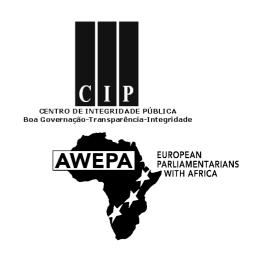
Mozambique political process bulletin

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Huge reserves, but limited railways & no strategy

Mozambique to become one of biggest coal & gas producers

From aid dependence to mineral dependence?

Mozambique is set become one of the world's 10 largest producers of coal and 20 top producers of natural gas. As part of the new resource frenzy, \$2.7 billion has already been invested in the mining and hydrocarbon sectors.

The minerals boom reverses the economic discussion, with Mozambique moving from the postwar decades when the debate was about aid dependence to a new period of mineral resource dependence.

Within five years the boom could be real if Rovuma gas and Tete coal are at or above current projections and if infrastructure and logistics issues can be resolved on time. But it is looking increasingly likely that the lack of rail capacity for coal and especially the lack of skilled people in general means that minerals will not benefit the economy. The danger is that instead minerals result in social and political conflicts, as has happened in some countries.

The central question now being debated is how to use mineral resources for the national economy, in general, and how to benefit in particular the zones from which these resources are being taken. There is growing worry about:

 the secrecy around negotiations and contracts signed by the government and compnies;

- the lack of qualified staff in the ministries dealing with minerals and gas;
- the lack of capacity in government to monitor, independently of the companies, the quantity, quality and value of exports; and
- the growing lack of coordination between different ministries.

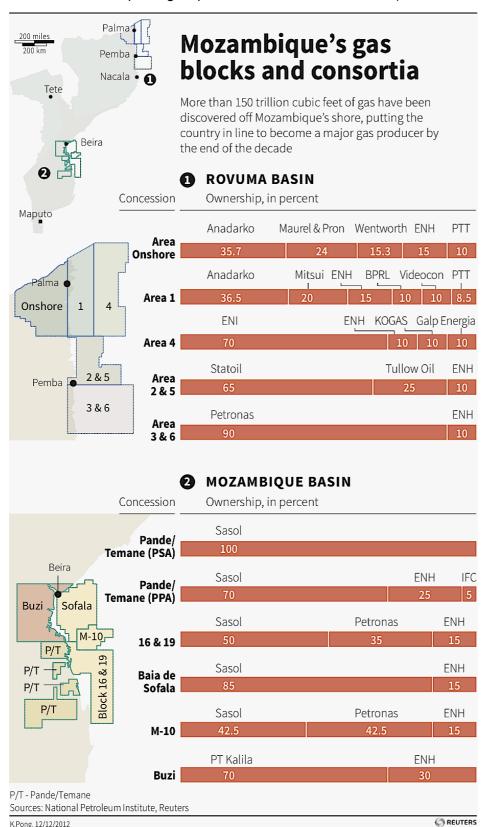
The scale of Mozambique's mineral wealth has only become clear in the past five years. The enormous reserves of coal in Moatize only become apparent in 2008 and only two years later did it become known that there were huge reserves in other districts of Tete such as Changara and Cahora-Bassa, as well as potential coal fields in Cabo-Delgado, Niassa and Manica.

Gas in Pande and Temane, in Inhambane, has been exploited since 2004. This was followed by intense prospecting in the Rovuma basin off of Cabo Delgado, and since 2010 it has been clear that there is much more gas in Cabo Delgado than in Inhambane.

On the other hand, no commercial quantities of oil have been found.

3rd biggest gas reserves in Africa

Gas reserves are estimated at more than 100 trillion cubic feet (tfc), worth an estimated \$350 billion – of which Mozambique could gain \$20 billion during the lifetime of the gas field. These reserves put Mozambique in third place in Africa, after Algeria and Nigeria. Mozambique may enter the list of the top 20 gas producers, after Kazakhstan (105 million tonnes/year) and ahead of



Poland (77 mn t/y) and Colombia (74 mn t/y).

The US company Anadarko estimates that it has reserves of 15 to 30 trillion cubic feet in the Rovuma basin, while the Italian firm ENI estimates reserves of 70 tcf. Rovuma gas production could begin in 2018 and reserves could last 30 years.

The first discoveries of natural gas in Mozambique date back to 1961 for Pande in Inhambane, 1962 for Buzi in Sofala and 1967 for Temane in Inhambane. But it was only when the gas from Pande and Temane began to be exported in 2004 by pipeline to South Africa by the South African petro-chemical company Sasol that gas began to gain importance.

Data from the National Petroleum Institute (Instituto Nacional de Petróleos, INP) puts the Pande and Temane reserves at 2.7 tcf and 1.0 tcf.

INP calculates that between 2006 and 2011 multinational companies searching for gas in Mozambique spent \$1.1 bn, 53% in the Rovuma basin and 25% in Pande and Temane.

\$50 billion for gas liquefaction

Natural gas is liquefied to permit storage and transport. This is a complex process. Liquefied natural gas (LNG) is natural gas (predominantly methane, CH₄) that has been converted to liquid at -162°C where it has a volume only