

**Localisation Opportunities in South Africa**

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# THE VOICE OF **SOLAR PV** IN SOUTH AFRICA

The South African Photovoltaic Industry Association (SAPVIA) is a non-profit industry association established in 2010 and officially registered in 2013: To promote, develop and grow the Photovoltaic (“PV”) industry as part of the wider renewable energy sector in South Africa.

# OUR VISION



For solar PV to be a significant and reliable contributor to the South African electricity mix; by 2050, there is:

- **Energy Security**, solar PV is used as an infinite daily energy resource
- **Policy and Market Alignment**, where clear laws and policies complement one another, and public-private partnerships enable the growth of the solar market, and
- **Environmental & Market Sustainability** through decarbonised energy and creation of economic development opportunities

# OUR STRATEGIC FOCUS AREAS



## Business Overview

1

SHAPE AND  
INFLUENCE  
REGULATIONS  
AND POLICY  
DEVELOPMENT

2

INFORM AND  
EDUCATE MEMBERS  
AND OTHER  
STAKEHOLDERS

3

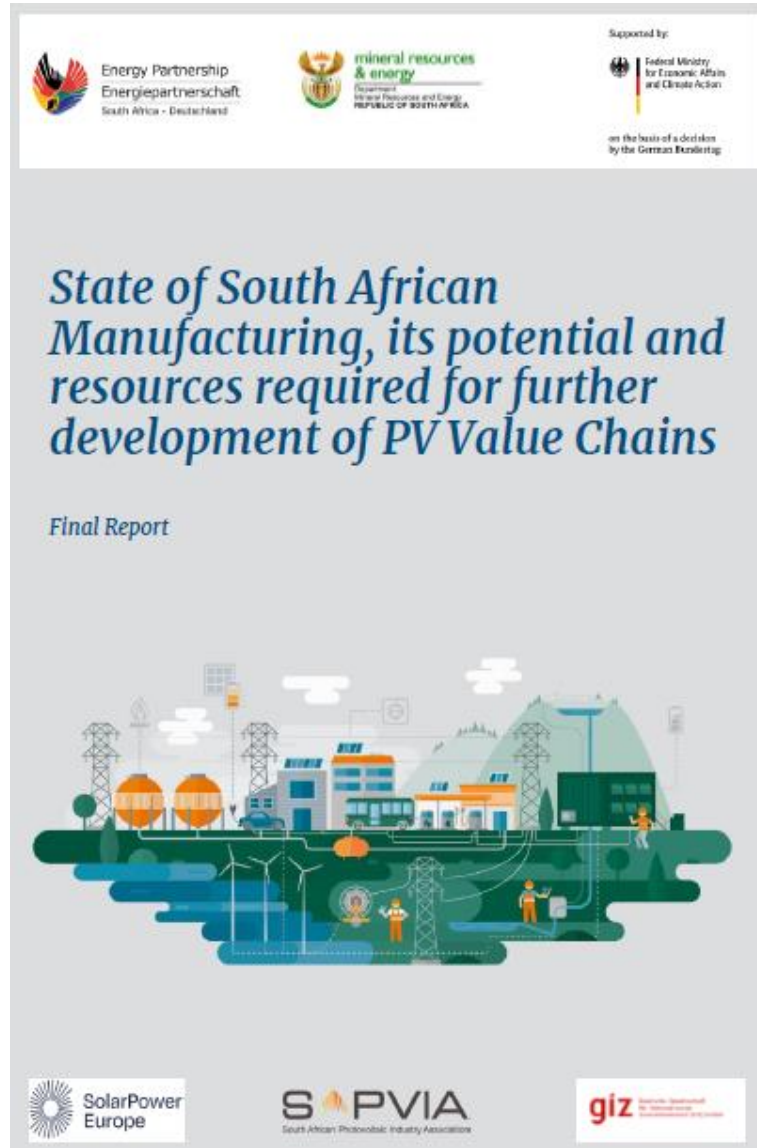
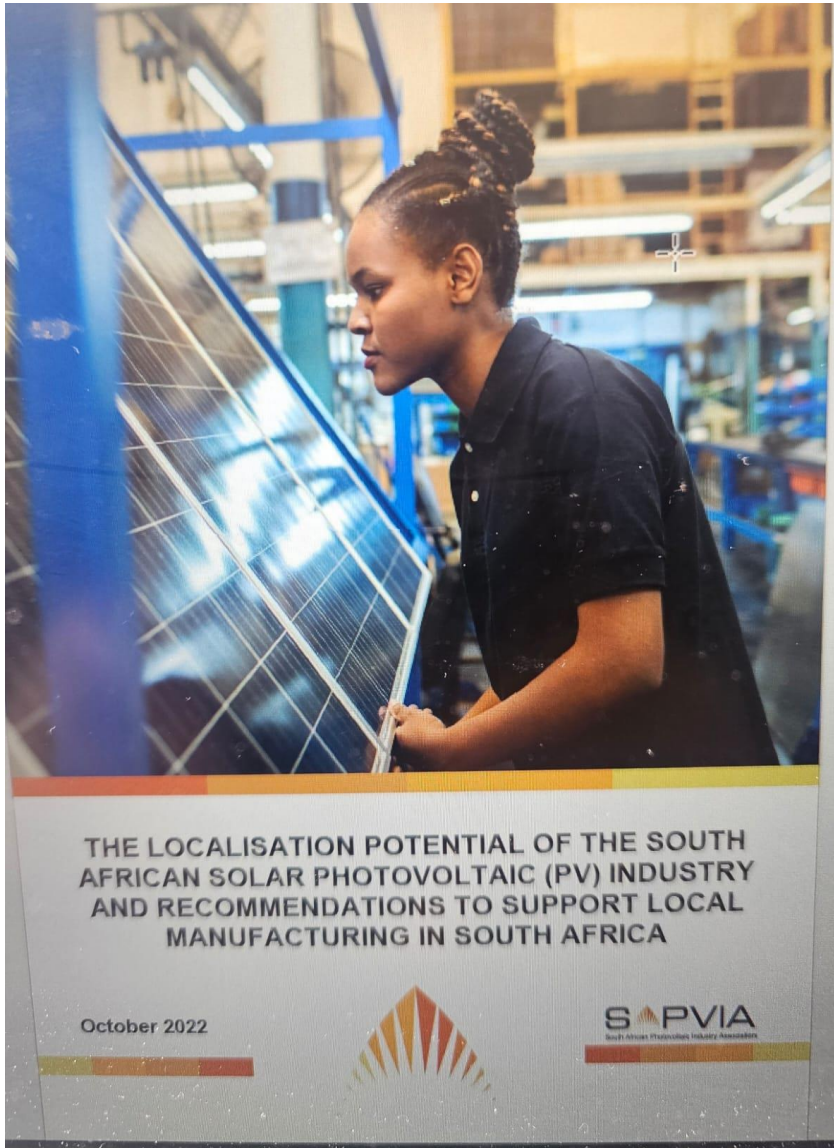
FACILITATE  
PARTNERSHIPS AND  
COLLABORATION

4

PROMOTE HIGHER  
USAGE OF SOLAR PV  
IN PUBLIC AND  
PRIVATE SECTOR



# LOCALISATION EXPLAINED



**Project Partners**



Energy Partnership  
Energiepartnerschaft  
South Africa - Deutschland



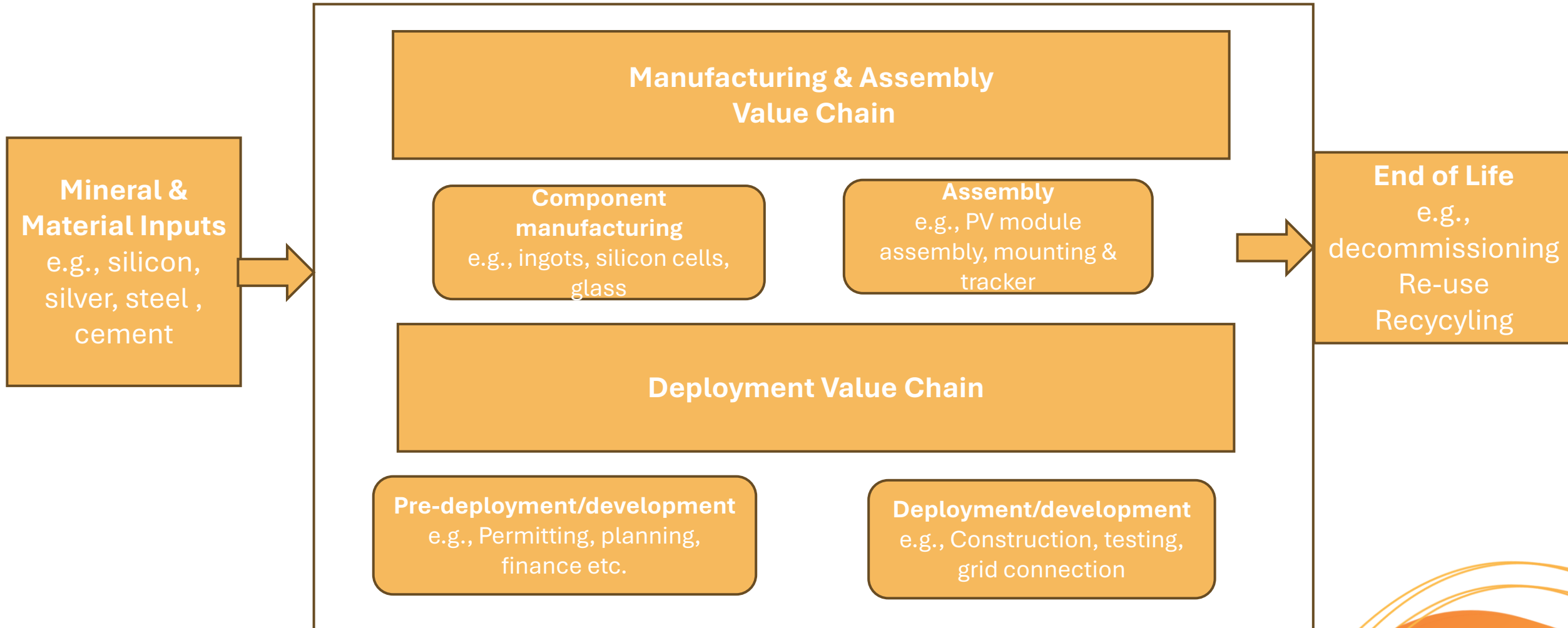
SolarPower  
Europe

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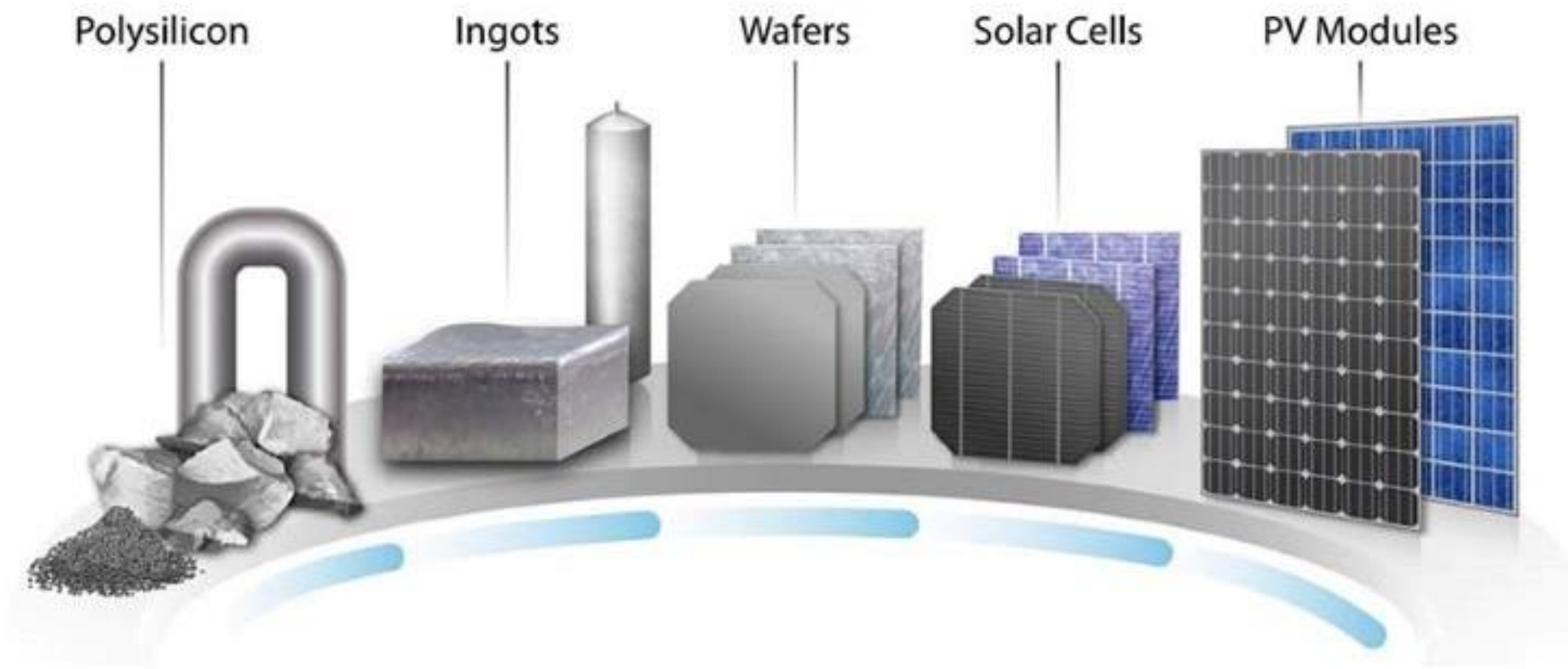



South African Photovoltaic Industry Association

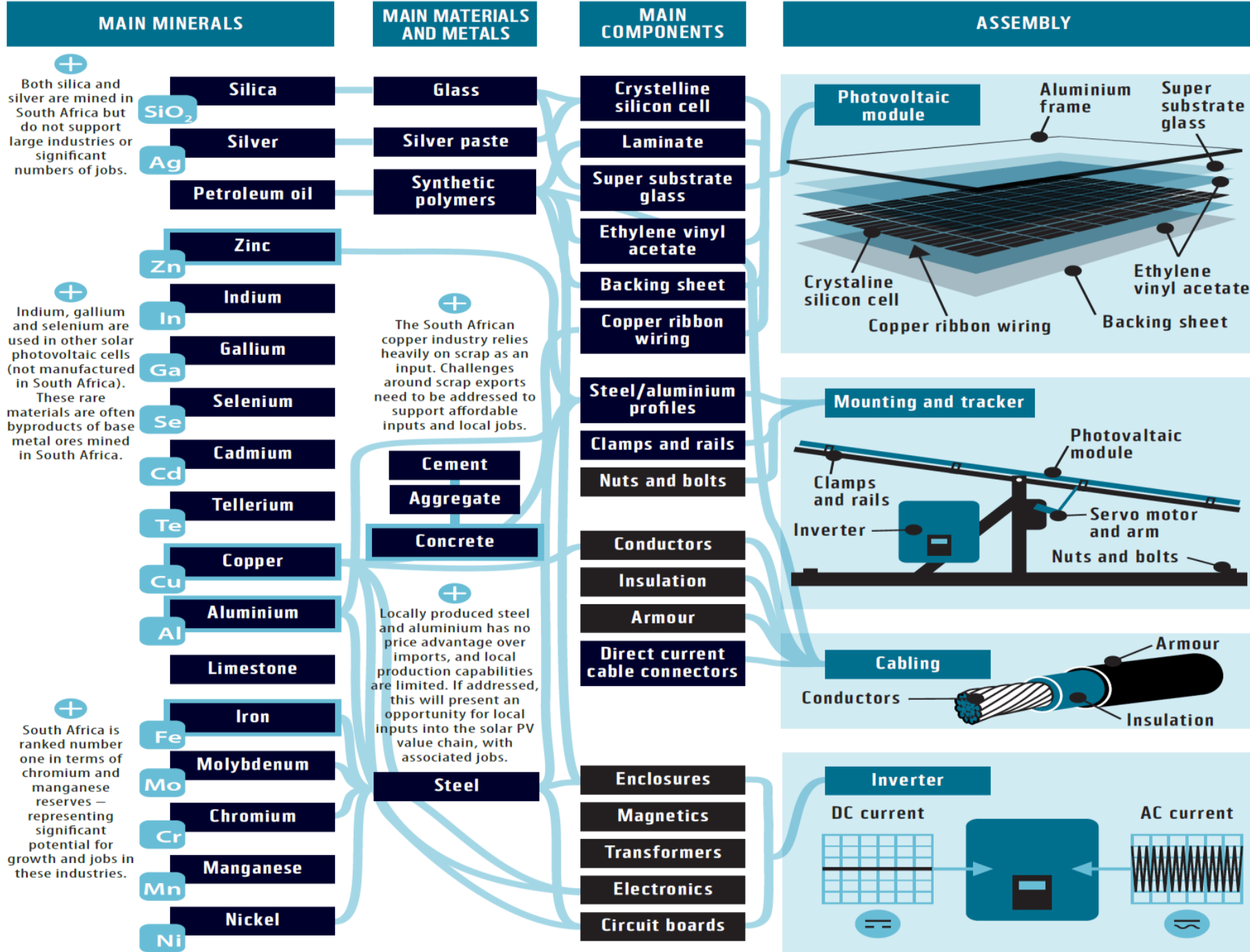
# Solar PV Plant (System) Value Chain

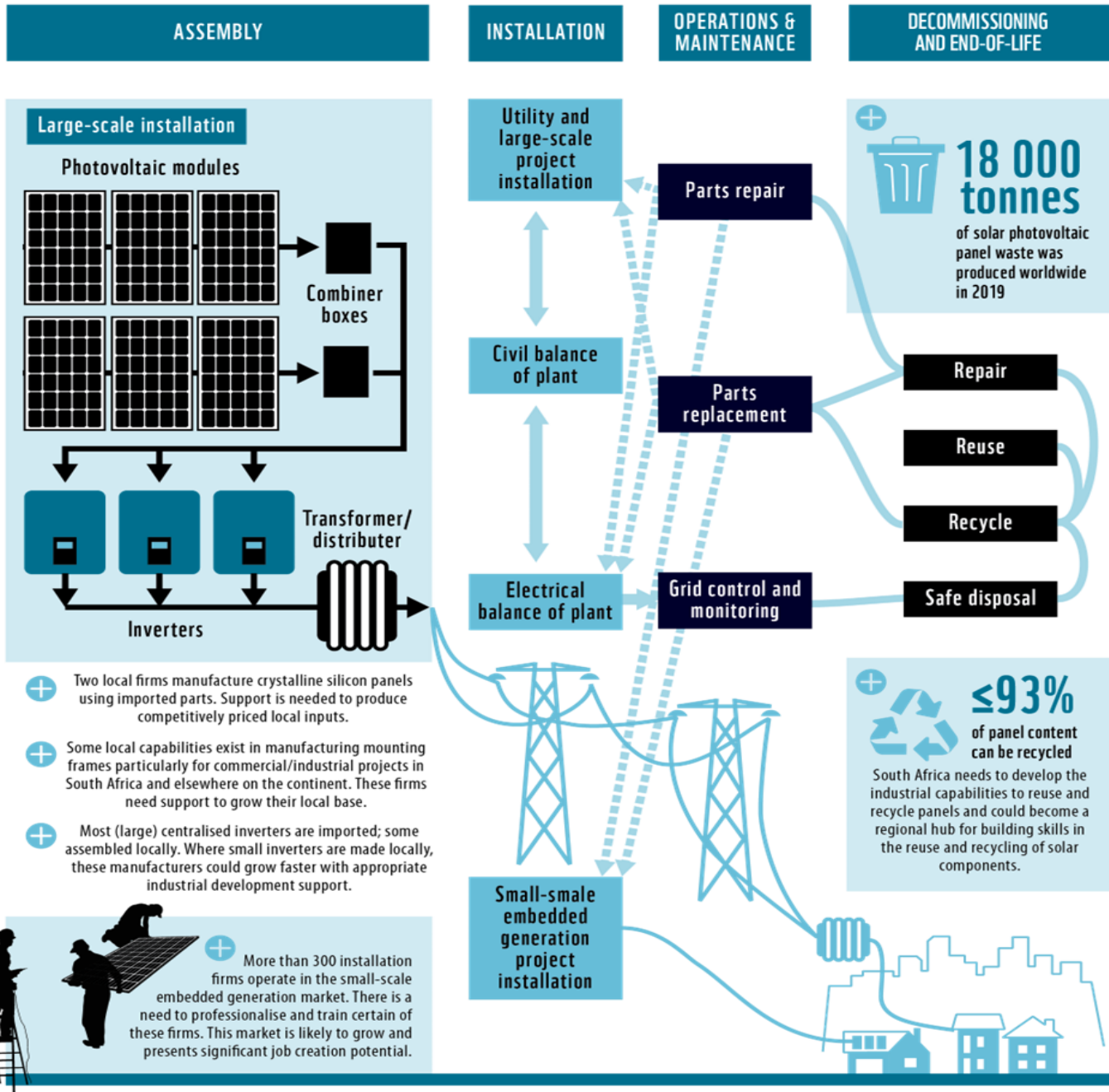


# PV Module Manufacturing Value Chain

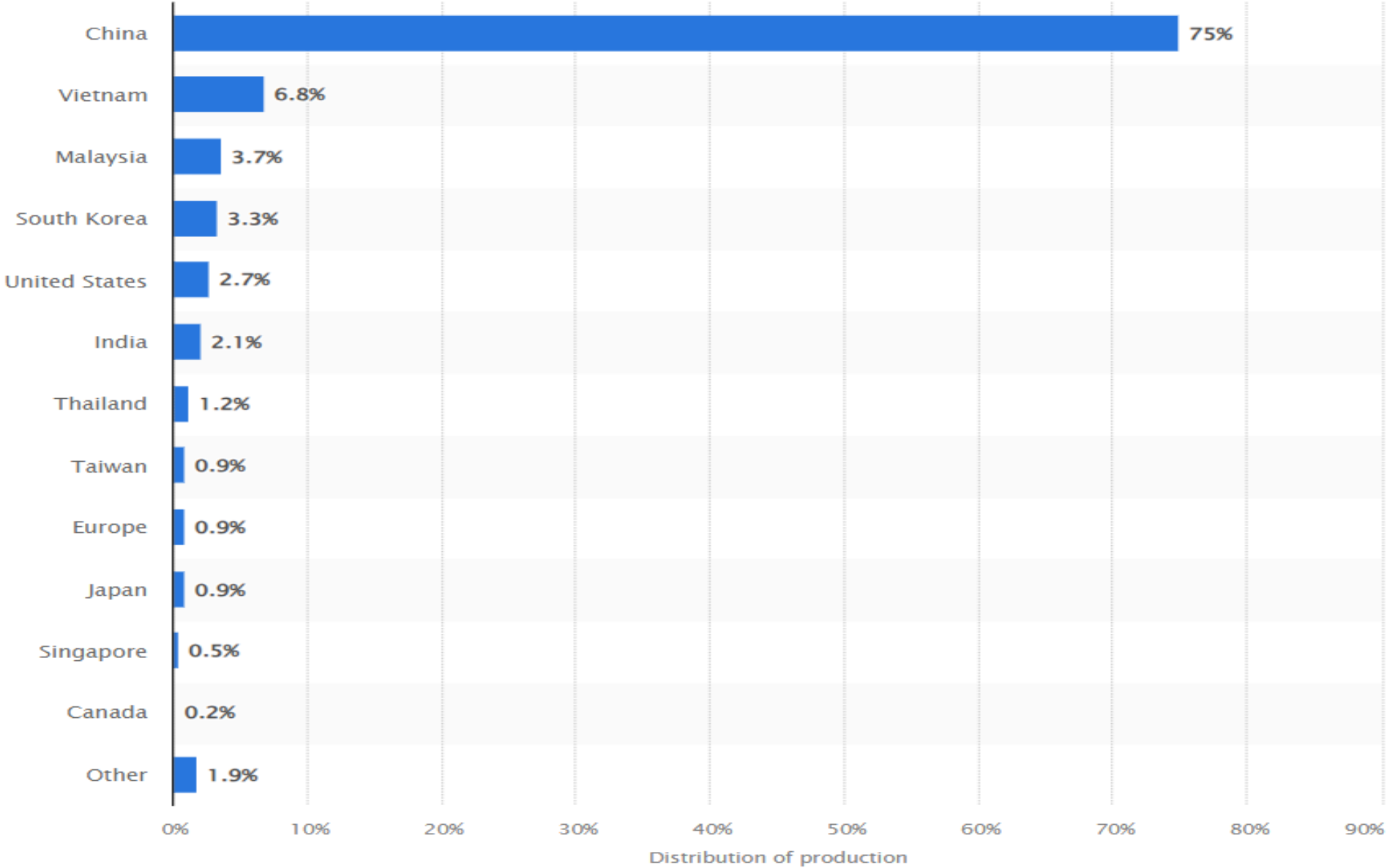




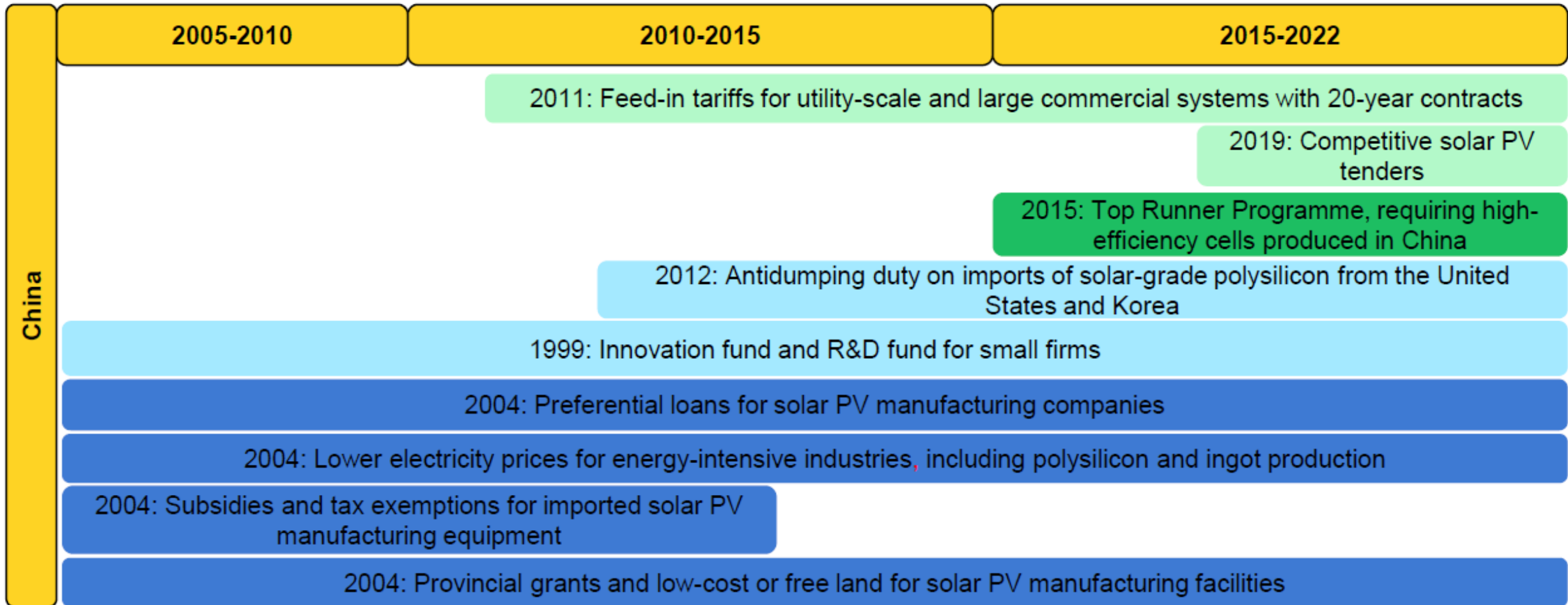




# PV Module Manufacturing across the world



# Examples of incentives for the Solar PV manufacturing industry: Chinese Case Study



- Indirect demand
- Direct demand
- Indirect supply
- Direct supply

# Localisation Opportunities (Based on SAREM and SAPVIA Scenarios)

Modules	Mounting Structures and Trackers	Cables and Combiner Boxes	Inverters	Balance of Plant: Electrical	Balance of Plant: Civil	End of Life Management
Lamination	Steel profiles	AD/DC cables	Centralised inverters	DC and AC network (cables)	Installation, logistics, construction	Recycling of panels
Junction Box	Aluminium profiles	Conductors (copper, aluminium rods)	Magnetics	Surge protection devices	Access roads and gates	Reuse (panels, structures, inverters)
Aluminium Frames	Tracker communication boxes	Insulation (polymers)	Enclosures	Switchgear	Miscellaneous site civils (drainage, field prep)	Recycling of steel structures and electrical components
Super-Substrate (glass)	Brackets and clamps	Armour (steel)	Transformers	Charge controllers and monitoring systems (excl. semi-conductors)	O&M buildings	
Copper wiring		Combiner boxes	Circuit boards	Conduits and fittings		
Backing Sheet		DC cables connectors	Power stage and electronics	MV/HV transformer		
Ethylene Vinyl Acetate		Normal cables	String Inverters	Earthing grid		
Silicon				Control room		
Poly/monosilicon						
Ingots and Wafers						
Cells						

**Moderate support measures and capabilities development required**

**Intermediate support measures and capability development required**

**Intensive support measures and capability development required.**



# Missed investment opportunities for local manufacturing



*Investment in factories*



*Factories operational*



*Directly employed in manufacturing*



Stall of REIPPPP at BW4



# Insights from second localisation study: summary

The study, building on a report released by SAPVIA in 2022 focuses on an updated analysis of South Africa's solar PV manufacturing value chain, aiming to inform public policies and private investments for strengthening local manufacturing and assembly.

This research further aligns with the European Union's renewable energy goals, to diversify and integrate the global solar supply chain while strengthening private sector collaboration between the EU and South Africa to bolster solar PV industrial development.

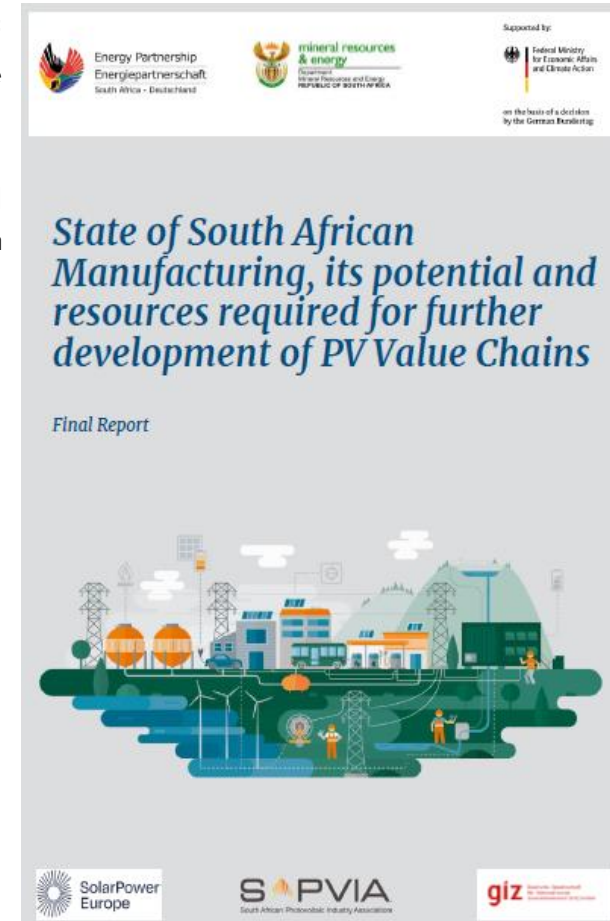
## Key Takeaways and recommendations for South Africa: Policy coherence and certainty

- **Energy policy:** IRP regular and predictable updates
- **Trade policy:** Reconfigure policy instruments to support localisation
- **Fiscal policy:** Tax incentive, catalytic projects green projects, including SPV, Green SEZs
- Local content premium: tax incentive for rooftop solar
- Standards and testing capabilities

## Key Takeaways and recommendations for the European Union

- Joint investment recruitment and mobilisation of concessional financing
- Ethical supply chains
- Technical assistance: skills and standards

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Energy Partnership  
Energiepartnerschaft  
South Africa - Deutschland

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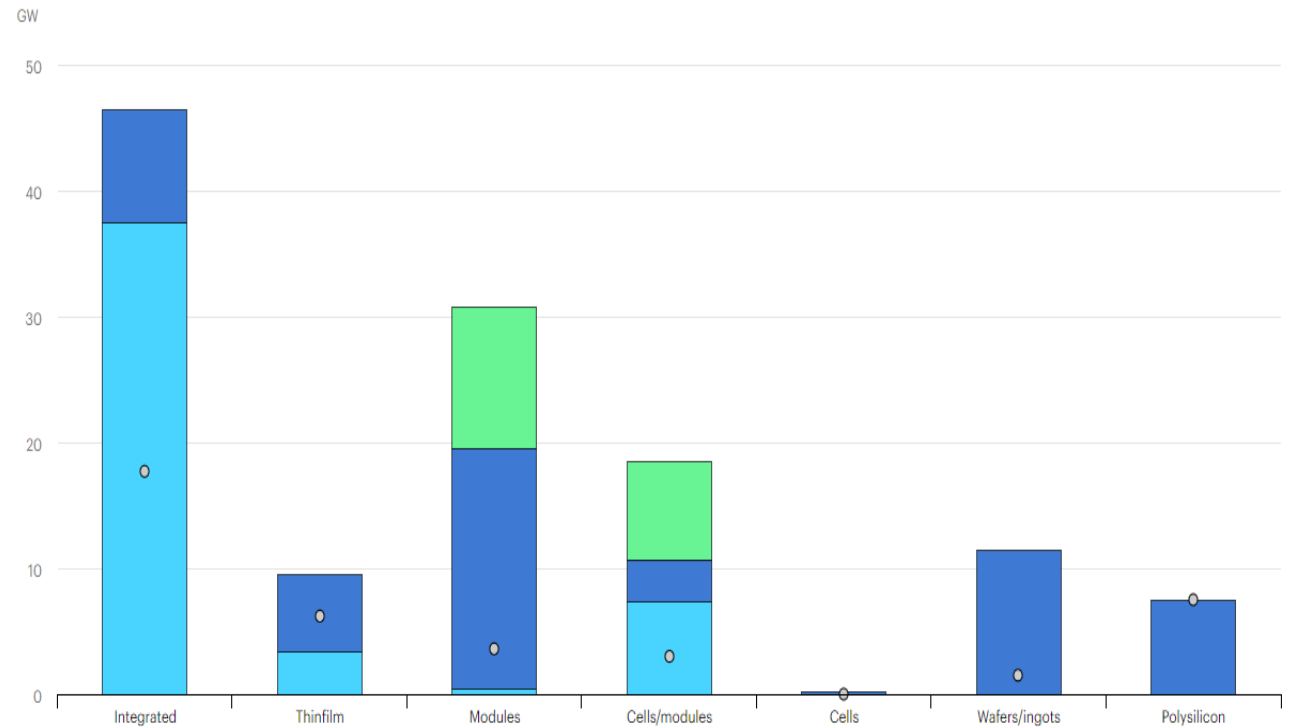
SolarPower  
Europe

**SAPVIA**  
South African Photovoltaic Industry Association

# Insights from second localisation study: summary...continued

- China has built up overwhelming dominance in solar photovoltaic (SPV) value chains through demand and supply side policies: > 80% share in panel value chain
- Exponential reduction in SPV prices: from US\$5.00 per watt in 2005 to US\$0.38 in 2019
- US and EU seeks diversification from China through re-shoring and 'friend-shoring' energy (and digital) technologies
- Various industrial, trade and regulatory policies, e.g.
- Inflation Reduction Act
- Green Deal Industrial Plan
- Various developing countries seeking to establish capabilities in solar PV
- India and Türkiye: targeting integrated panel and module production
- Many countries assemble modules: Vietnam, Malaysia, Thailand ... South Africa
- Solar PV panel and module value chain have captured the primary attention of policy makers, including in South Africa.

## Announced solar PV manufacturing capacity by region and component, 2022-2023



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● India ● United States ● Europe ● December 2022