Africa Energy Outlook
A focus on energy prospects in sub-Saharan Africa

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

Total primary energy demand in sub-Saharan Africa

- Biomass
- Oil
- Coal
- Modern renewables
- Gas
- Nuclear

Reliance on fuelwood & charcoal remains high, even as incomes grow; 650 million people still cook with biomass in an inefficient & hazardous way in 2040
Renewables account for almost half the growth in overall power supply & for two-thirds of the mini-grid & off-grid systems installed in rural areas.
Different paths to power across the continent

The power mix by sub-region reflects local resource endowments; well-functioning regional power pools help to unlock new projects, lower costs & improve reliability
Minor cause, but major effect

Cumulative energy-related CO₂ emissions, 1890-2012

Sub-Saharan Africa is in 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

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 & 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
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.
Nearly one 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?

- Energy could do more to act as an engine of inclusive economic & social development

- 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

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.
Conclusions

- 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.