

Is there a market for clean technology SMEs?

The opportunity for SMEs in cleantech industries in developing countries

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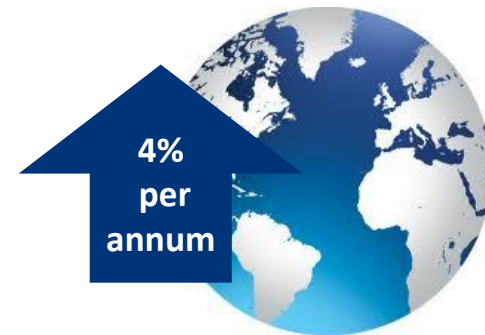
Carbon Trust

30 May 2013

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Cleantech offers exciting opportunities to create growth and jobs at both national and company level

- Global cleantech markets are very large: a recent report from the UK government estimated the value of the global low carbon and environmental goods and services sector at \$5 trillion in 2010/11
- It is also growing faster than the global economy as a whole



- Africa showed the strongest growth in 2010/11, with 6.5% growth compared to c. 4% in Europe, Asia and the Americas
- As a result, governments around the world are increasingly focused on green growth and green jobs – not least here in South Africa

infoDev's Climate Technology Program is helping developing countries seize this opportunity



- infoDev's Climate Technology Program (CTP) seeks to support countries in moving towards a green economy
- SMEs are key engines of growth in the cleantech sector in the developed world but the size of the opportunity for SMEs is not well understood in developing countries
- The CTP has commissioned the Carbon Trust to undertake a study to determine the opportunity for cleantech SMEs to achieve green growth objectives through the creation of new revenue streams, innovation and job creation



Renewables



Water



Waste



Climate smart agriculture



Energy efficiency



Improved building design



Transport

- This presentation shares some of the early findings of our study focusing on the size of the market opportunity in renewable energy

The Carbon Trust has direct experience of the importance of SMEs in the UK's cleantech sector



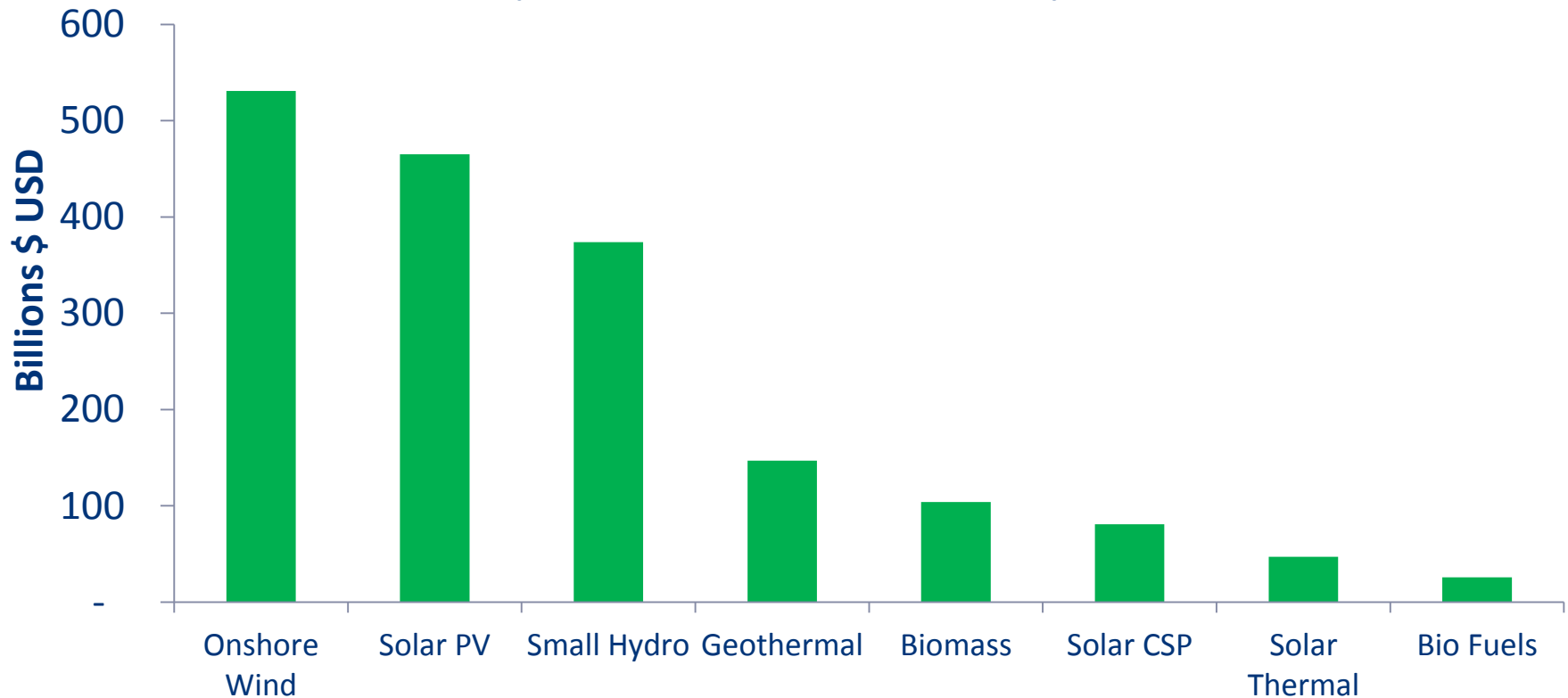
- The UK government has put the low carbon sector at the heart of its growth plans, recognising that in 2011/12 over a third of the UK's economic growth is likely to have come from green business
- SMEs have been central to that growth: in the UK small businesses account for over 90% of the low carbon sector
- The Carbon Trust was set up by the UK Government in 2001 to help the UK business sector make the transition to a low carbon economy
- We have assessed 3,000 + low carbon companies and projects and supported more than 300 of them, catalysing more than £150 million of private sector investment



Developing countries will invest over \$1.7 trillion in renewable energy over the next 10 years



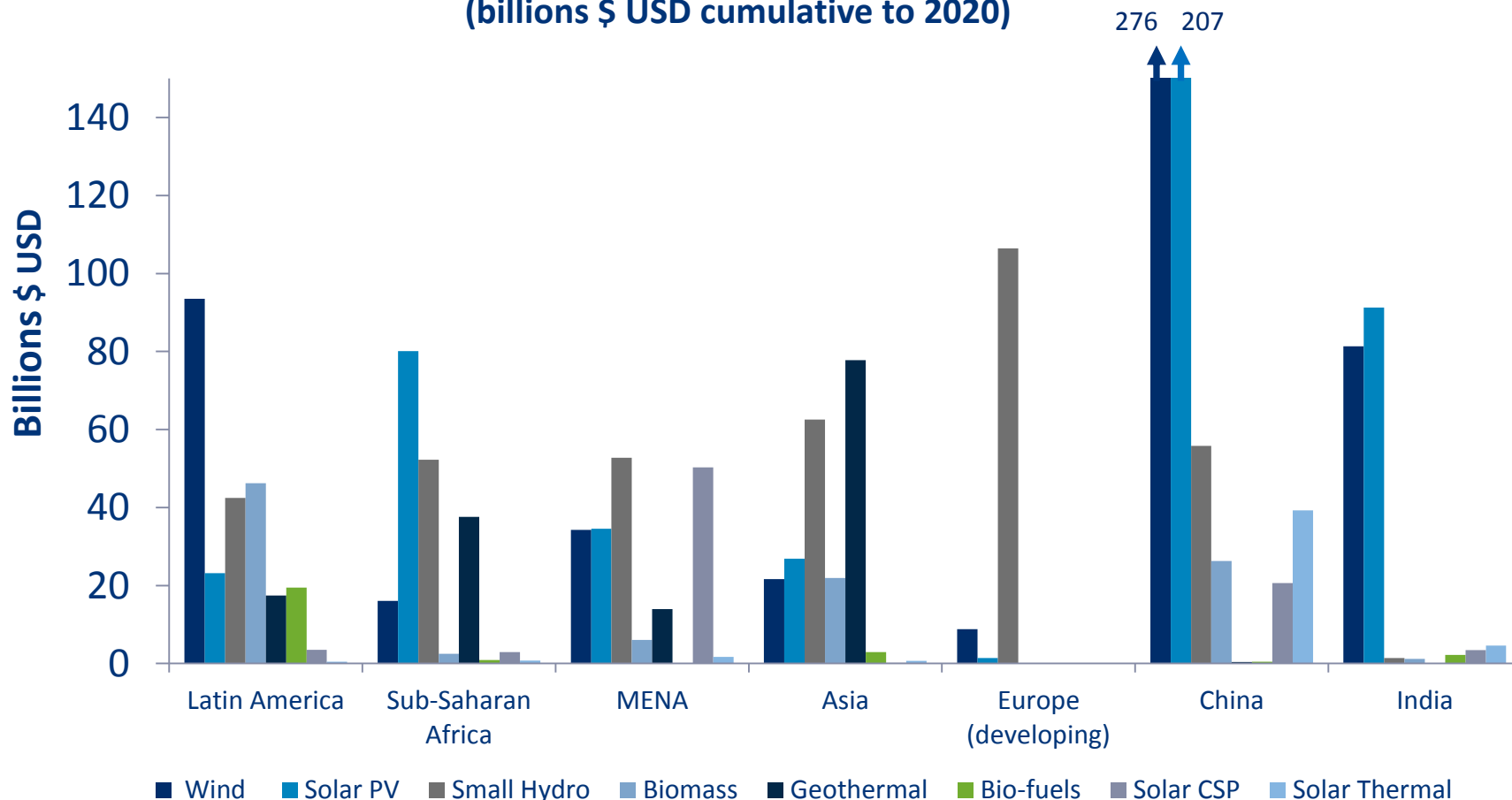
**Renewable Investment in Developing Countries
(billions \$ USD cumulative to 2020)**



Planned investment in renewables in Sub-Saharan Africa is on a par with many other regions of the developing world



**Renewable Investment in Developing Countries
(billions \$ USD cumulative to 2020)**

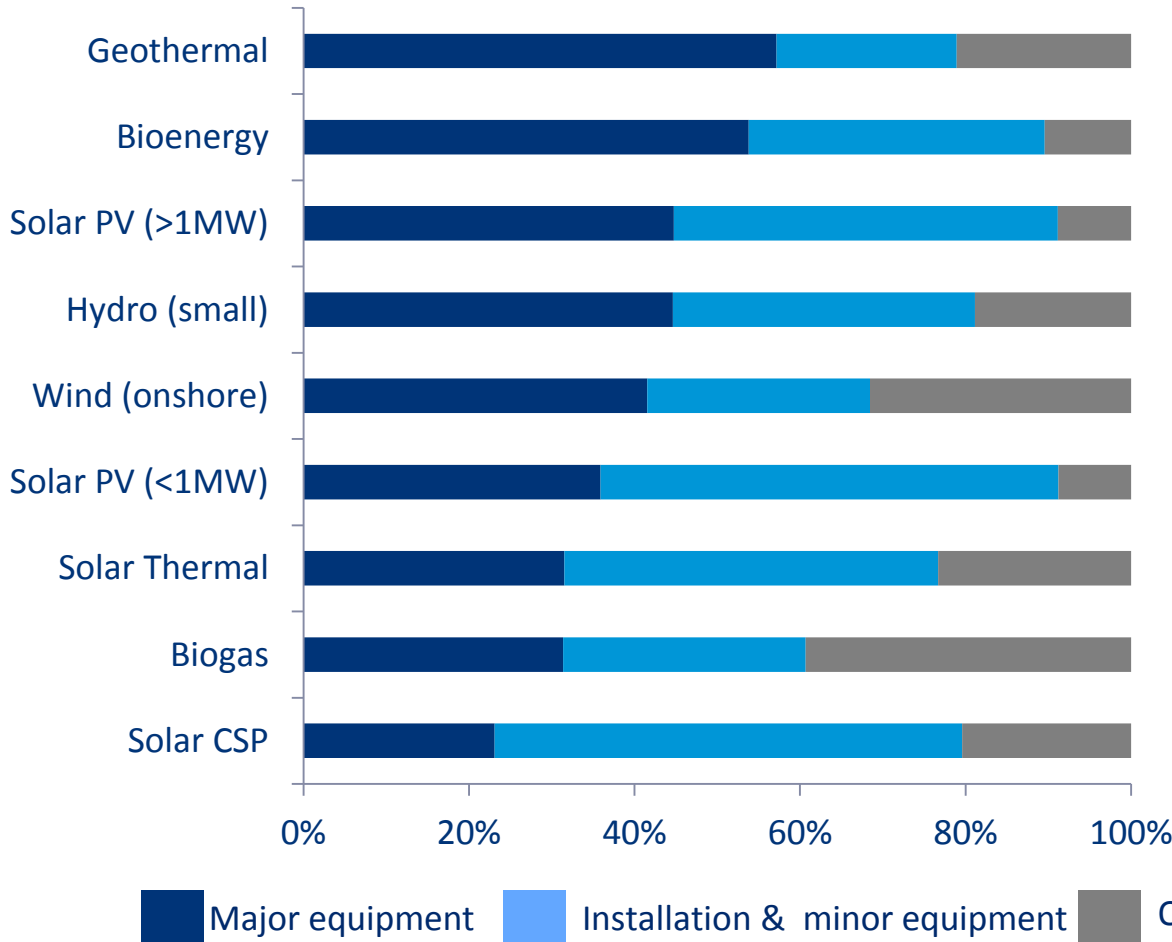


Source: Country plans, World Bank data, National Renewable Energy Laboratory (NREL), International Renewable Energy Agency (IRENA), International Energy Agency (IEA) and Carbon Trust analysis

We have broken down the value chain of these technologies to identify the most promising segments for SMEs to target



**Breakdown of Value across Value Chain
Global View**

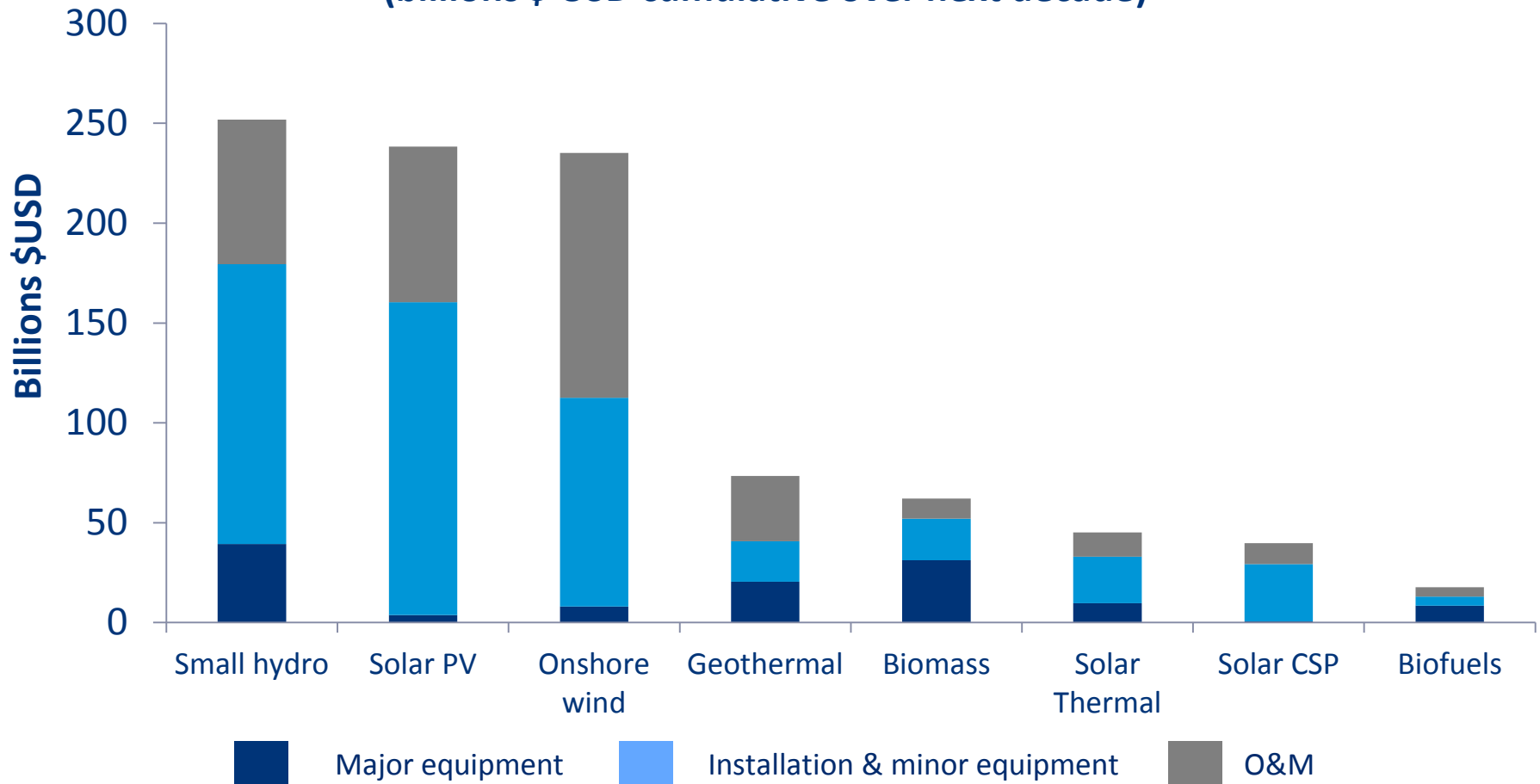


- > Sectors with a greater share of value in installation and O&M may be more attractive to SMEs
- > These segments are likely to have lower barriers to entry, and are also less likely to be dominated by large international firms
- > Overall sector value will also influence attractiveness

We estimate that by targeting the most promising segments, SMEs could access up to \$960 billion of the global renewables market over the next decade



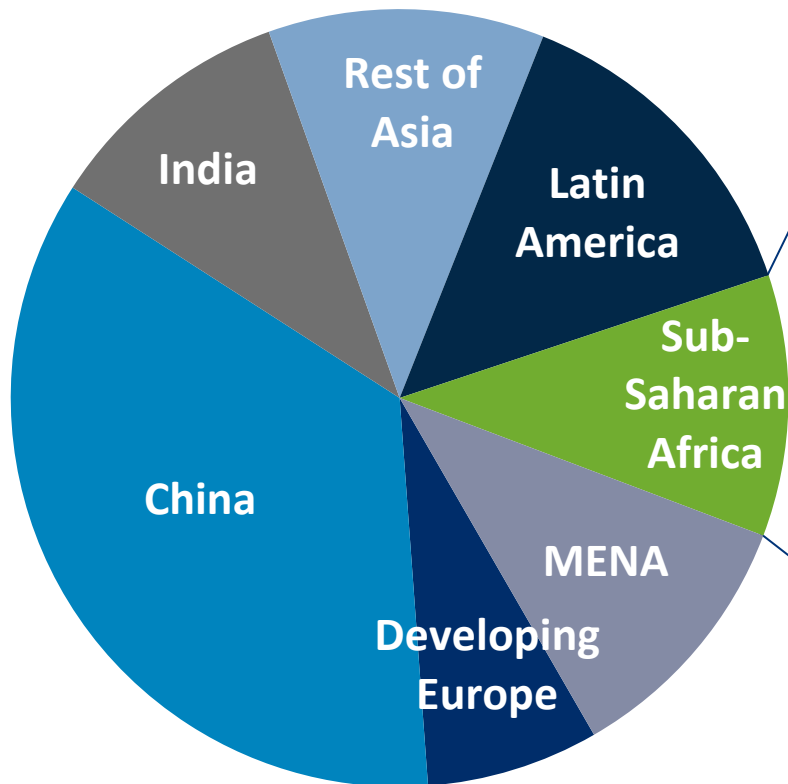
**Value Addressable by Developing Country SMEs by Technology
(billions \$ USD cumulative over next decade)**



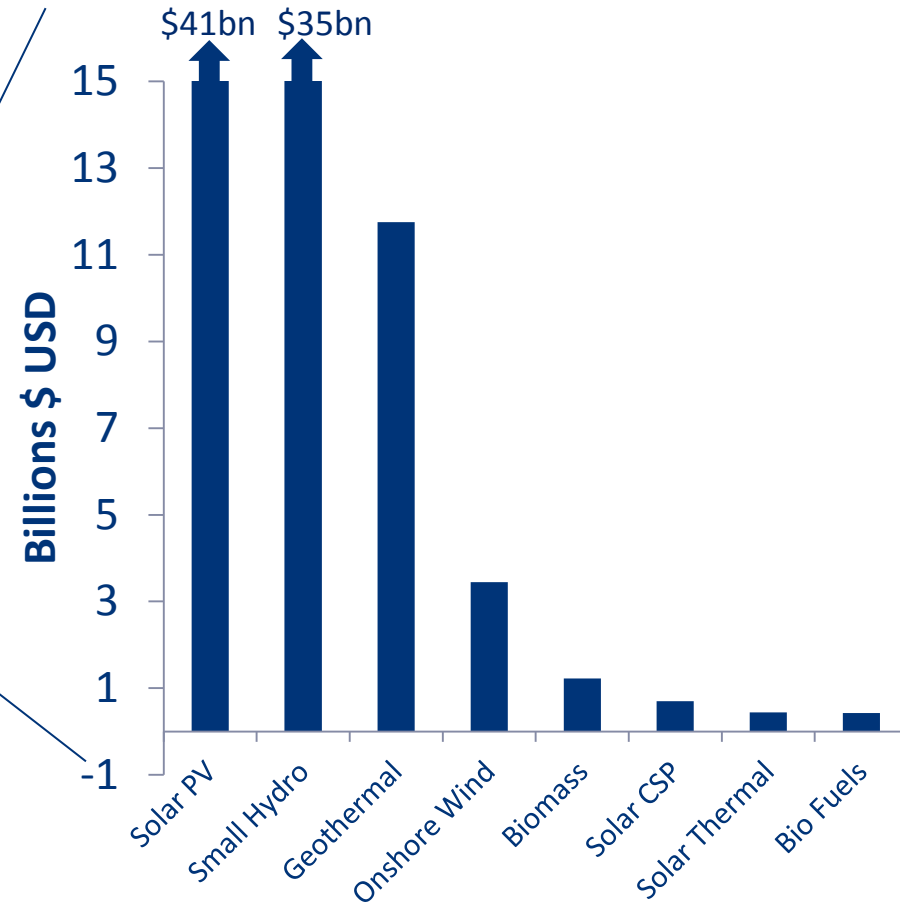
Source: Country plans, World Bank data, National Renewable Energy Laboratory (NREL), International Renewable Energy Agency (IRENA), International Energy Agency (IEA) and Carbon Trust analysis.

In Sub-Saharan Africa the largest opportunities for SMEs are likely to be in solar PV, small hydro, geothermal and onshore wind

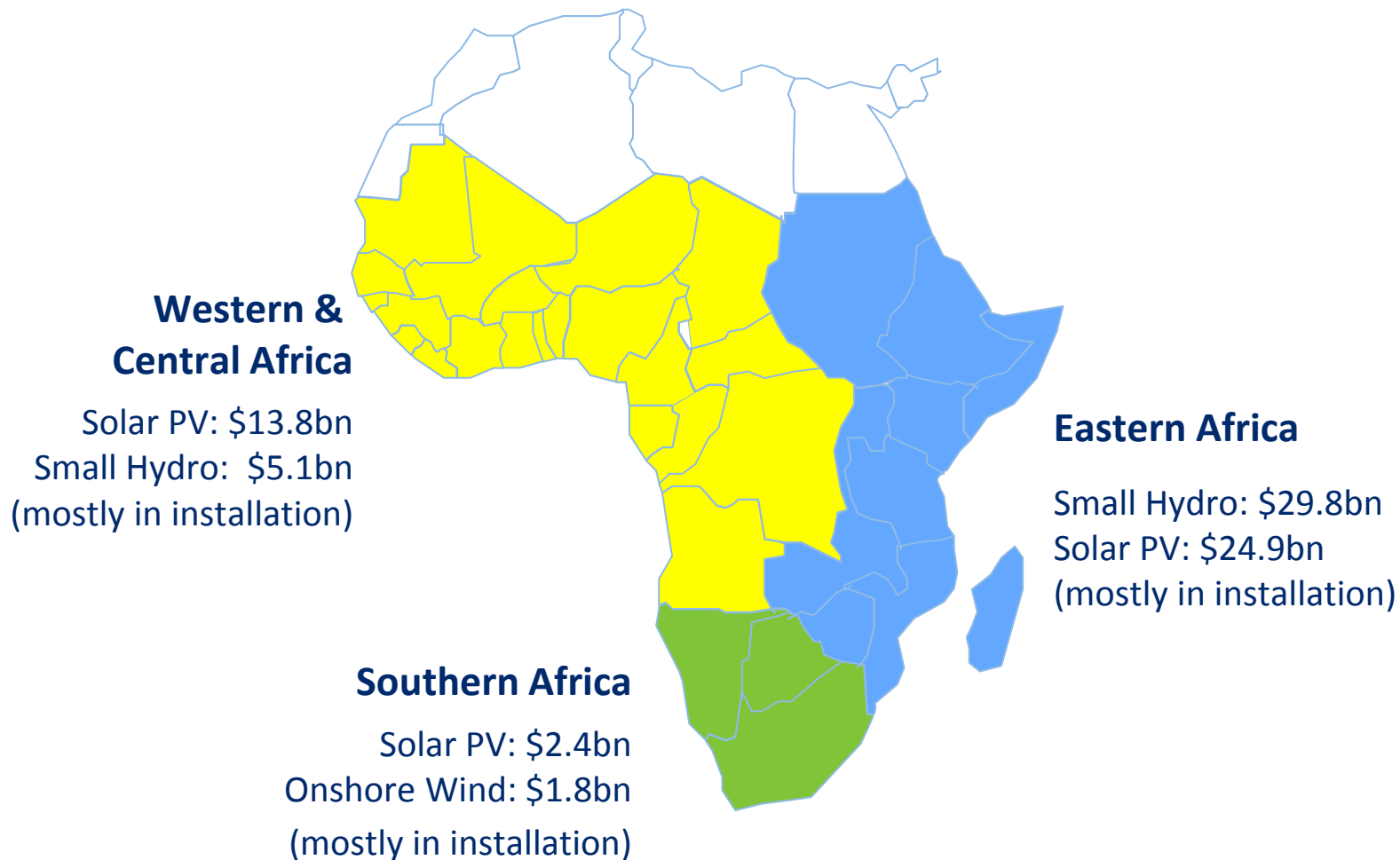
**Total Investment by Region
(billions \$ USD over next decade)**



**Value addressable by SMEs by Technology
in Sub-Saharan Africa**



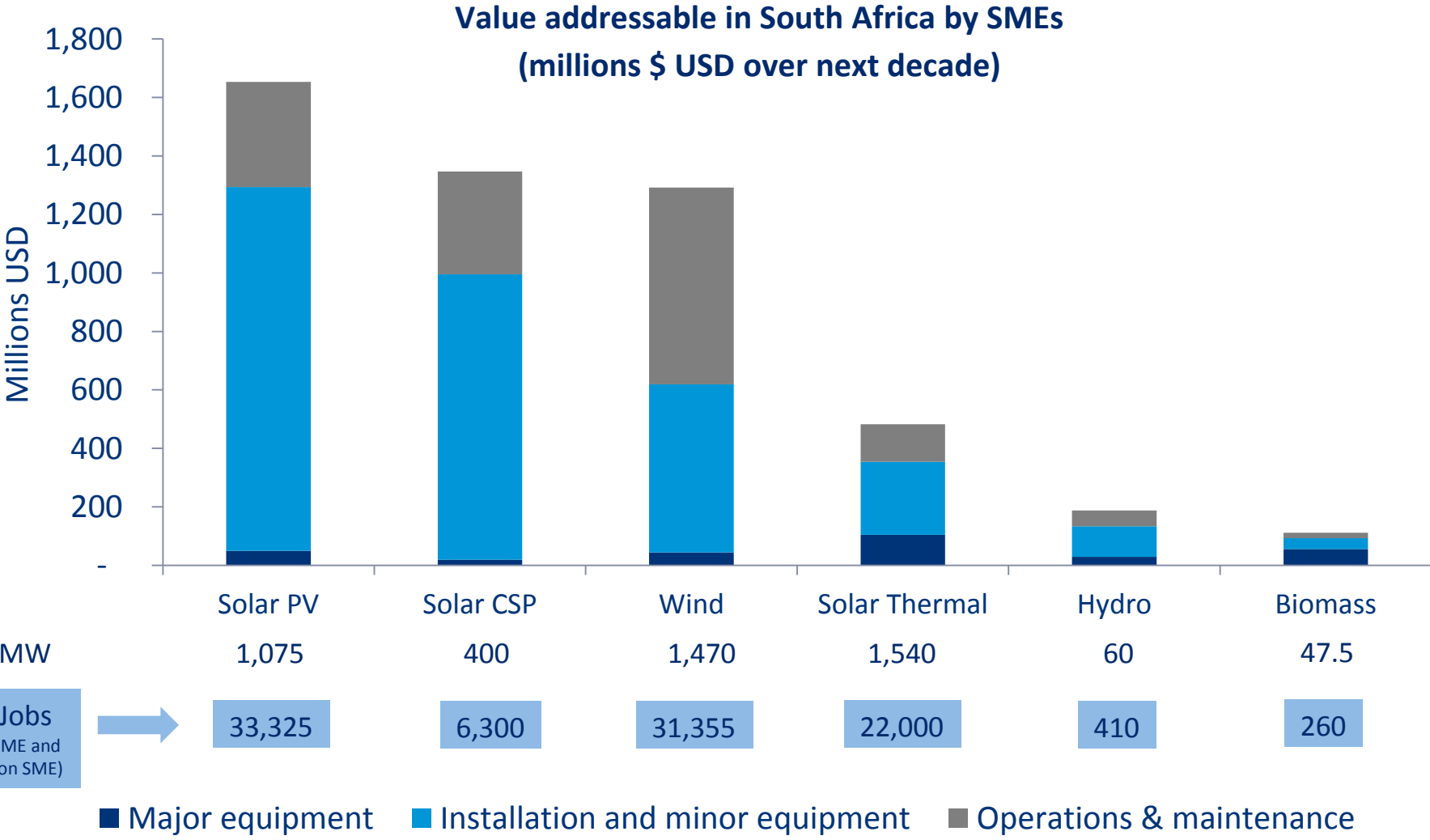
Within Sub-Saharan Africa the most attractive sectors and segments for SMEs vary by region depending on national resources and plans



Note: Estimates of addressable market values are for the next decade

Source: National Renewable Energy Laboratory (NREL), International Renewable Energy Agency (IRENA), International Energy Agency (IEA) and Carbon Trust analysis.

In South Africa, solar energy and wind could be real drivers of green growth and green jobs



Source: South African Department of Energy (2012), National Renewable Energy Laboratory (2012), International Energy Agency (2010), International Renewable Energy Agency (2012), Solar Plaza (2012), UNEP (2008), Carbon Trust Analysis.

SMEs could access up to 34% of the \$4.9 billion future South African solar PV market, especially in the installation phase



Market Size: 1,075MW
Investment: \$4.9 billion
Timeframe: cumulative to 2023

Segment:

Major equipment

- PV module

Planning, installation & balance of system

- Installation and site preparation
- Solar racks, inverters, transformers
- System design, project management

Operations & maintenance

- Routine inspection
- Critical repair
- Upkeep of power systems

Split of Investment:

40%
\$2 billion

50%
\$2.5 billion

10%
\$0.4 billion

Jobs:

10,750

21,500

1,075

SME share of market:

Small (< 5%)

Medium (33% - 66%)

High(66% of market)

Value:

\$49 million

\$1.2 billion

\$360 million

Closing Thoughts

- Cleantech is a key driver of economic growth and is well suited to SMEs
- Africa is planning to invest heavily in renewables
- Small hydro, geothermal, solar PV and wind are the largest markets in Sub-Saharan Africa
- Installation and O&M are likely to be better suited to SME strengths than major equipment manufacture
- Here in South Africa, investment in solar PV alone could create over 30,000 jobs and opportunities worth over \$1.5bn for SMEs over the next decade



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