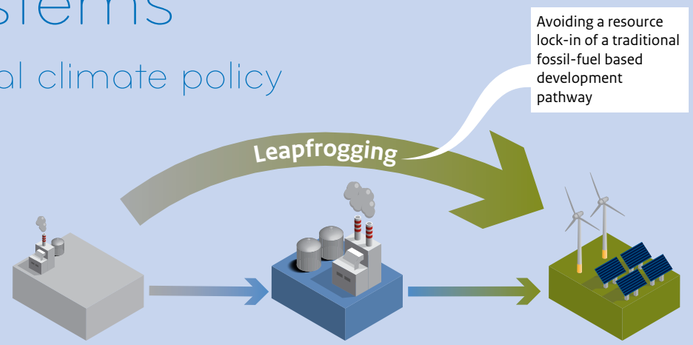
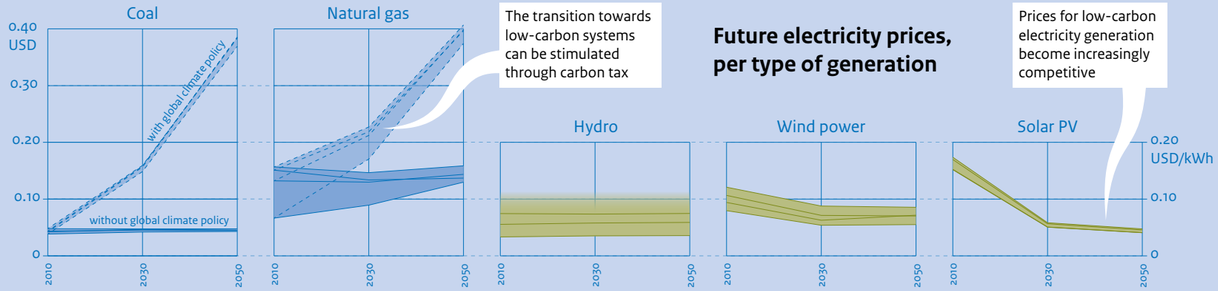
Leapfrogging towards **low-carbon** electricity systems

Consequences of global climate policy

The Sub-Saharan African electricity system is still in its infancy. The current production capacity can only meet around 35% of the projected electricity demand for 2030 and less than 15% of the projected demand for 2050. Nevertheless, Sub-Saharan Africa is richly endowed with both fossil and renewable energy sources, which can easily accommodate the projected electricity demand. Coal is abundant in southern Africa, and several countries in Sub-Saharan Africa have large natural gas reserves. The potential for renewable energy production is huge, with options for solar photovoltaic energy in Sub-Saharan Africa, large and small-scale hydropower in eastern and central Africa, and wind power particularly in eastern Africa.

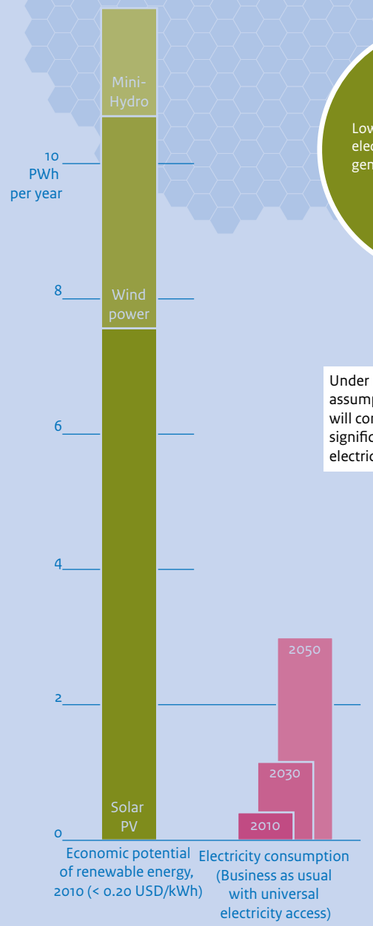


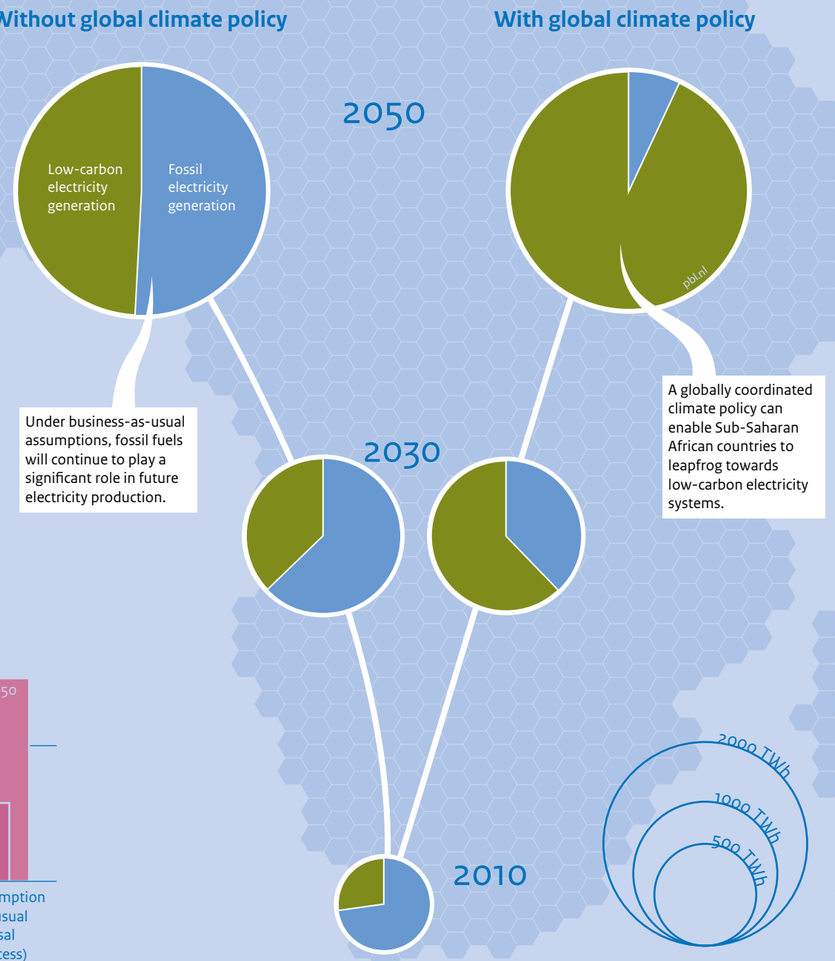
Being a laggard not only comes with challenges, but also opens up opportunities; as a large part of the generation capacity still needs to be built, Sub-Saharan Africa can benefit from the global renewable energy revolution to leapfrog to electricity systems dominated by renewable energy. Over the last few decades, the costs of the related technologies have decreased significantly, largely driven by innovation and renewable energy policies in emerging economies and OECD countries. This trend is expected to continue in the future. Pricing carbon emissions makes renewable energy technologies even more competitive, due to the resulting rise in fossil fuel prices. This policy option makes it possible to combine increased electricity access in this developing region with mitigating climate change.



Future electricity prices, per type of generation

Electricity generation





Source: PBL