Coal’s Future in Africa is Dim

As all regions transition to a cleaner energy future, coal-fired power is in the spotlight. As the region with the greatest shortages of energy, might Africa have a coal future?

Coal-to-power today is very modest outside South Africa

As of 2020, 34 coal-fired power plants totaling ~53GW of installed capacity provide about a third of all electricity produced on the African continent (see Table 1). Yet, 86% of this capacity is in one country, South Africa. Even so, the region’s coal capacity is a fraction of the global total:

<table>
<thead>
<tr>
<th>TABLE 1: COAL POWER</th>
<th>Power Stations (#)</th>
<th>Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>34</td>
<td>52,812</td>
</tr>
<tr>
<td>Of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>19</td>
<td>45,408</td>
</tr>
<tr>
<td>Morocco</td>
<td>4</td>
<td>4,257</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>2</td>
<td>1,620</td>
</tr>
<tr>
<td>Zambia</td>
<td>2</td>
<td>330</td>
</tr>
<tr>
<td>Mauritius</td>
<td>3</td>
<td>195</td>
</tr>
<tr>
<td>Rest of Africa*</td>
<td>4</td>
<td>1,002</td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>1,077</td>
<td>1,004,948</td>
</tr>
<tr>
<td>United States</td>
<td>263</td>
<td>246,187</td>
</tr>
<tr>
<td>India</td>
<td>281</td>
<td>228,964</td>
</tr>
</tbody>
</table>


But what about new coal?

The rest of the world dwarfs Africa’s current coal-to-power industry, but many fear a potential coal boom on the continent, especially in countries with domestic coal resources. As of 2020, the Global Coal Plant Tracker lists 25 potential new coal plants (excluding refurbishments) across Africa. Even though these projects are still relatively minor in global context, we analyzed publicly-available information for each project and assessed the likelihood of actually reaching completion (see Table 2).

Conclusion. Only one (relatively small) of the 25 potential coal projects appears likely to commission soon. Nine further projects, with a combined proposed capacity of 3,410 MW, appear possible, although they are all in a very early pre-construction phase. Fifteen are already cancelled or appear unlikely to reach completion. In short, the future of coal power in Africa is dead.
<table>
<thead>
<tr>
<th>Country</th>
<th>Capacity (MW)</th>
<th>Status</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keita</td>
<td>Niger</td>
<td>100</td>
<td>Likely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Under construction, due to open end 2020</td>
</tr>
<tr>
<td>Mabesekwa Export</td>
<td>Botswana</td>
<td>600</td>
<td>Unclear</td>
</tr>
<tr>
<td>Independent Power</td>
<td></td>
<td></td>
<td>Incomplete financing, pre-construction, partially licensed</td>
</tr>
<tr>
<td>Sese Integrated Power</td>
<td>Botswana</td>
<td>450</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Partially licensed, unfunded</td>
</tr>
<tr>
<td>Imaloto Coal</td>
<td>Madagascar</td>
<td>60</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre-construction planning</td>
</tr>
<tr>
<td>Kamwamba</td>
<td>Malawi</td>
<td>300</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre-construction, no recent info</td>
</tr>
<tr>
<td>Rukuru</td>
<td>Malawi</td>
<td>100</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No recent info, pre-permit stage</td>
</tr>
<tr>
<td>Tete</td>
<td>Mozambique</td>
<td>200</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No recent info, pre-permit stage</td>
</tr>
<tr>
<td>Mbeya Coal to Power</td>
<td>Tanzania</td>
<td>300</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre-construction</td>
</tr>
<tr>
<td>Binga Unit 1A + 1B</td>
<td>Zimbabwe</td>
<td>700</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No recent info</td>
</tr>
<tr>
<td>Sengwa</td>
<td>Zimbabwe</td>
<td>700</td>
<td>Unclear</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre-construction, faces opposition</td>
</tr>
<tr>
<td>Yayu</td>
<td>Ethiopia</td>
<td>90</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cancelled but could revive</td>
</tr>
<tr>
<td>San Pedro Port</td>
<td>Ivory Coast</td>
<td>700</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No progress, likely dead</td>
</tr>
<tr>
<td>Kitui</td>
<td>Kenya</td>
<td>960</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Paused</td>
</tr>
<tr>
<td>Lamu Power</td>
<td>Kenya</td>
<td>1050</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Licenses revoked</td>
</tr>
<tr>
<td>Pamodzi Unit 1</td>
<td>Malawi</td>
<td>120</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shelved</td>
</tr>
<tr>
<td>Benga (Kibo Energy)</td>
<td>Mozambique</td>
<td>300</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Only announced</td>
</tr>
<tr>
<td>Cahora Bassa</td>
<td>Mozambique</td>
<td>120</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shelved</td>
</tr>
<tr>
<td>Ncondezi</td>
<td>Mozambique</td>
<td>300</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delayed</td>
</tr>
<tr>
<td>Musina-Makhado</td>
<td>South Africa</td>
<td>3000</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shelved</td>
</tr>
<tr>
<td>Khanyisa</td>
<td>South Africa</td>
<td>300</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Funders withdrew, licenses revoked</td>
</tr>
<tr>
<td>Transalloy</td>
<td>South Africa</td>
<td>150</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No developments</td>
</tr>
<tr>
<td>Ngaka</td>
<td>Tanzania</td>
<td>270</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shelved</td>
</tr>
<tr>
<td>Rukwa Coal to Power</td>
<td>Tanzania</td>
<td>120</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shelved</td>
</tr>
<tr>
<td>Chipata</td>
<td>Zambia</td>
<td>300</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shelved</td>
</tr>
<tr>
<td>Bulawayo</td>
<td>Zimbabwe</td>
<td>90</td>
<td>No/Unlikely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non-operational</td>
</tr>
</tbody>
</table>

Source: [Global Energy Monitor](https://energyforgrowth.org) (2020) and other publicly available data.

**Note:**
- **Likely:** Project at an advanced stage of development and expected to commission soon.
- **Unclear:** Project at an early stage of development or lacking any clear signs of significant recent progress.
- **No/Unlikely:** Project has been shelved, suffered major setbacks, or has shown no progress for multiple years.