

Africa Energy Outlook

A focus on energy prospects
in sub-Saharan Africa

London,
13 October 2014

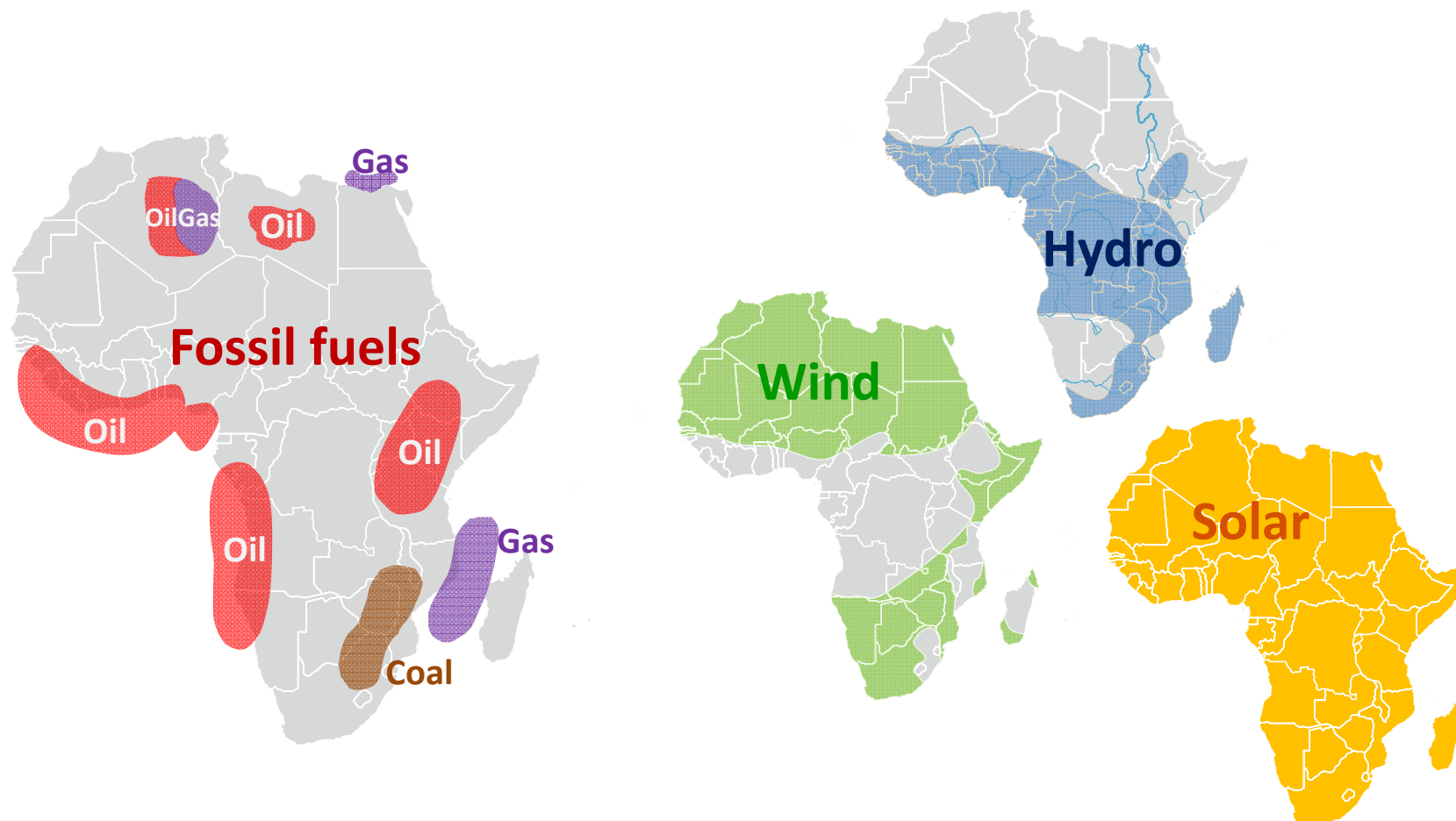
World Energy Outlook Special Report

The sub-Saharan context

- **GDP is rising, but almost half of a fast-growing population lives in extreme poverty: energy is vital to the prospects for development**
- **Region accounts for 13% of global population, but only 4% of its energy demand: half of this is biomass**
- **Poor electricity infrastructure is a key impediment to growth**
- **Large resource base, exploited only in part in the case of oil, gas & coal, largely untouched in renewables**
- **Domestic energy reforms gaining speed, but two-thirds of energy investment since 2000 went to develop resources for export**

Rich in resources

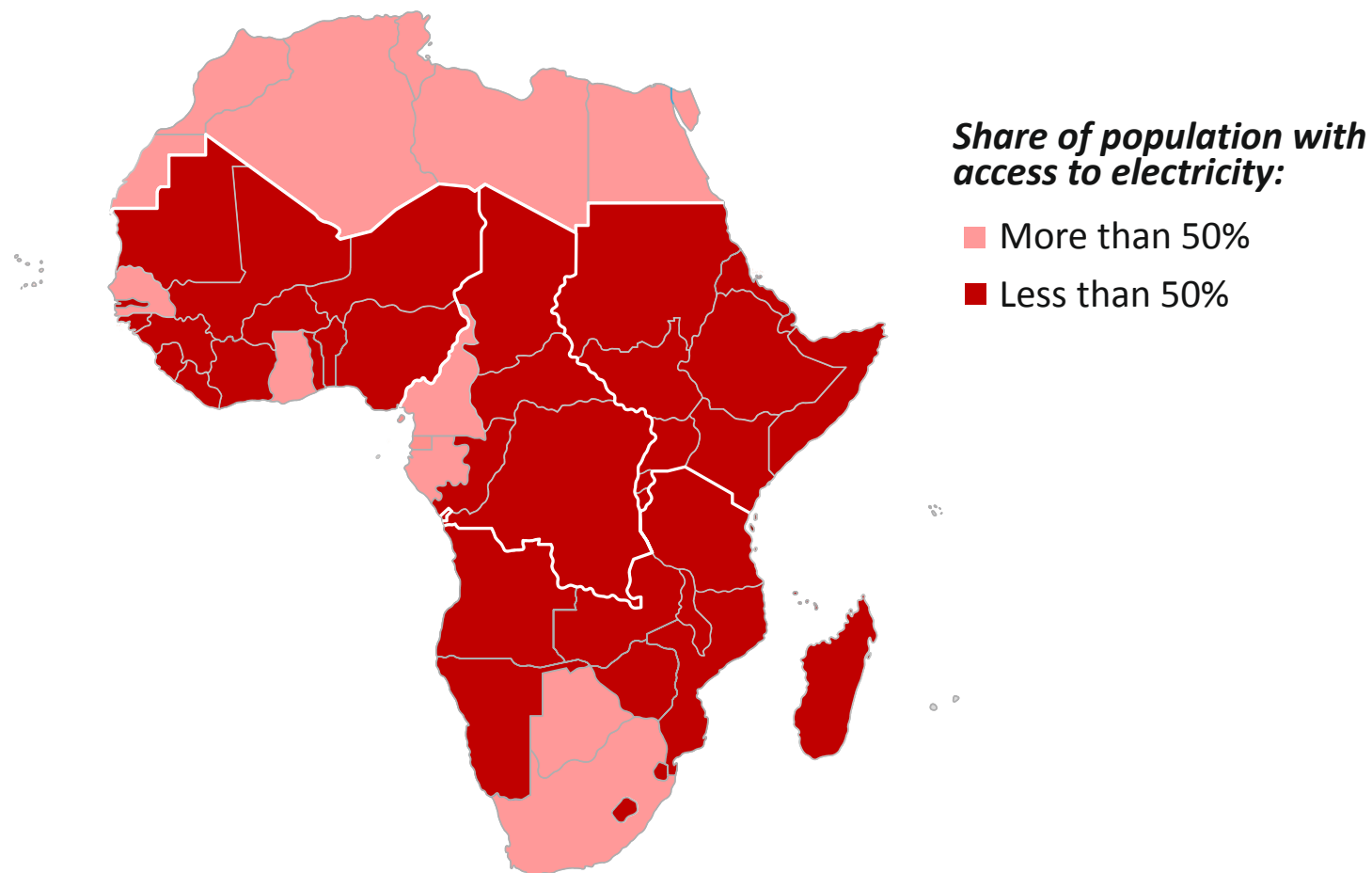
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In the last 5 years, almost 30% of global oil & discoveries were in sub-Saharan Africa; the region has vast untapped renewables potential, notably hydro & solar

Rich in resources, but poor in supply

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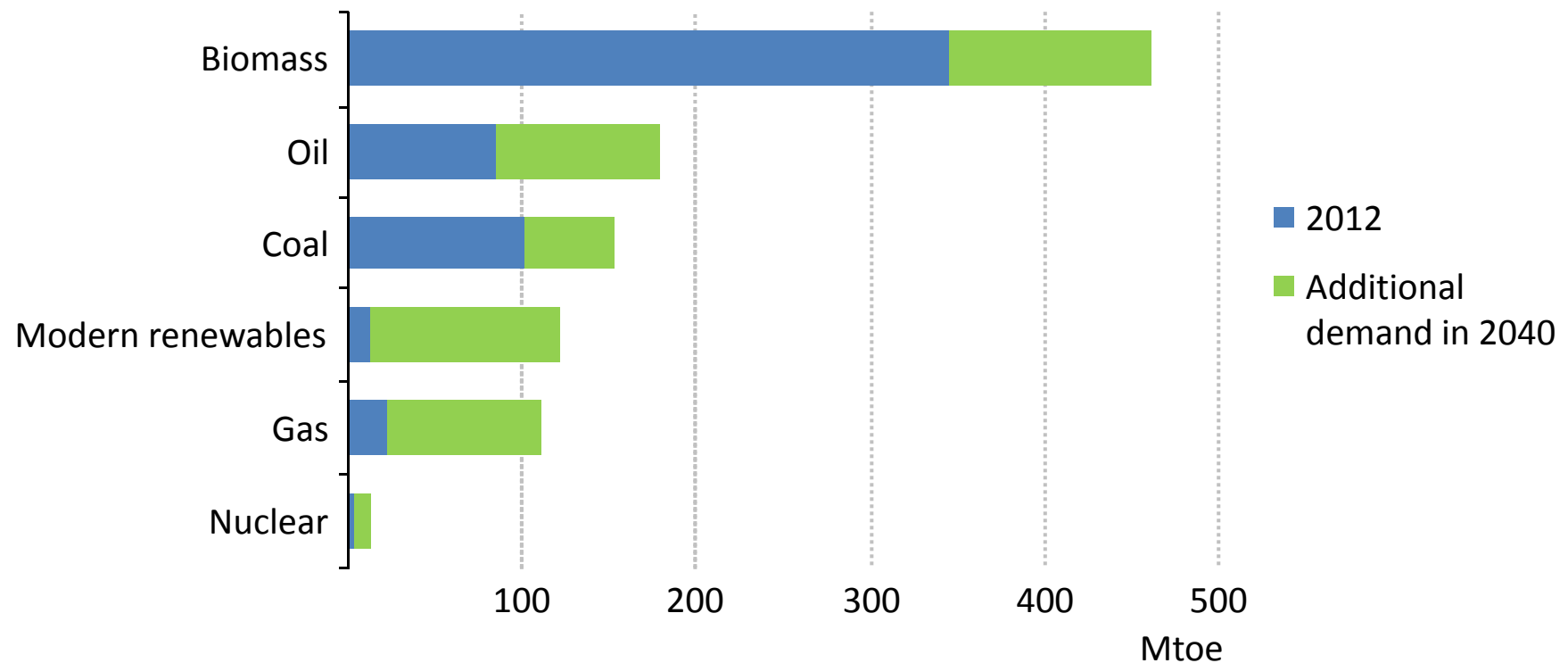


In sub-Saharan Africa, 620 million people – two-thirds of the population – live without electricity. Only a handful of countries have electrification rates above 50%.

Biomass remains at the centre of the sub-Saharan energy mix

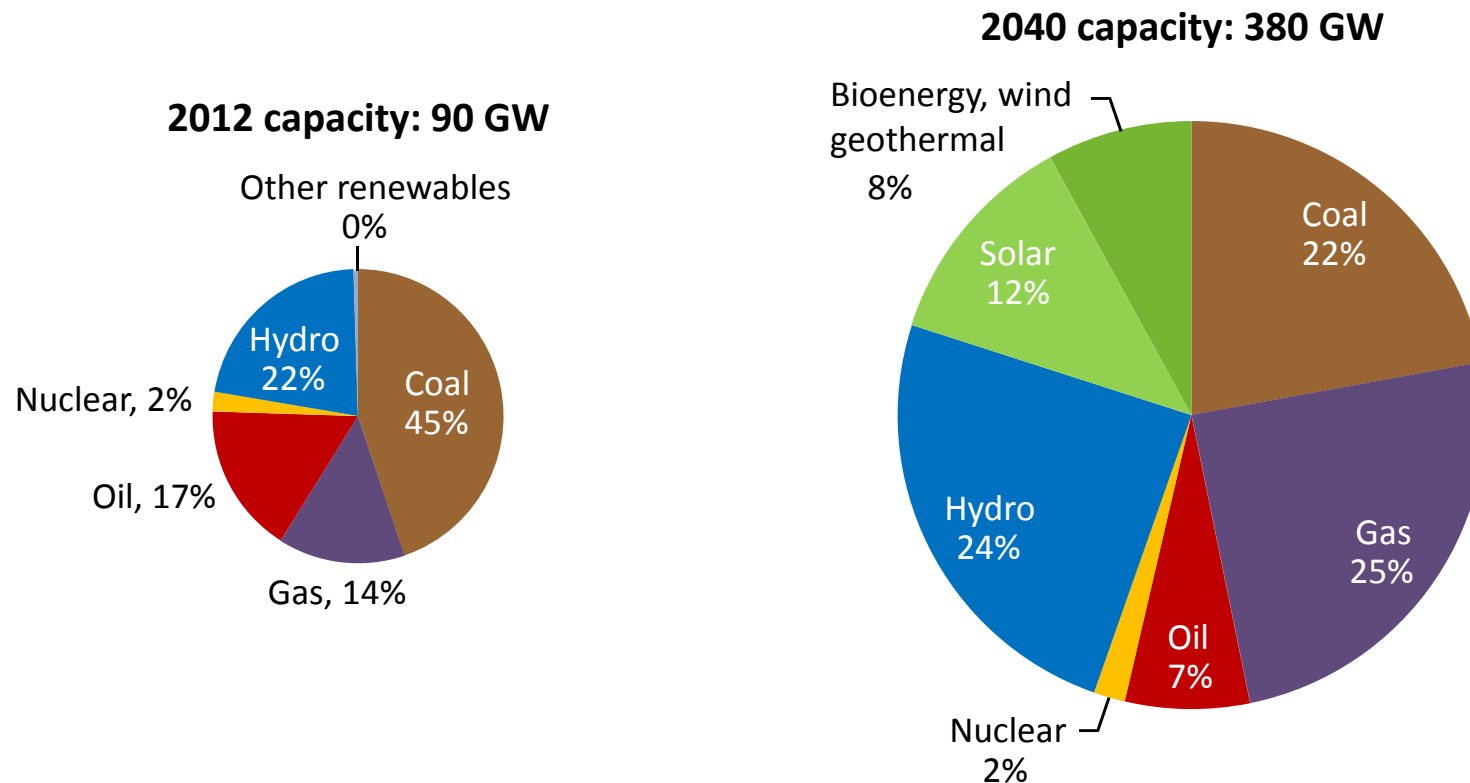
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Total primary energy demand in sub-Saharan Africa



Reliance on fuelwood and charcoal remains high, even as incomes grow; 650 million people still cook with biomass in an inefficient & hazardous way in 2040

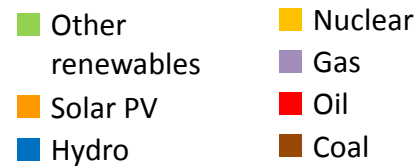
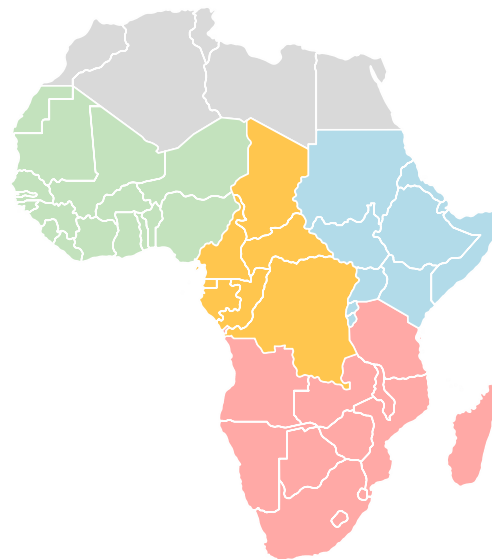
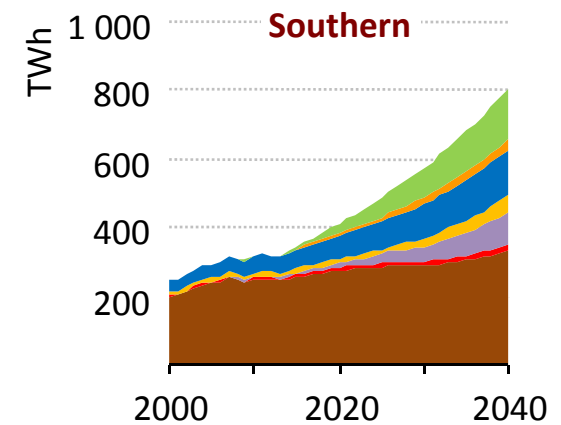
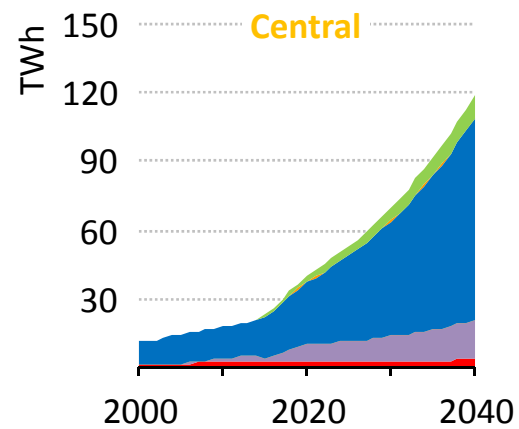
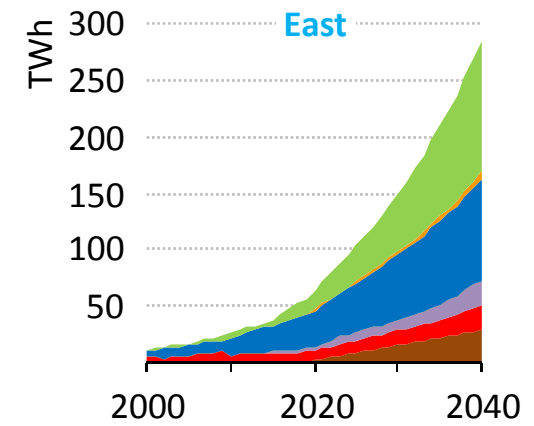
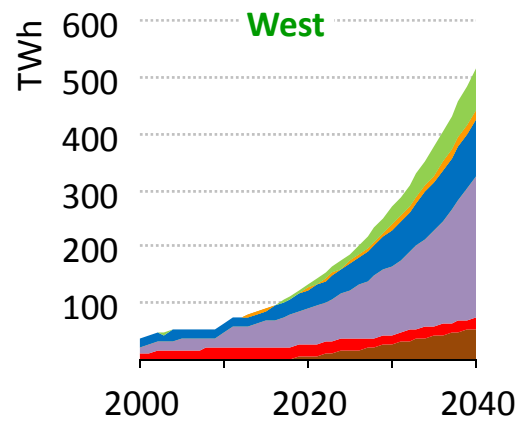
Installed power generation capacity by fuel in sub-Saharan Africa



Renewables account for almost half the growth in overall power supply & for two-thirds of the mini-grid and off-grid systems installed in rural areas

Different paths to power across the continent

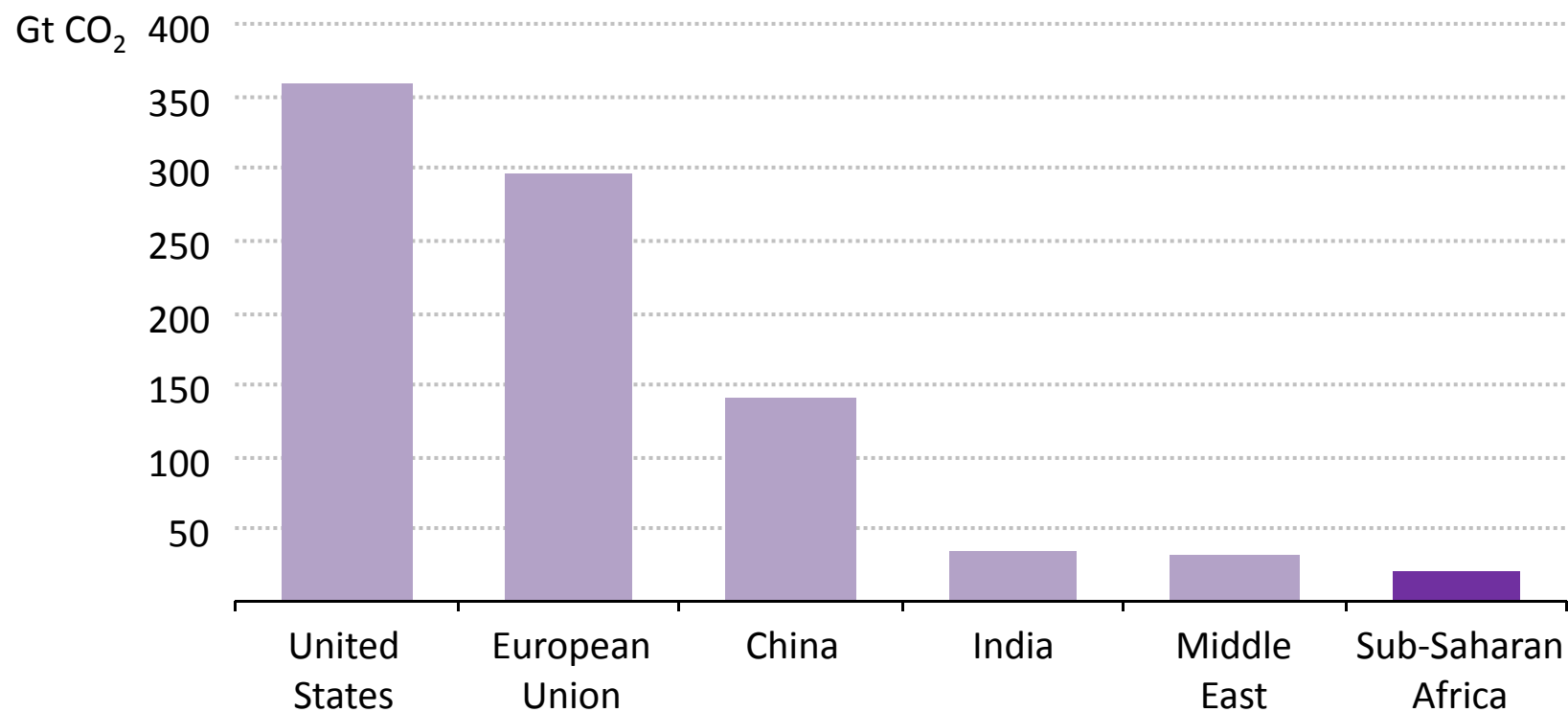
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The power mix by subregion reflects local resource endowments; well-functioning regional power pools help to unlock new projects, lower costs & improve reliability

Minor cause, but major effect

Cumulative CO₂ emissions, 1890-2012

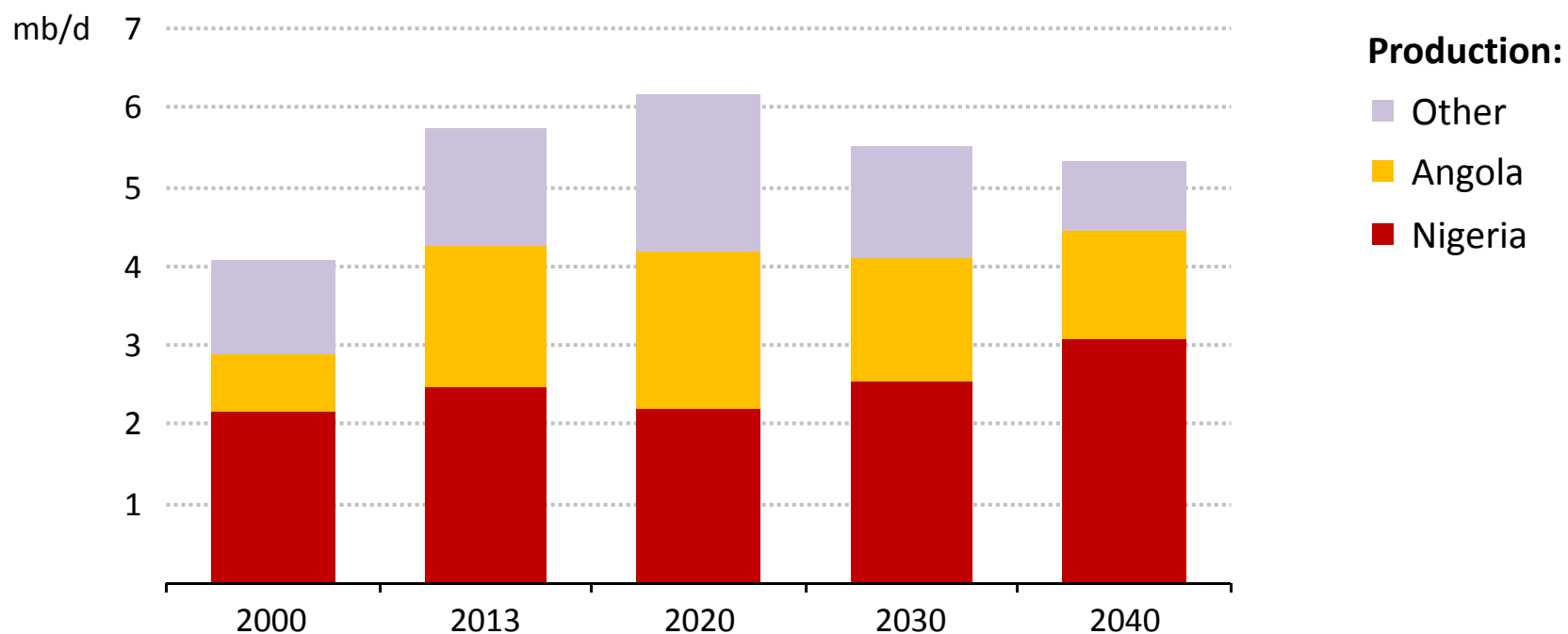


Sub-Saharan Africa is on the front line to feel the effects of a changing climate but, even with an extra 25 Gt to 2040, accounts for only a marginal share of emissions

A changing balance to oil production

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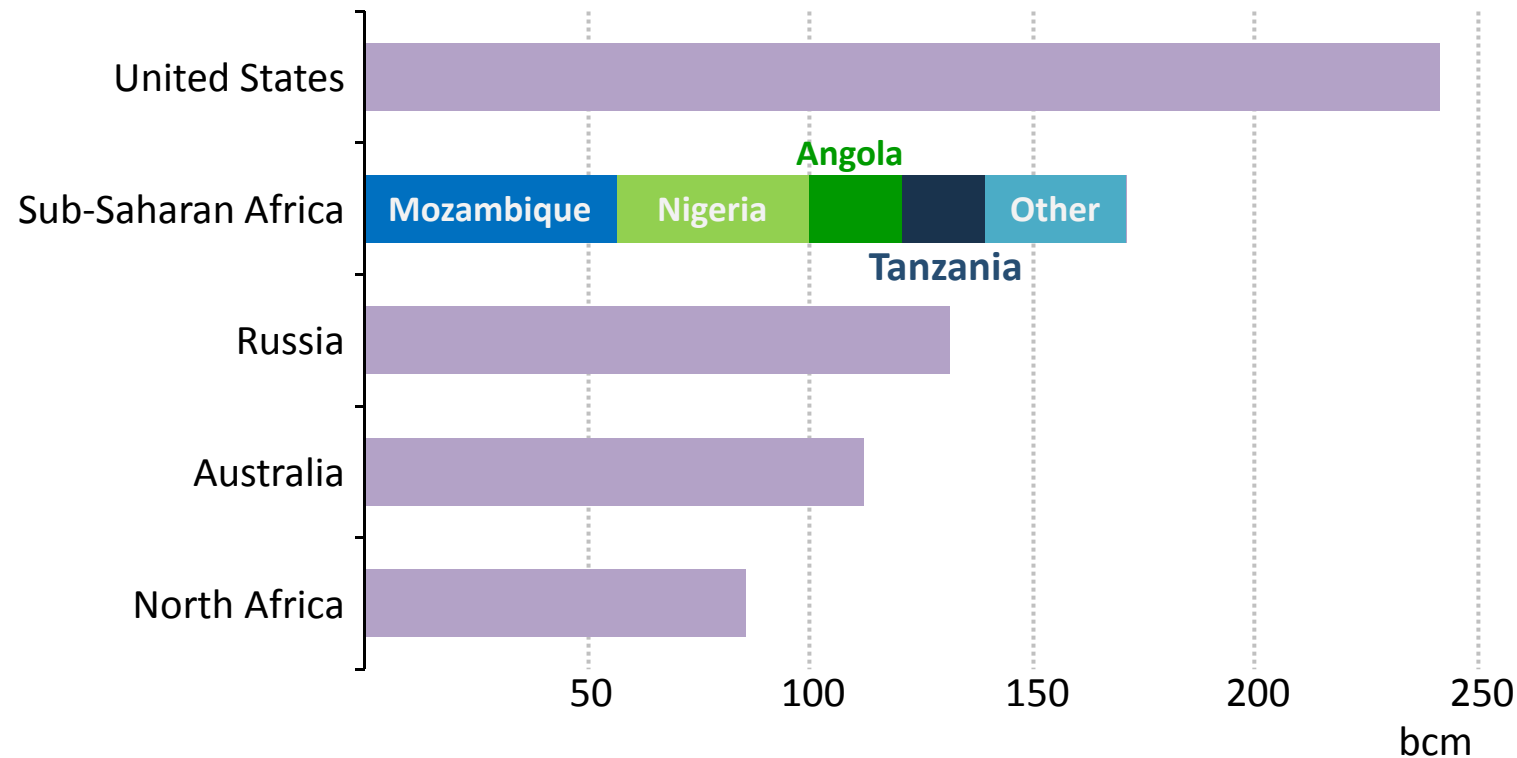
Oil production in sub-Saharan Africa



The region remains a major global supplier, although regulatory uncertainty, unrest & oil theft in Nigeria make Angola the main producer of crude oil until the 2020s

A new global gas player

Increase in gas production in selected countries and regions, 2012-2040

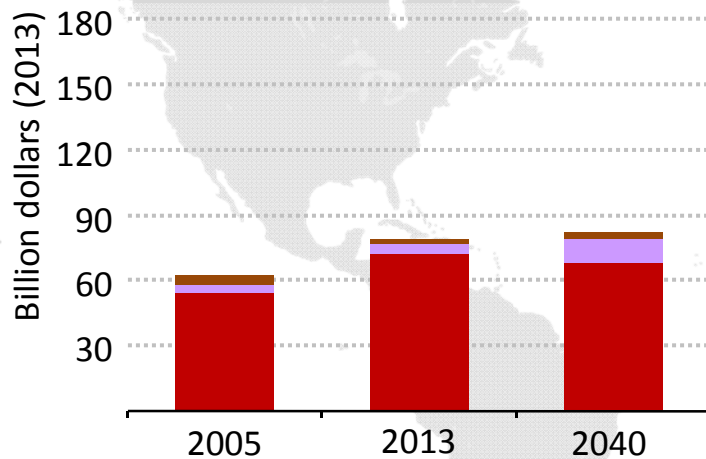


LNG export is the anchor for the east coast gas discoveries , but half of the overall increase in gas output goes to domestic power generation & industry

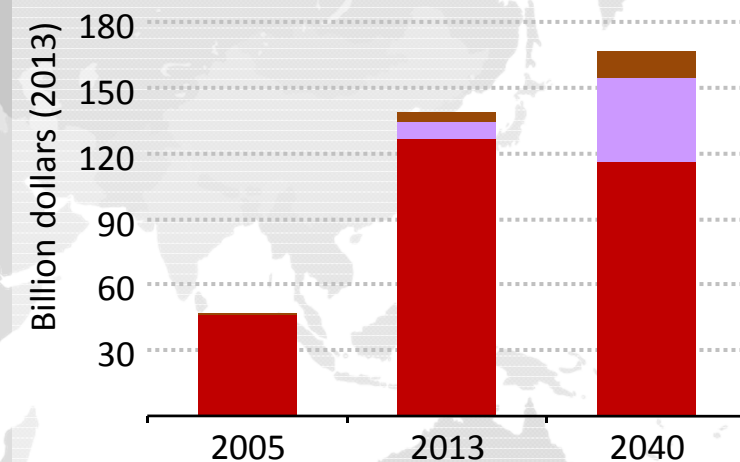
Sub-Saharan Africa turns to Asia

Sub-Saharan fossil fuel export revenues

Revenue from European & Atlantic basin markets



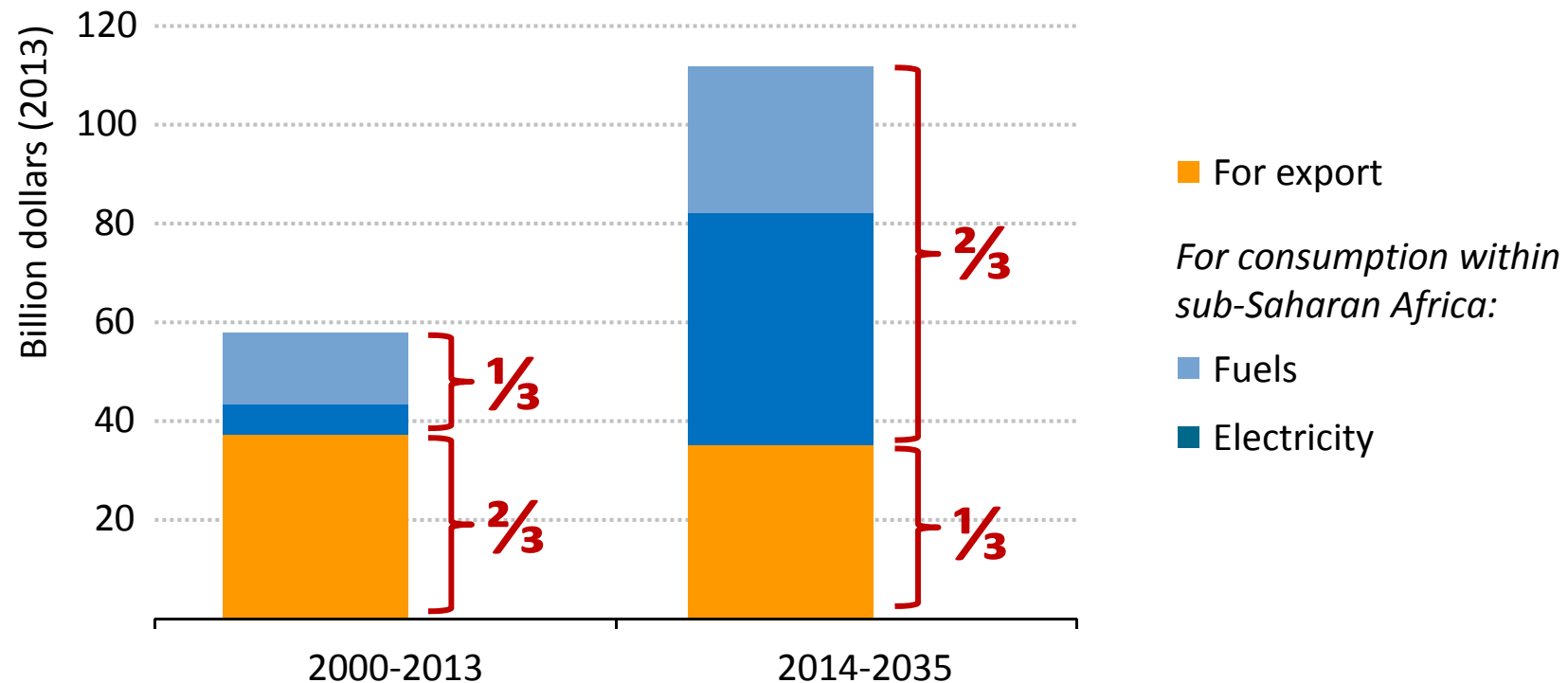
Revenue from Asia-Pacific markets



Export destinations for all fossil fuels switch towards Asia-Pacific markets: gas & coal volumes rise, but oil exports tail off as more crude is refined within the region

Investment has to come home

Average annual investment in sub-Saharan energy supply

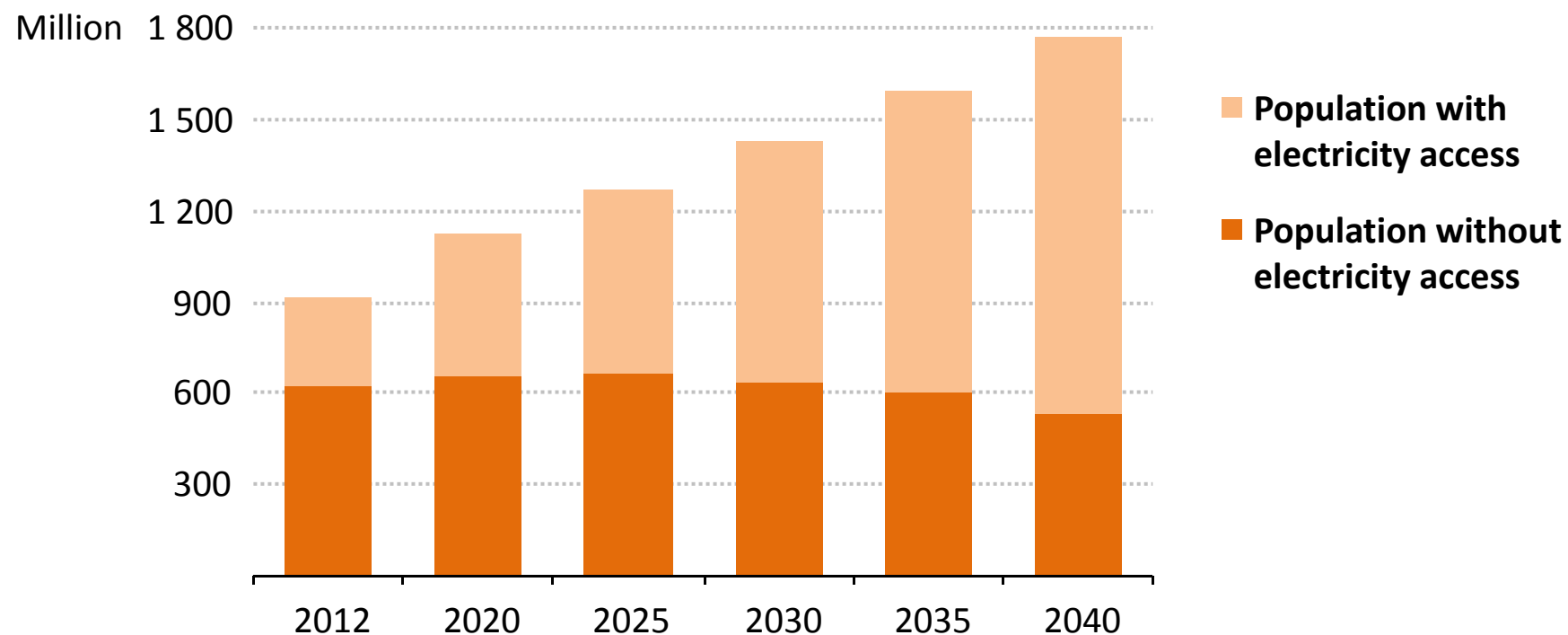


In a reversal of current trends, 2 out of 3 future investment dollars produce energy for sub-Saharan consumers, but this is still not enough to meet their needs in full

A large step towards universal access, but still a long way to go

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Access to electricity in sub-Saharan Africa



Nearly 1 billion people gain access to electricity, but this still leaves 530 million, primarily in rural communities, without power in 2040

How could energy make the 21st an African Century?

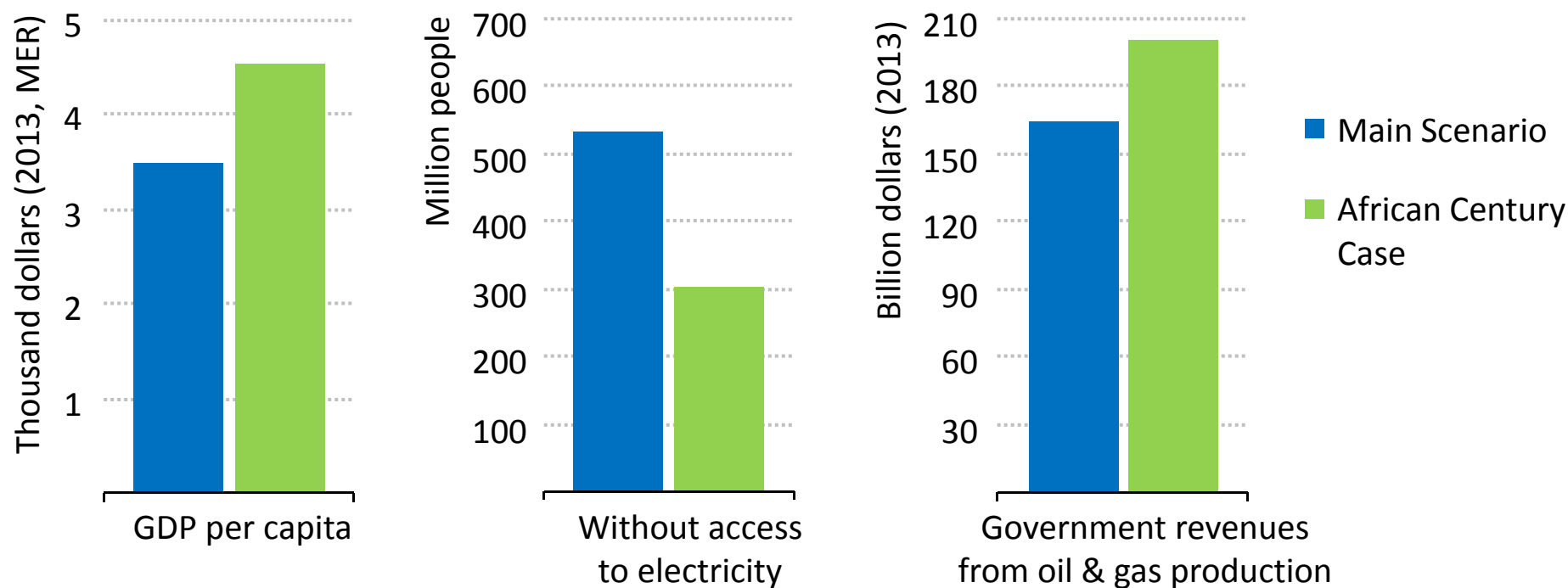
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- **Energy could do more to act as an engine of inclusive economic and social growth**
- **An African Century Case assesses the impact of faster movement in three key areas:**
 - *An upgraded power sector; reducing power outages by half & achieving universal access in urban areas*
 - *Deeper regional co-operation; expanding markets & unlocking a greater share of the continent's hydropower potential*
 - *Better management of resources & revenues; more efficiency & transparency in financing essential infrastructure*

Energy can build a shorter path to prosperity

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Outcomes in the African Century Case, 2040



By increasing the coverage & reliability of energy supply, the African Century Case unlocks an extra decade's worth of growth in per-capita incomes by 2040

- **Energy is a cornerstone of sub-Saharan strategies for poverty reduction & economic growth**
- **Improvements in sector governance are needed to bring in new energy investors & kick-start development**
- **More efficient & sustainable use of biomass will create a more healthy domestic energy balance**
- **Sub-Saharan Africa remains a mainstay of global oil production & emerges as a major player in natural gas**
- **Concerted action to improve the functioning of the energy sector is essential if the 21st is to become an African century.**