



Large scale grid connected renewables - Implementation, finance and regulation

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Large scale grid connected renewables - Implementation, finance and regulation

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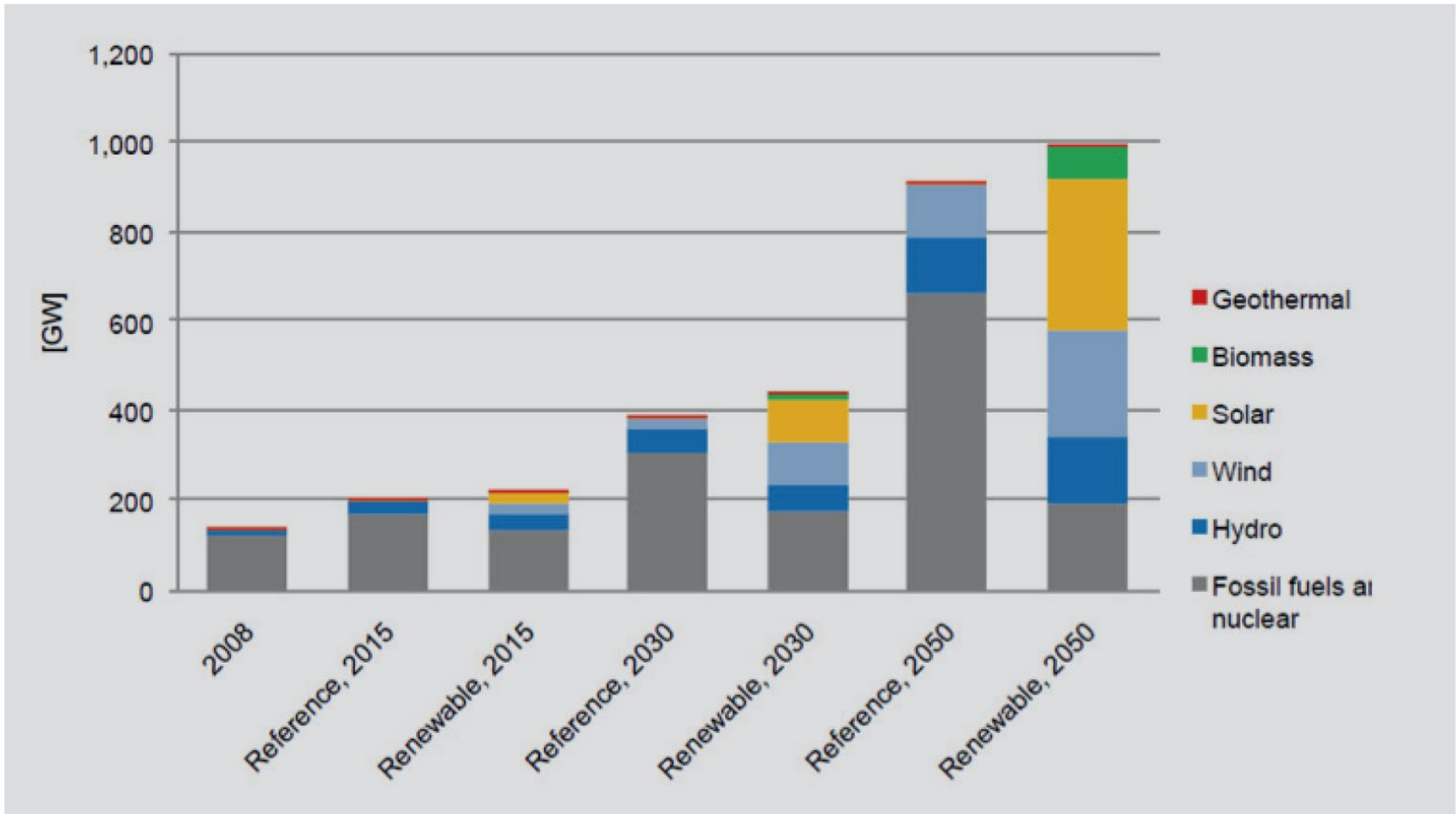
Energy Transition, session 1

Scaling up private sector investments for an ambitious energy transition in Africa

**Africa Climate Week,
Accra, 20-22 March, 2019**

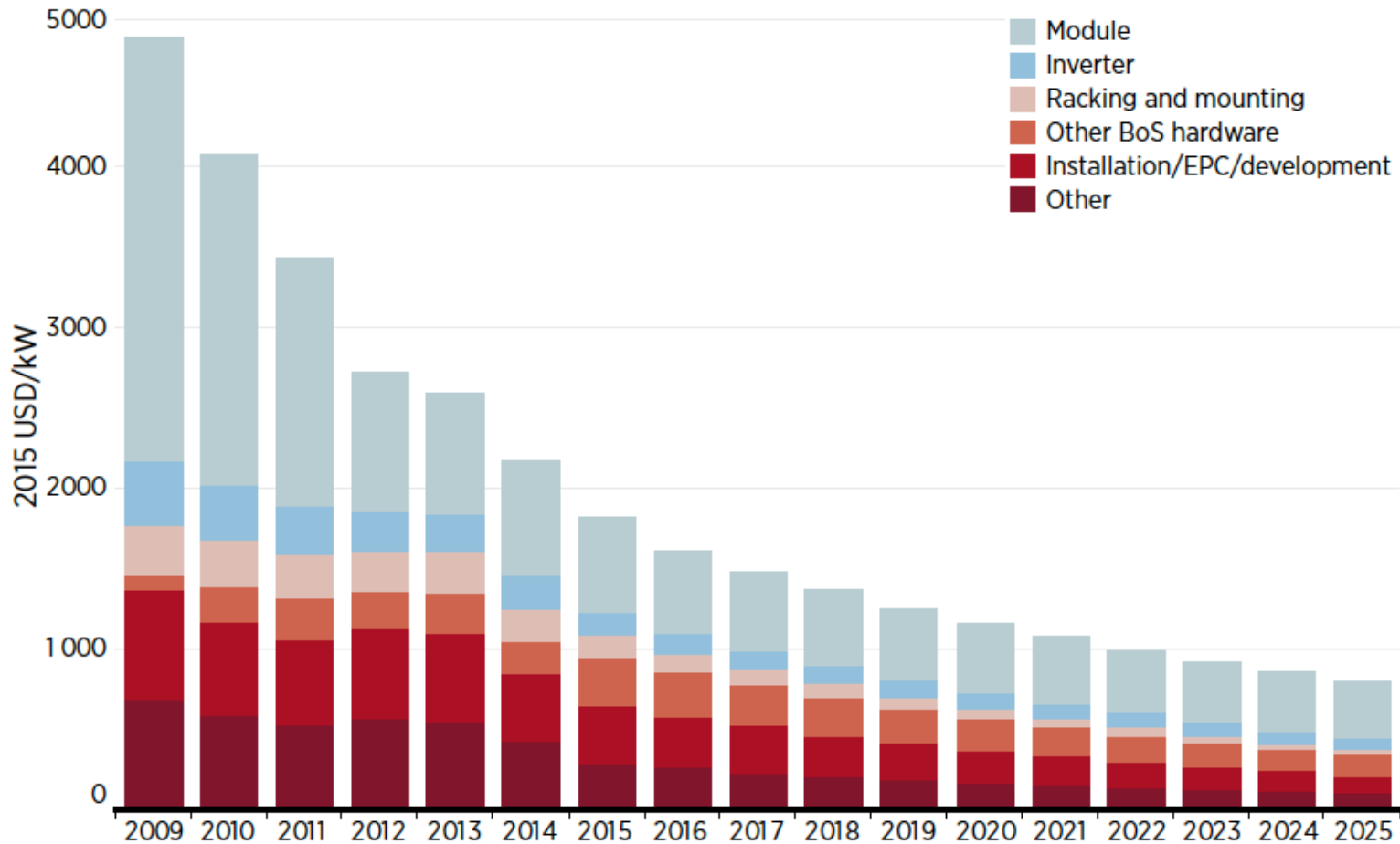
Huge demand for new capacity in SSA

\$490 billion will need to be invested in additional power generation capacity by 2040 to meet projected demand (Eberhard, 2018)



Source: IRENA (2012).

Cost of PV has fallen dramatically



From FiT to negotiated contracts

- 2008 - 2012 Feed in tariffs in a number of countries,
 - Kenya, Tanzania, Uganda and Ghana. (level 10-12 USD c/kWh)
- Very few projects implemented
 - Kinangop Greenfield Wind Project, Kenya (stalled)
 - 20 MW PV project in Ghana ?
- Rather we see a number of negotiated IPP contracts
 - Lake Turkana, 2017, 300 MW wind, 7.5 EUR c/kWh (DFI)
 - Garissa, 2018, 60 MW PV, 12 USD c/kWh (Chinese)
 - Mali 2015, 33 + 50 MW PV, 13.7 EUR c/kWh (Scatec, DFI)
 - Ghana 2016, 20 MW PV, 11.5 USD c/kWh

South African (REIPPPP) Renewable Energy IPP Procurement Programme

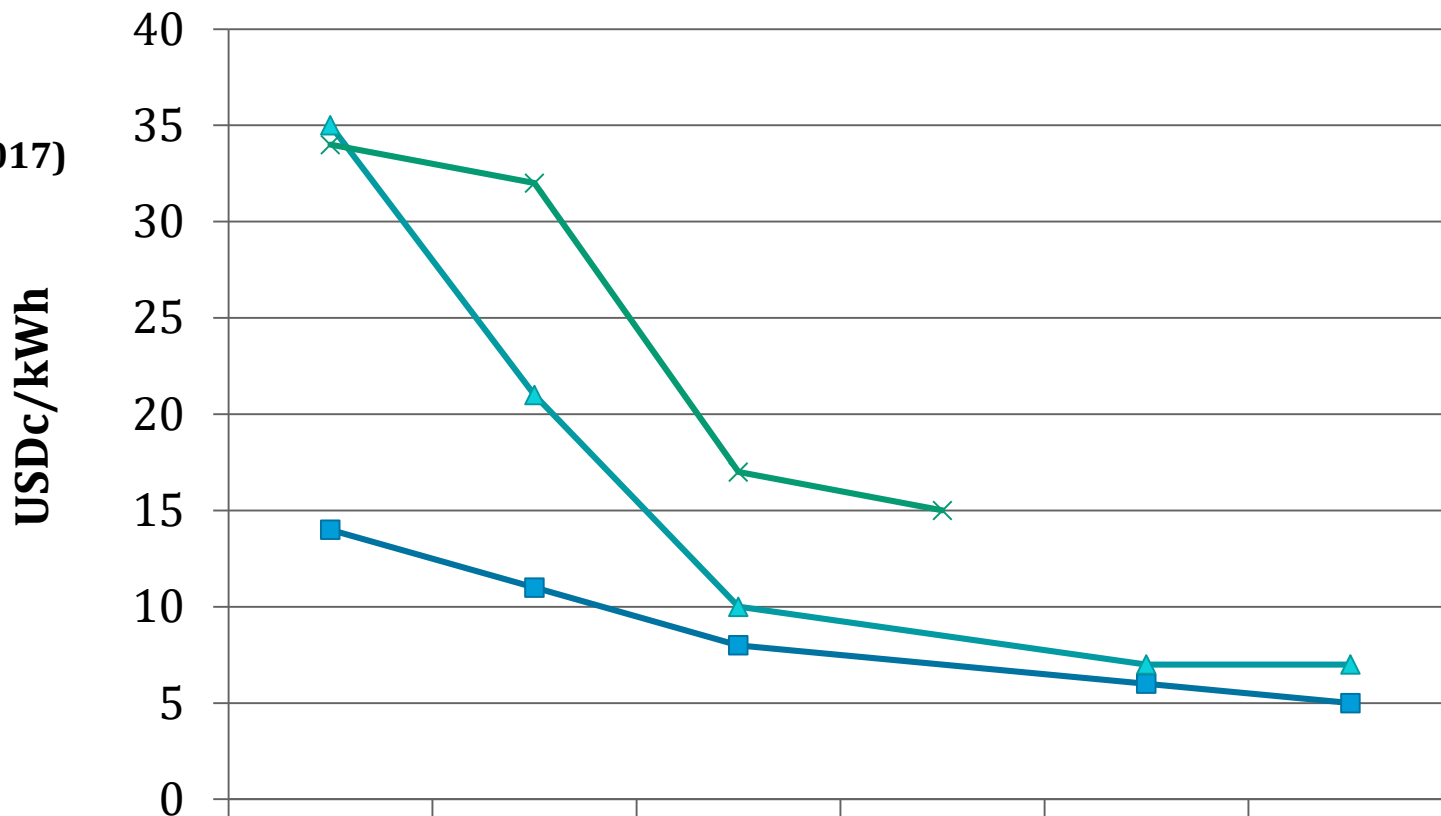
		MW awarded capacity			
Round	Year	Solar PV	Wind	Solar CSP	Total
1	2011	632	634	150	1416
2	2012	417	563	50	1030
3	2013	435	787	200	1422
4	2015	813	1363	2	2178
Total		2297	3347	402	6046
5	2019				1800

Based on Wlokas and Baker (2015) and

www.eskom.co.za/Whatweredoing/Pages/RE_IPP_Procurement_Programme.asp

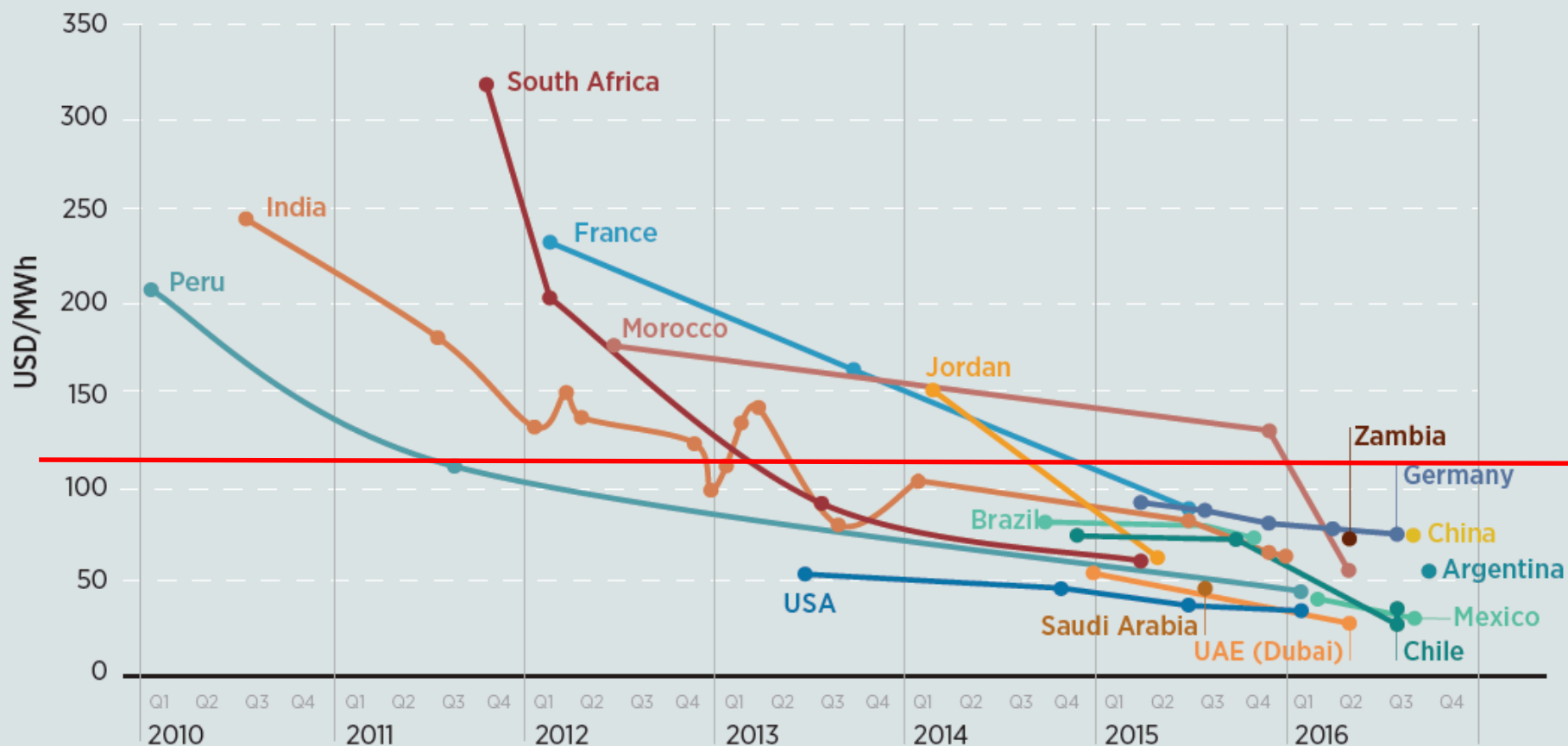
South African (REIPPPP) Renewable Energy IPP Procurement Programme

Source:
Wikus Kruger (2017)



	BW1	BW2	BW3	BW 3.5	BW4(b)	BW4(a)
■ Wind Average Tariff	14	11	8		6	5
▲ Solar PV Average Tariff	35	21	10		7	7
✕ CSP Average Tariff	34	32	17	15		

Solar PV Auction Results 2010 - 2016

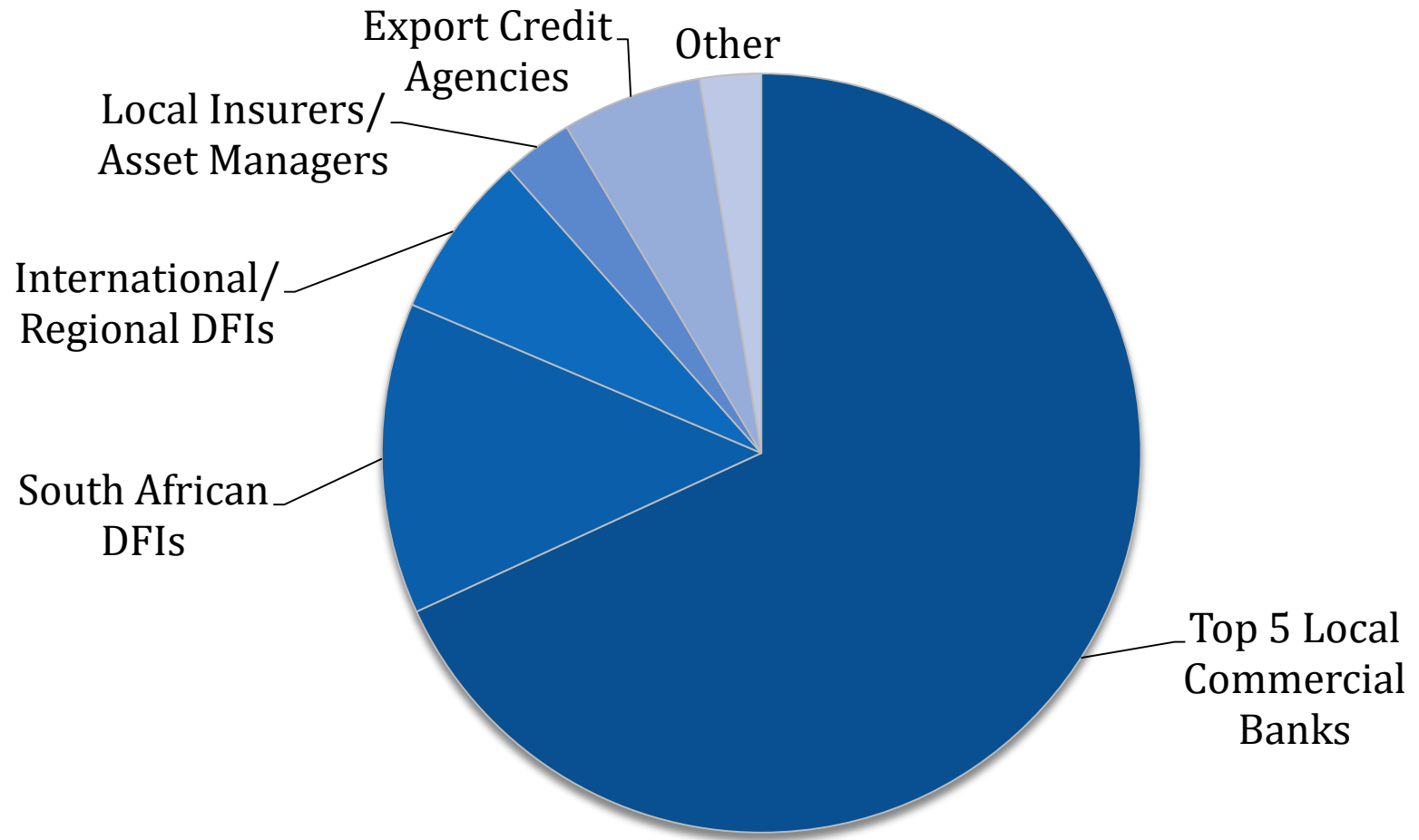


Moving back to competitive bidding

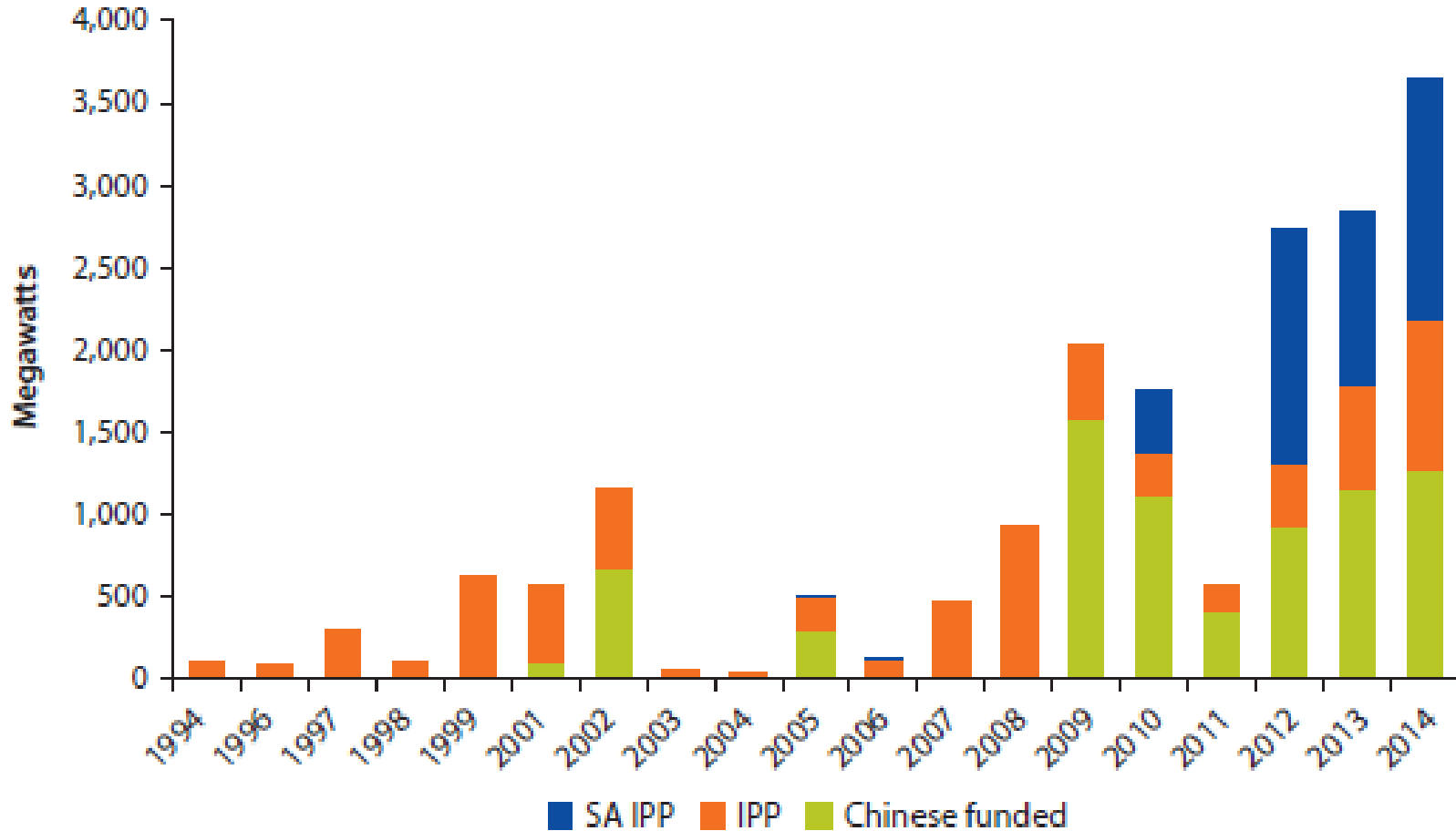
Country	Year	Capacity	Tech.	Bid price
Uganda	2014	4 x 5 MW	PV	16 USDc.
Zambia	2016	2 x 50 MW	PV	6.0 USD c
Namibia	2017	1 x 37 MW	PV	6.0 USD c
Malawi	2017	1 x 80 MW	PV	NA
Ethiopia	2017	1 x 100 MW	PV	NA

In Zambia 11 companies were prequalified for bidding

Majority of debt financing from local banks



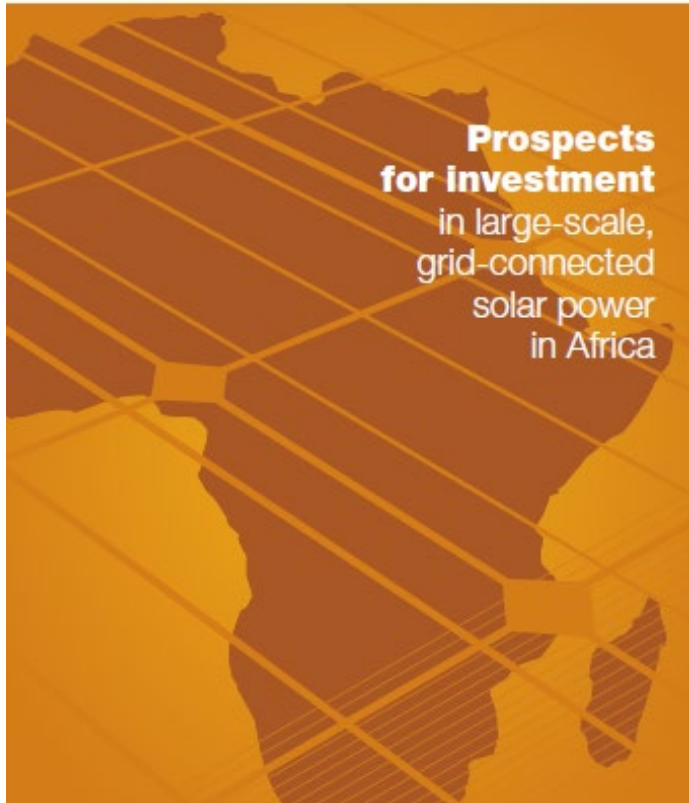
IPPs and Chinese-Funded Power Projects Sub-Saharan Africa, 1994–2014



Take a way points

- Huge need for capital for investment to meet electricity demand in SSA
- LCOE for solar, wind, geothermal are rapidly decreasing and in most cases competitive to fossil fuels
- IPPs are essential to supplement new production capacity and competition is a must
- Development Finance Institutions are playing an essential role supply equity capital and risk guarantees
- SA experiences should be used as input to auction programmes in other SSA countries
- Finance and technology from China provides an important contribution to the green transition
- Important question:
 - how to ensure that the green transition will provide new jobs, and industrial development in SSA
 - How to ensure that RE installations will be to the benefit for local people

Thanks for your attention !



Main Sources:

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