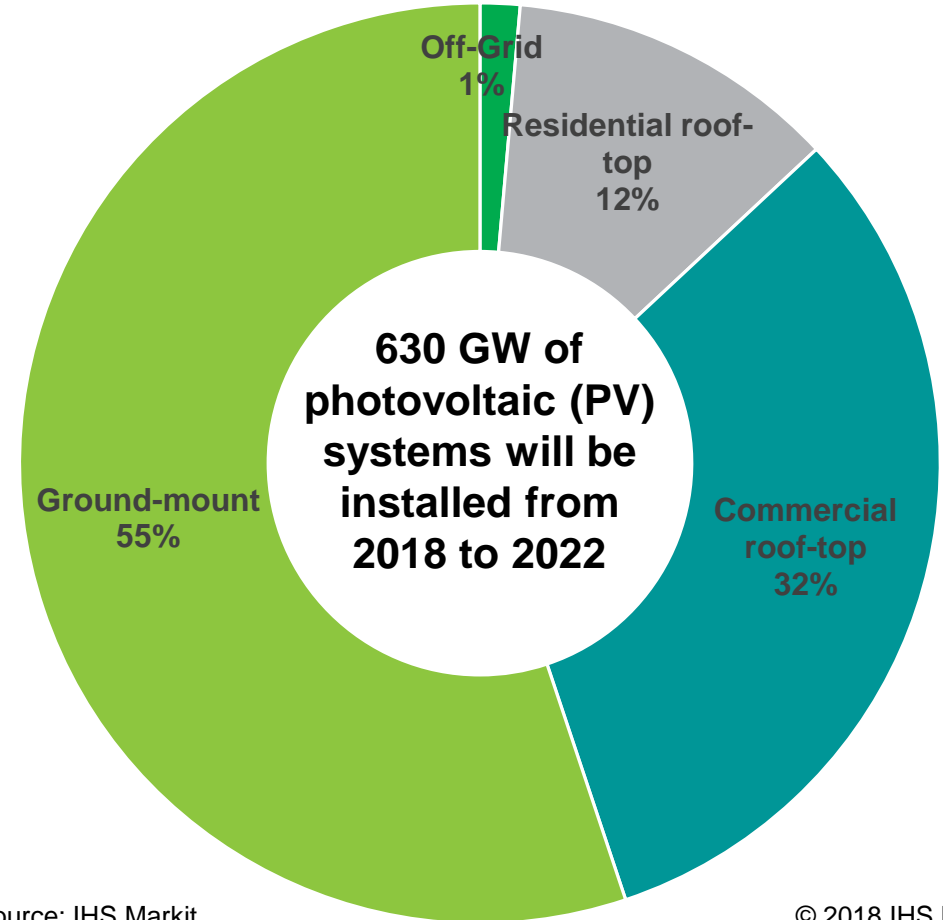
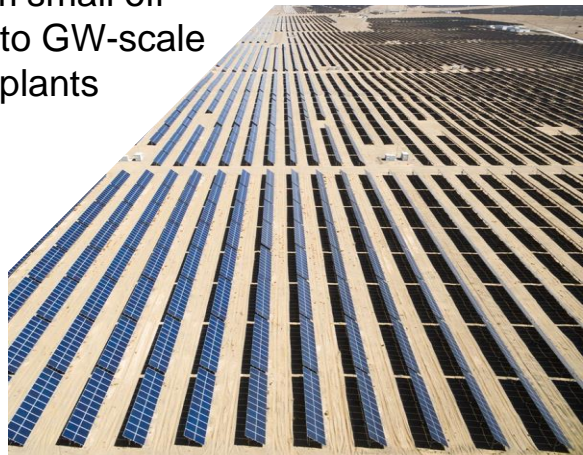
Source: IHS Markit

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As cost continue to fall, the scale of solar deployment will accelerate with installations occurring at all points of the grid



Solar panels can be installed in applications ranging from small off-grid systems to GW-scale power plants



Source: IHS Markit

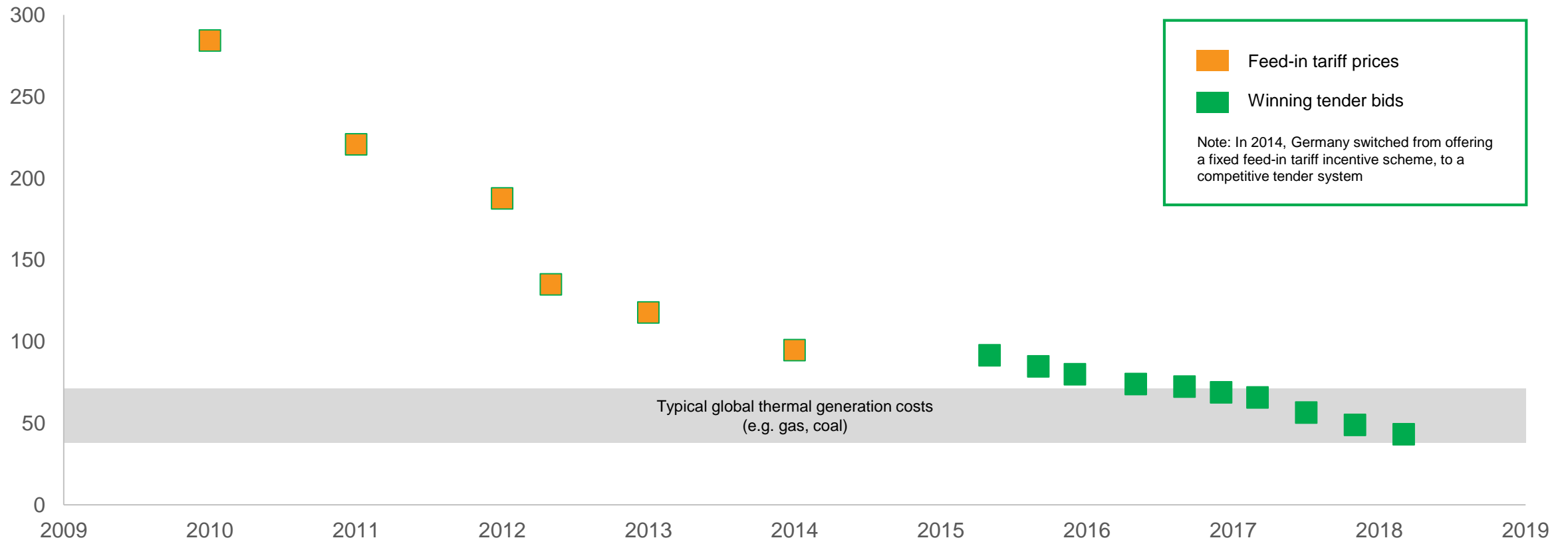
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#2. Solar is increasingly competitive with conventional sources of power generation

In 2016 and 2017, more solar was installed globally than any other type of power generation.

Even in Germany (where weather conditions aren't perfect), solar competes with thermal power generators

Price paid for electricity generated by large-scale solar in Germany (€/MWh)



#3. Solar will play a key part in the decentralization and digitalization of the power system

Distributed generation, such as solar, now plays a very significant part in the overall power mix. Recent years have given rise to electricity ‘prosumers’ – customers who now generate and consume their own electricity using solar panels.

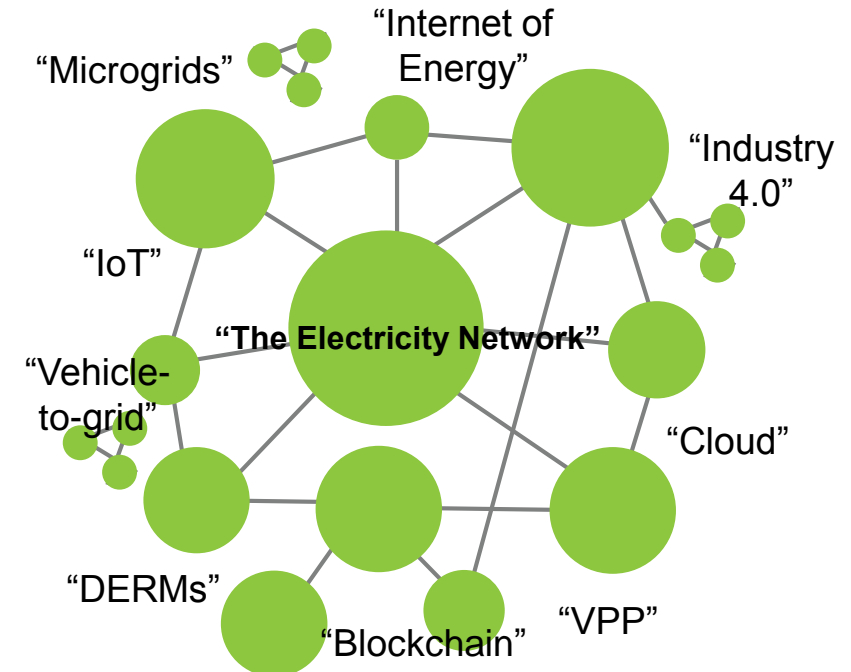
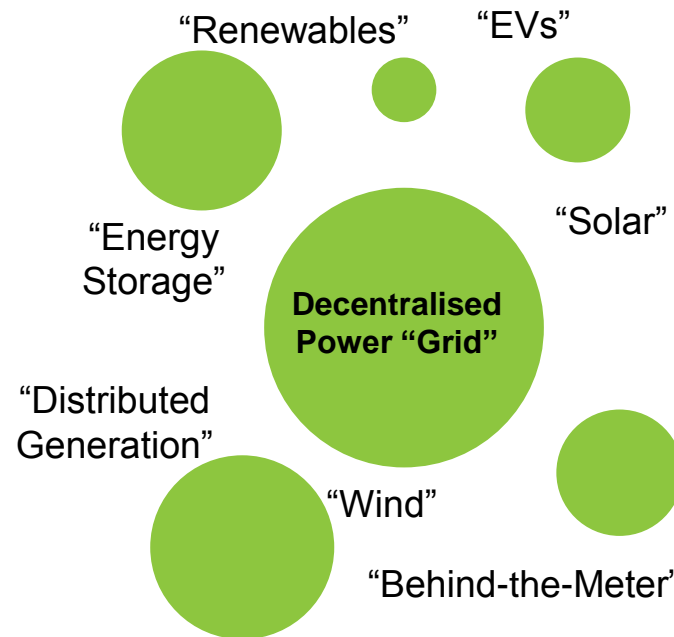
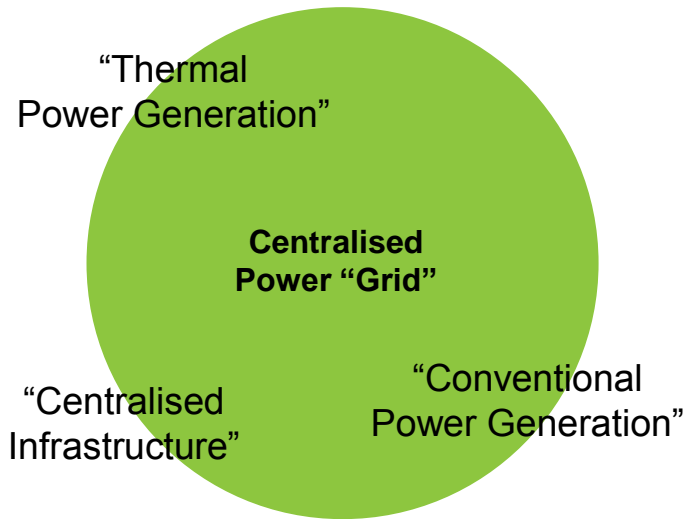
The “Energy Transition” – creating an intelligent, efficient, clean, customer-centric electricity network

Decentralisation

IHS Markit predicts that by 2020, over 5% of power in Germany, Italy and the United Kingdom will be generated by PV systems on the customer’s side of the meter

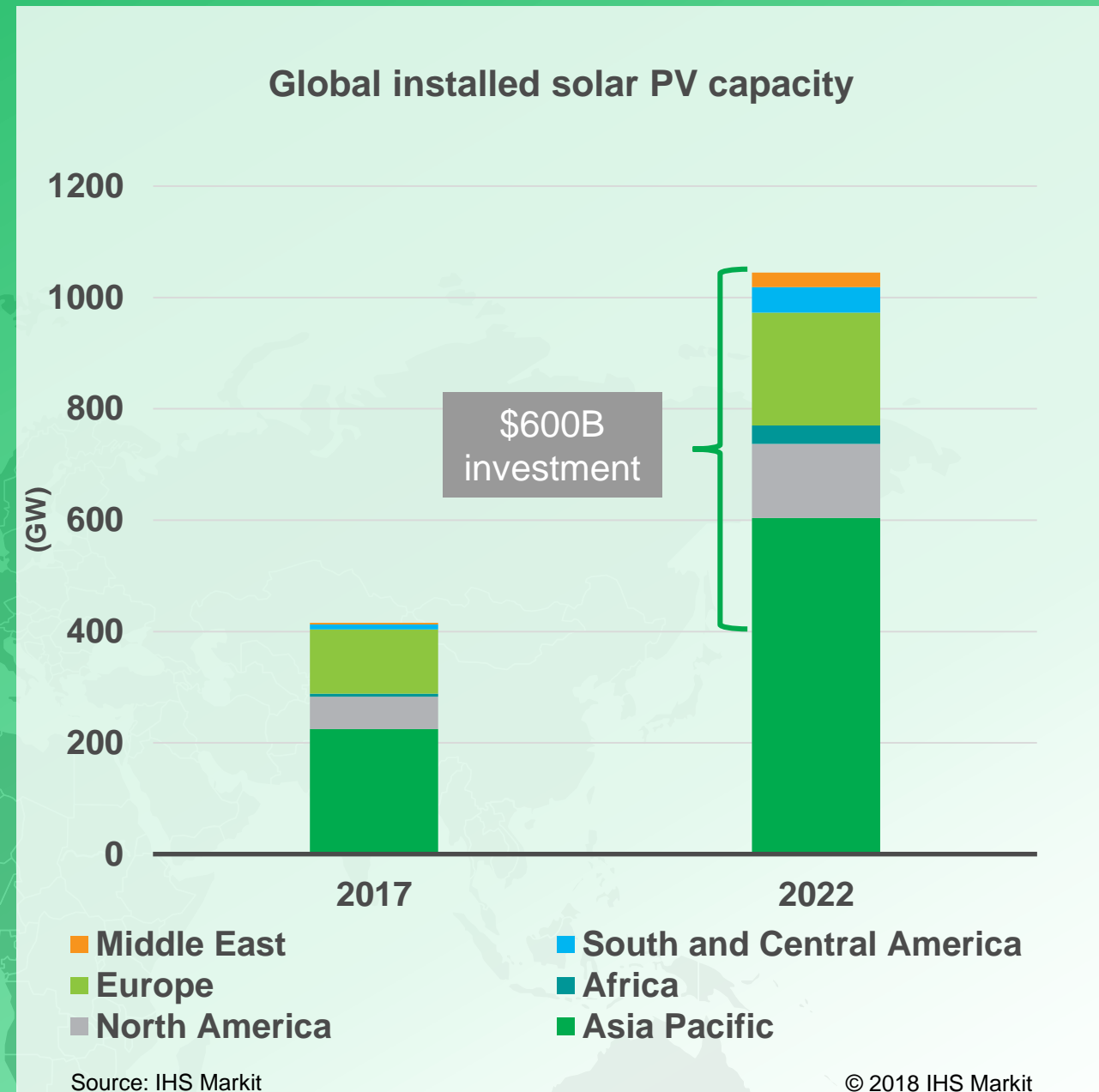
Digitalization

A range of innovative new digital technologies are being deployed in order to improve the efficiency, usability and reliability of a new distributed power system.

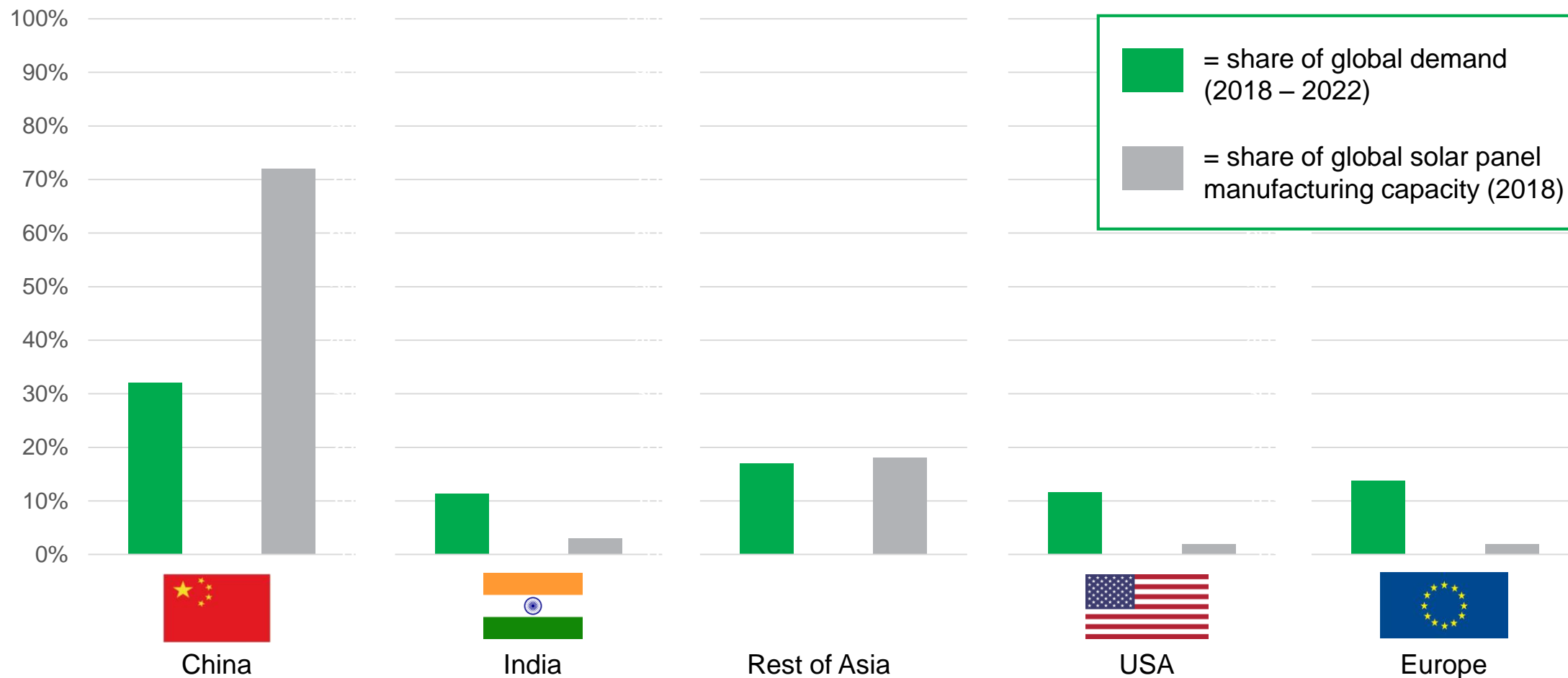


#4. Investments in solar will continue to increase, with growth driven by Asia

Total solar installations will increase by 154% from 2017 to 2022, spurring additional investment of \$600 billion.



China will continue to dominate global solar manufacturing, and will also remain a major end market - Asia accounts for 92% of supply and 60% of demand

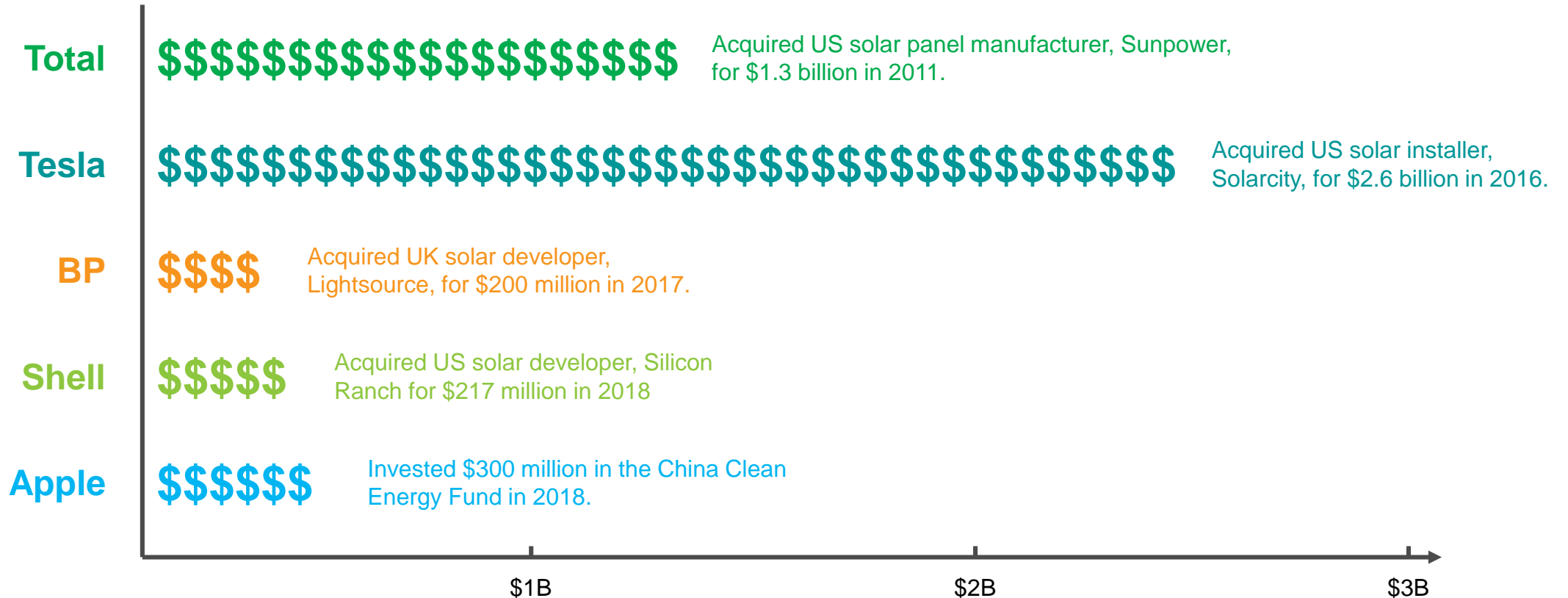


#5. Global corporations will play a growing role in the solar industry

Attracted by the growing opportunity of solar power and attractive returns, as well as pressure to increase the sustainability of their businesses, major global corporations are investing into the solar industry.

Global corporations continue to step in to claim their stake in the solar industry

Select investments in solar PV by major global corporations



About IHS Markit energy technology market intelligence services:

Intelligence services provide an ongoing flow of data, forecasts and insight throughout the year, including:

- Regularly updated forecast models (Excel with PDF summaries)
- Supplier and project databases
- One-off or annual deep-dive reports, focused on hot topics and key market segments
- Analyst insights, discussions, Q&A

Premium Solar Intelligence Service

Comprehensive coverage of the entire PV industry, including demand and the supply of all major components (access to all solar deliverables).

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Country-level demand forecasts, policy analysis, developer and EPC rankings, project databases.

PV Inverter Intelligence Service

Granular installation, price and shipments forecasts for largest PV markets, supplier market shares, technology trends.

PV Module Intelligence Service

Production capacity, production, shipment, price and cost forecasts for polysilicon, wafers, cells and modules. Analysis of technology trends and manufacturer market shares.

North America Solar Intelligence Service

Complete coverage of the North America solar market (supply and demand).

Energy Storage Intelligence Service

Comprehensive coverage of the global energy storage industry, supply chain, pricing and technology trends

Smart Meters Intelligence Service

Forecasts for smart utility meter shipments, supplier market shares, policy analysis.

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