

## To plan or not to plan, that is the question

Afiliada à



I apologize to Shakespeare for the plagiarism, as well as site the beginning of the chronicle “Planejar é preciso” (Murilo Aragão in Veja magazine, march, 30/2022): Even if the conflict in Ukraine ends tomorrow, Brazil must prepare for a long period of cultural war and trade, with profound effects on international relationships and our future.

This reminds me of the Shale Industrialization Business Unit (SIX), which carries out research work with oil shale. I visited SIX in 1973, and there was a phrase said by the technicians: *if a barrel of oil reaches US\$ 5, the treatment of the raw material is economical.*

It also comes to my mind that the president of Petrobras at that time, also on a visit to SIX, raised the issue, after hearing the economic opinion of the technicians that no more shale areas were required, since it was not a monopoly. I confess that I do not know the current situation of SIX, but it is known that there are large reserves of oil shale in Brazil.

When, still a student of Geology, on an excursion, in 1967, in Cedro do Abaeté and nearby regions, there was the presence of verdigris, which could, in the future, serve as a source of potassium. It is good to remember that the name Verdete was given by Djalma Guimarães to a rock essentially made of glauconite, whose deposits were estimated at hundreds of millions of tons.

The Brazilian reserve of potassium salts was  $17,210 \times 10^3$  t of  $K_2O$  and production in 2009 was  $453 \times 10^3$  t (Source: DNPM/DIPLAM; USGS: Mineral Commodity Summaries - 2010).

Several studies are being carried out to make use of verdigris and sylvinit (KCl + NaCl) in Sergipe and Amazonas, but we see that Brazil's concern today is with the possibility of not finding, in the world market, enough raw material for agriculture, due to the war between Russia and Ukraine.

After all, Brazil has always stocked up on coffee, and you know very well the importance of this (the Brazilian stocks of the National Supply Company (Conab) were about 13 million bags being stored in March 2020). And now, US President Joe Biden has ordered the release of 1 million barrels of oil a day for the next six months from the stockpile.

Brazilian universities, as well as Brazilian mining, currently have the capacity to develop solutions for most of our problems, but in addition to investing, *planning is necessary.*

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