



18/11/2022

# PUBLIC POLICIES REGARDING MINERAL EXPLORATION

A retrospective 2019 to 2022

*Ouro Preto, MG*



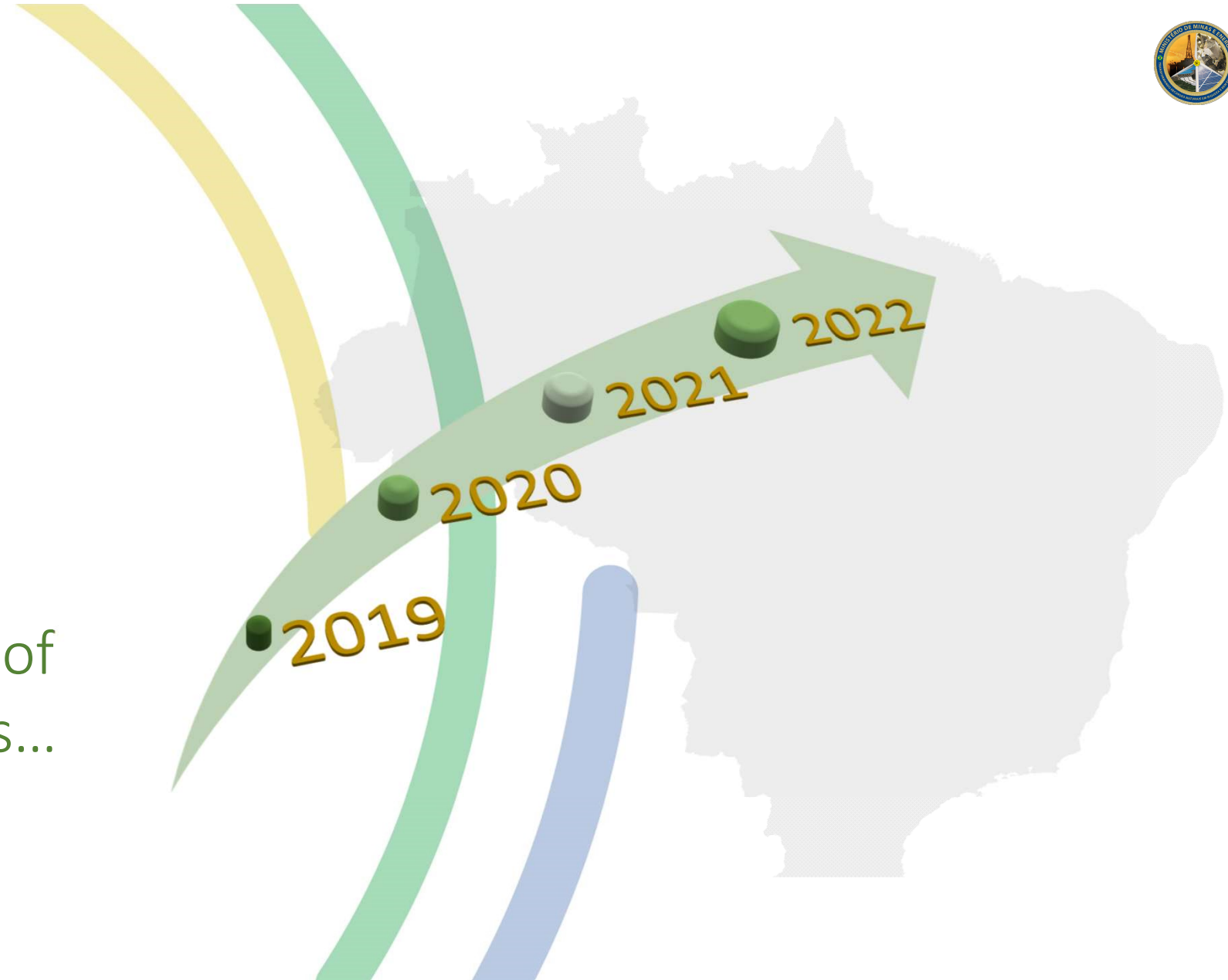
This document was prepared by the MME and presents the best estimates based on available information. There is no guarantee of realization for the predicted or estimated amounts. The content presented is subject to treatment and interpretations.

MINISTÉRIO DE  
MINAS E ENERGIA

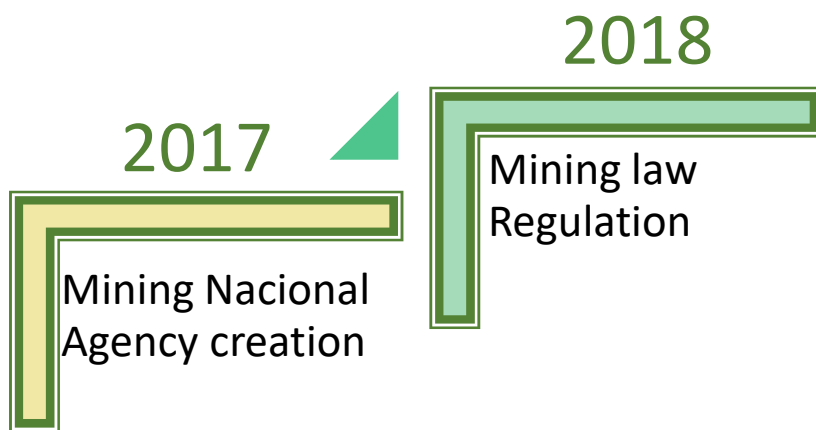




The Beginning of  
basilar changes...



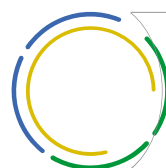
# The Basilar changes.....



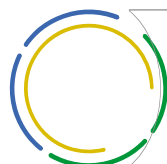
# 2018 Regulation Highlights Related to Exploration



## 2018 Rules



Resource and reserves classification must be based on international concepts; ANM resolution



Mineral exploration activities can be maintained till the Economic Use Plane (PAE) presentation



1 to 3 years to realize mineral exploration activities; a single extension



Special authorization for mining during exploration available for 1 to 3 years; till 2 authorizations



Exploration activities in situ oversight should be done according to priorities and by sampling

## 2019-22 Actions

Resolução ANM nº 94/2022

### ANM ACTIONS

Since September 2019 – Electronic Application for Exploration Rights (REPEM)

Since May 2022 - Mining Responsible Oversight (Firmina Plataforma)

Since November 2022 - Mining Rights to civil construction raw materials are granted by ANM regional units



MINISTÉRIO DE  
MINAS E ENERGIA

MINISTRY OF  
MINES AND ENERGY







# 2018 Regulation Highlights Related to Exploration

## 2018 Rules

MME e ANM should stimulate tailings and residues use



## 2019-22 Actions

**Policies and Programs to apply** mining tailings and residues as soil recomposition

- Proposal of a Program for Remineralizadores and Natural Fertilizers
- Pilot Project about the use of mining tailings for agriculture in Goias state
- Establishment of PD&I dedicated lines (FINEP and CNPq)

ANM resolution should regulate tailings and residues use

**Resolução ANM nº 85/2021**

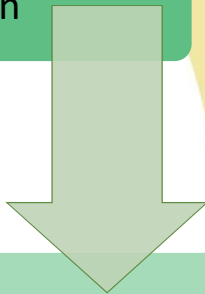
procedure for mining tailings and residues use



# 2018 Regulation Highlights Related to Exploration

## 2018 Rules

Available areas with released titles should be returned to the market; ANM resolution



ANM can offer the available areas using electronic facilities, by undercover applying; ANM resolution

## 2019-22 Actions

Resolução ANM nº 24/2020

Portaria MME nº 695/2022

- Guidelines for the procedure
- At least 2 offers each year



### Offering Round



- Areas to be released
- Areas with one applicant
- Areas for auction



### Auction



- Areas to be released
- Areas granted to the auction winner



MINISTÉRIO DE  
MINAS E ENERGIA

MINISTRY OF  
MINES AND ENERGY



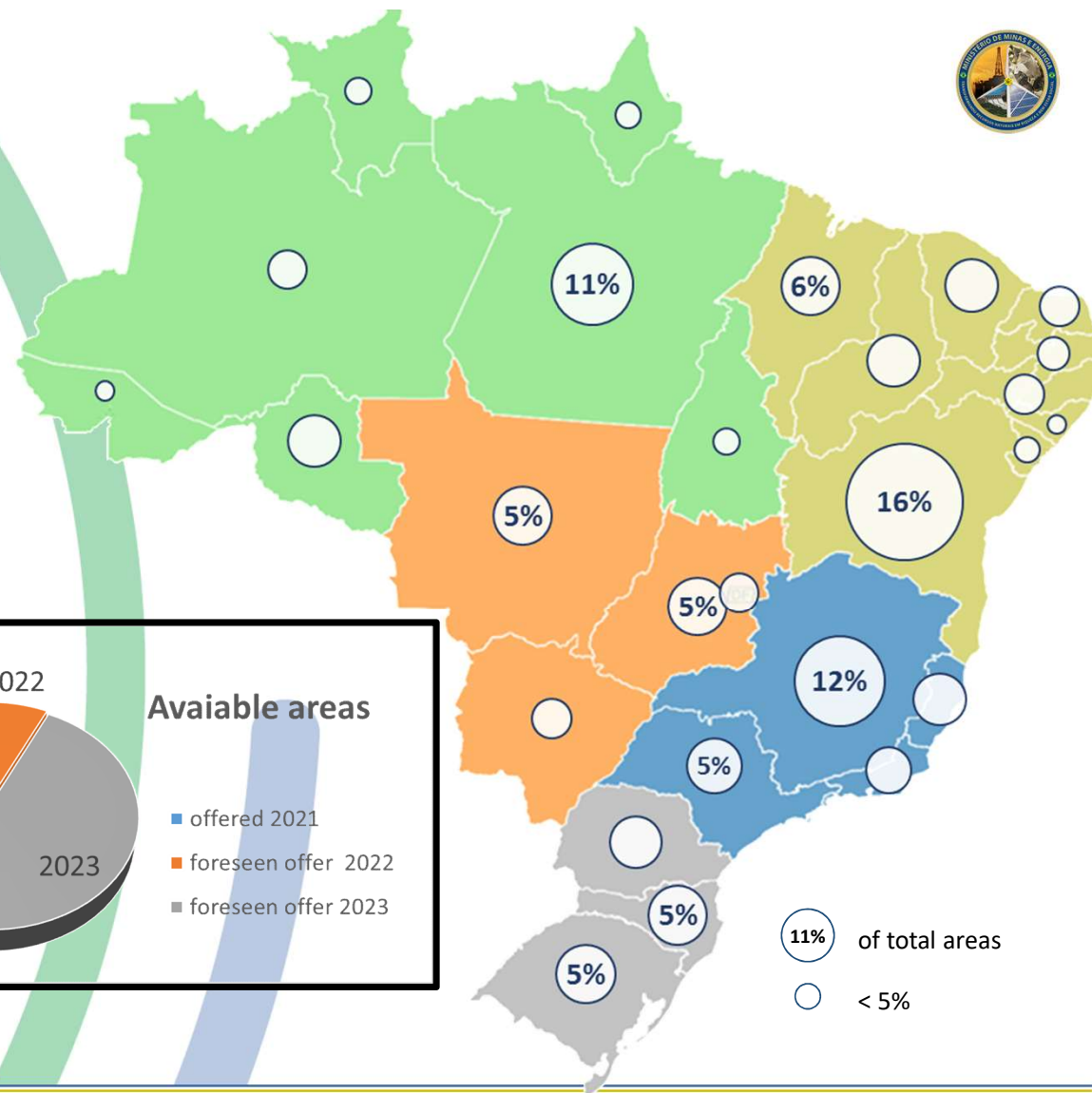
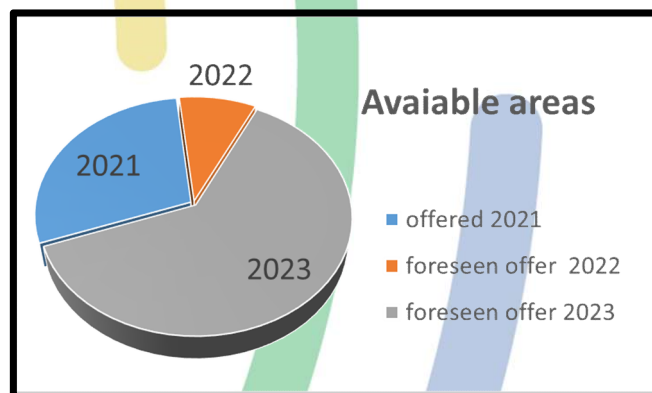
# ANM Mining assets

Available areas stockpile at 2020  
total of 42.203 areas free of restrictions  
70% for exploration, 30% for mining

Six offering rounds carried out  
16,483 areas offered, around 197 km<sup>2</sup>  
50% were finished off  
R\$ 360 millions of revenue

7<sup>th</sup> offering round ~ 4.500 áreas, December 2022

More than 20.000 areas to be offer 2023





# Other Actions & Mineral Exploration

Auctions of CPRM Mineral Exploration rights

Mapping of the Brazilian Continental Shelf

Nuclear Minerals Exploration Promotion

Invest Mining Initiative

Complementary Regulations

6



# CPRM Mineral Assets

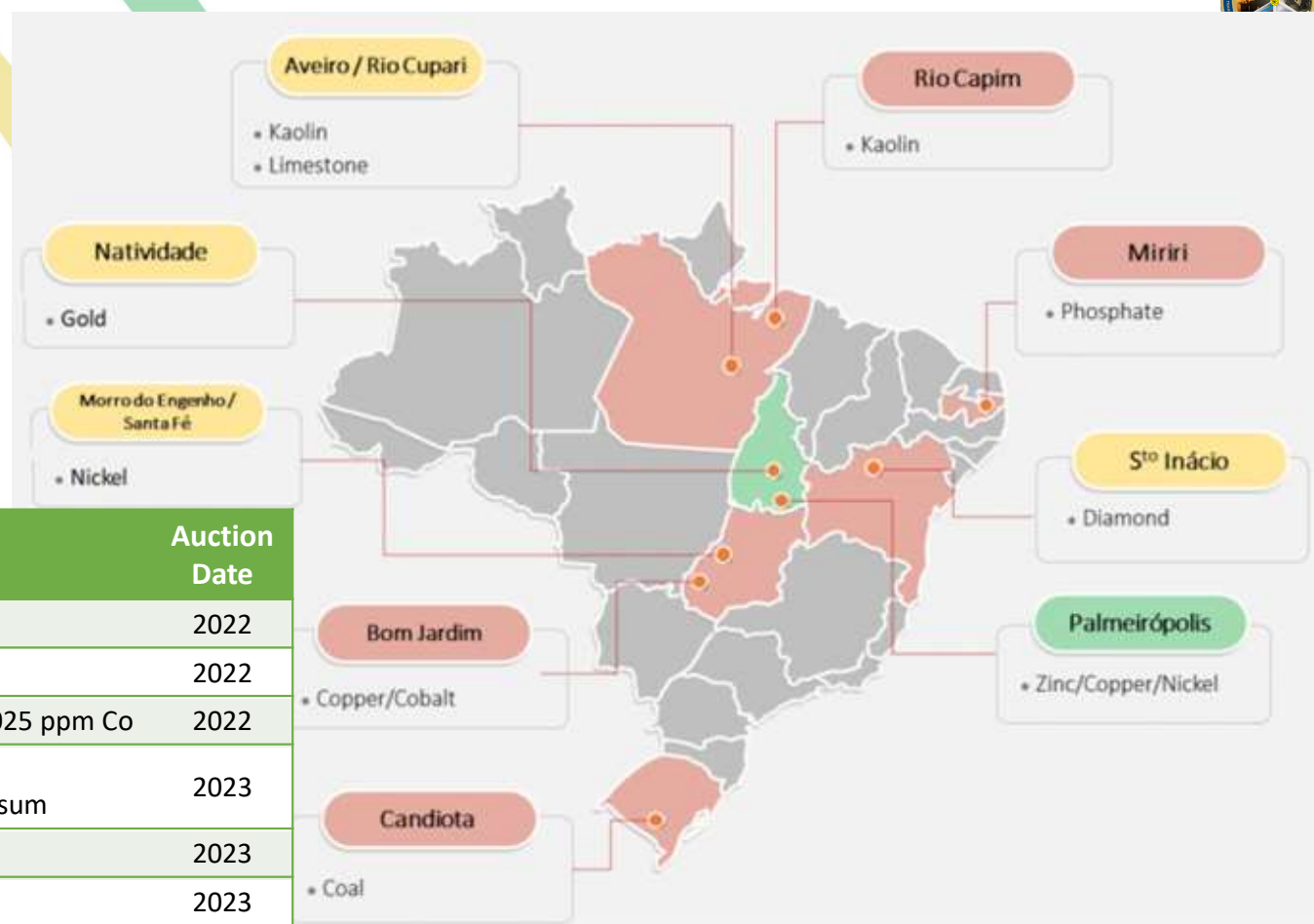


- 332 mineral exploration rights;
- 30 mining projects;
- Exploration works developed between 1970 and 1990;
- Reassessment and certification according to nowadays international exploration, mineral resources and reserves codes.
- Projects with National Priority for private investments, through Investment Partnership Program (PPI)
- Objective: To generate a high added value collection, which can be a catalyst for new investments in mineral research.

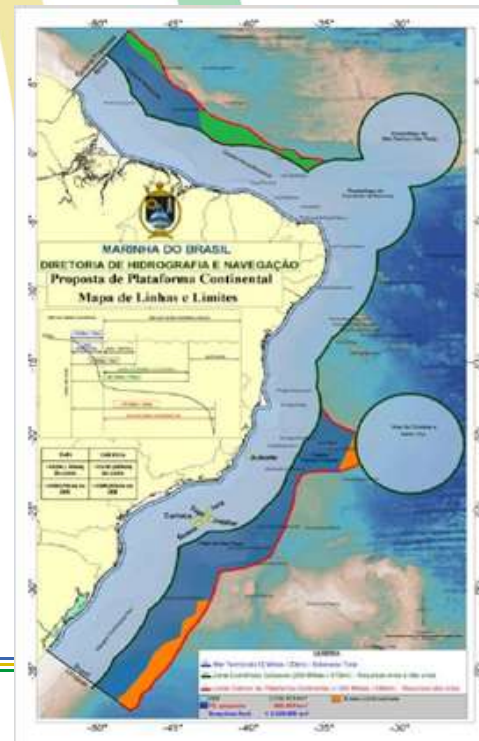
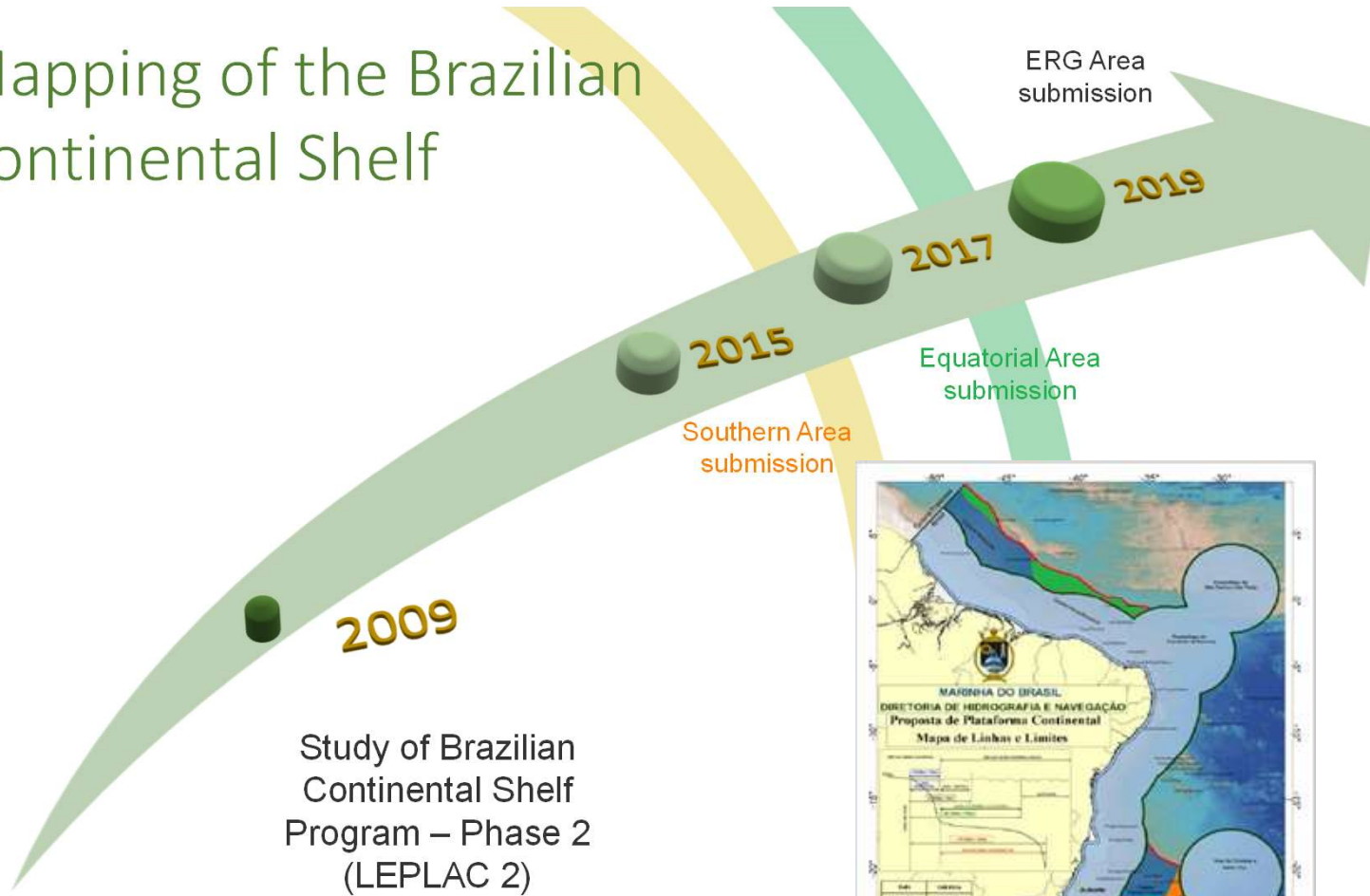
# CPRM Mineral Assets

## Mineral assets 2022/23 auctions

Project	UF	Resources	Auction Date
Kaolin Rio Capim	PA	792 Mt @ 79%Wh	2022
Phosphate Miriri	PE/PB	114,7 Mt @ 4,19% P <sub>2</sub> O <sub>5</sub>	2022
Copper and gold Bom Jardim	GO	12,2 Mt @ 0,21% Cu e 0,025 ppm Co	2022
Agro minerals Aveiro	PA	500 Mt of limetone; 550 Mt of high purity gypsum	2023
Gold Natividade	TO	5 6 t @ 167 oz/t – 30 k oz	2023
Diamond Santo Inacio	BA	244 t @0,58cph/t	2023
Nickel Santa Fé	GO	18,3 Mt @ 1,02% Ni	2023
Coal Candiota	RS	11Bt in situ coal	2023



# Mapping of the Brazilian Continental Shelf

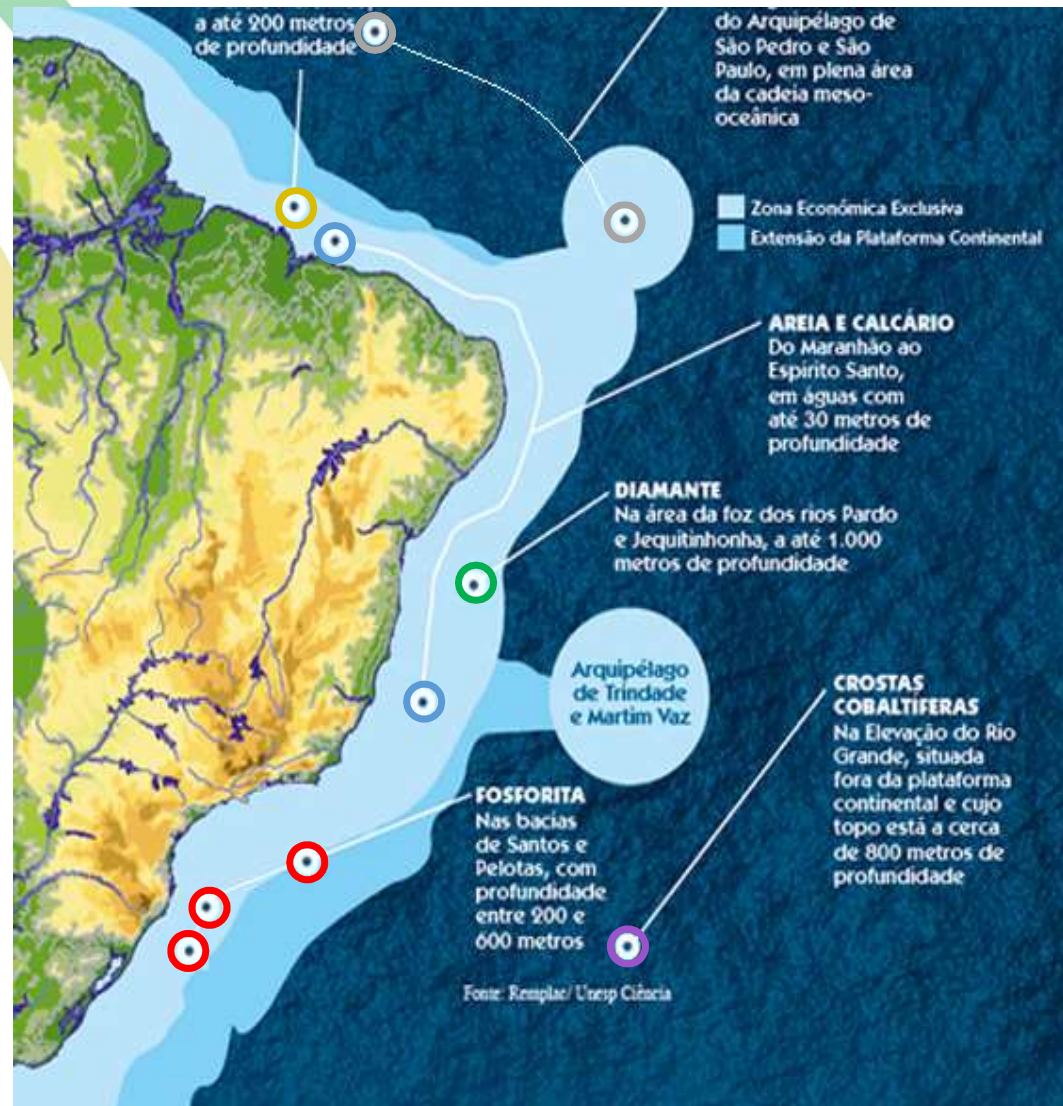




# Mapping of the Brazilian Continental Shelf

## Known minerals potentialities

- Gold and heavy metals - 900 m deep
- Diamond - 1.000 m deep
- Polymetallic Sulfides
- Sand and calcareous - 30 m deep
- Cobaltiferous Crusts - 800 m deep
- Phosphorite – 600 to 900 m deep



# Nuclear Minerals



*Brazilian Constitution 1988 - Nuclear Minerals should be explored and mined under monopole regimen*

Science, Technology and Innovation Ministry

MCTI



Nuclear Energy National Commission

CNEN



Brazilian Nuclear Industries

INB

2018

CBPNB

GT-2

Analysis of opportunity to make more flexible nuclear minerals exploration and mining monopoly

2018 - 2019

CBPNB

GT-6

Elaboration of a planning to pep the nuclear minerals exploration and mining monopoly

2019

INB

transferred to MME

2021

ANSN

Creation

2022

MPV 1.133

INB included at ENBPAR

INB Partnership models

Mining and Energy Ministry

MME



Brazilian Company of Participation for Nuclear Energy

and Binational

ENBPAR



Brazilian Nuclear Industries

INB



MINISTÉRIO DE  
MINAS E ENERGIA

MINISTRY OF  
MINES AND ENERGY





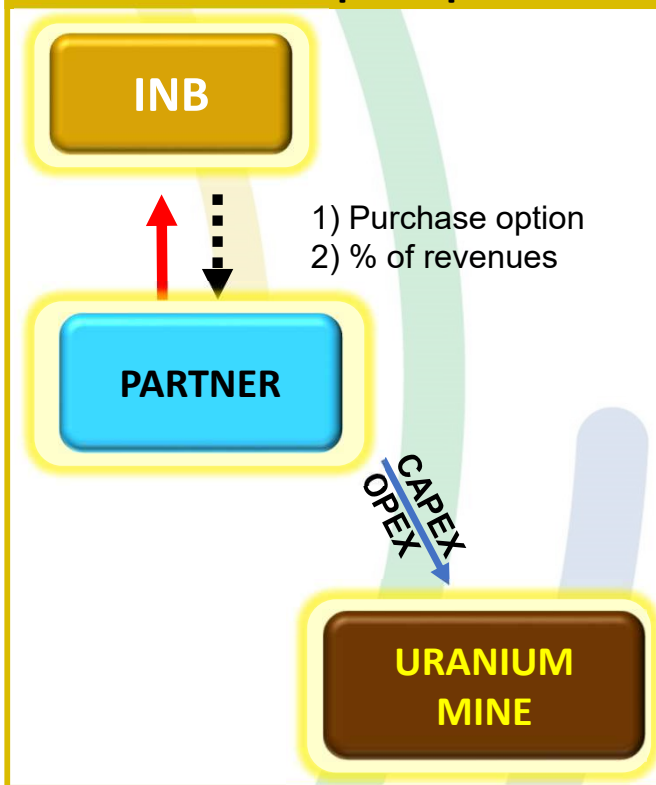
# Medida Provisória 1.133/2022



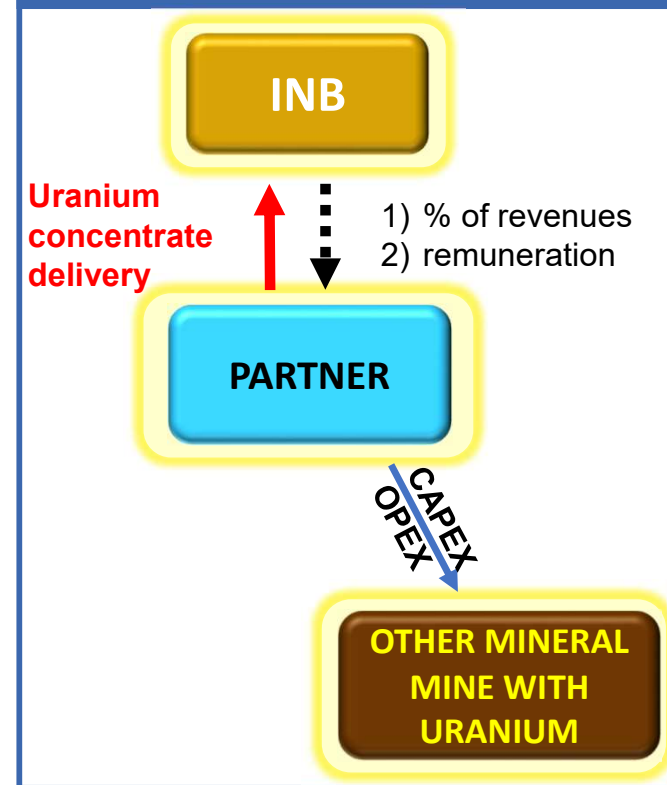
## OBJECTIVES

- Increase legal security and predictability for investments participation in partnership with INB, regarding nuclear minerals exploration and mining
- Resume the regulations about INB skills
- Split ANM and ANSN skills to perform mineral and nuclear licenses
- reduce bureaucracy related to mineral concentrate and byproducts exportation
- Stimulate the use of mining tails that have nuclear elements

## PARTNERSHIP MODEL Uranium principal



## PARTNERSHIP MODEL Uranium by product



# Invest Mining

A network of focal points, members representatives of:

- agencies
- public institutions
- private entities,

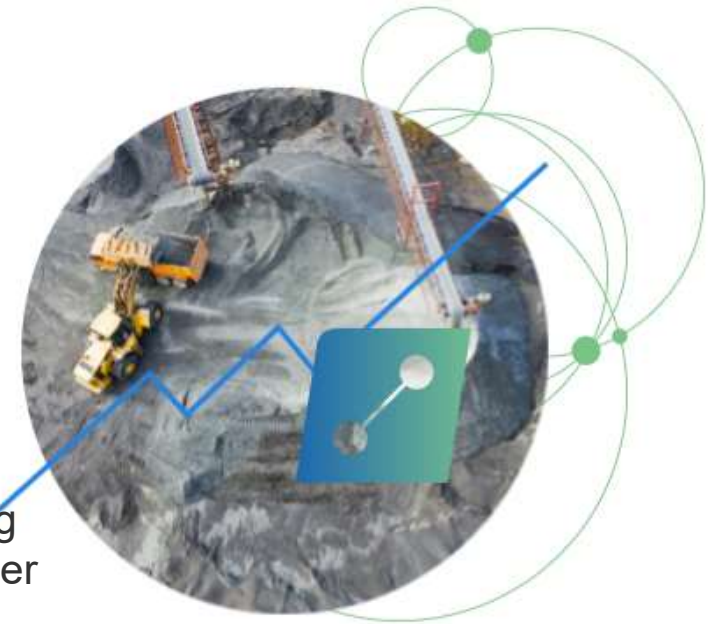
Objectives:

- promote conditions to favor mining financing in Brazil, contributing to the expansion and diversification of mining and enabling a larger number of companies to operate by promoting a culture of investment in mining and raising funds in capital markets.

Actuation:

- propose regulatory improvements
- present to companies minimum governance and sustainability standards, capable of attracting and raising the application of funds and investment in mining companies, minimizing financial risks and mobilizing traditional or innovative financing mechanisms to support sustainable projects in Brazil.

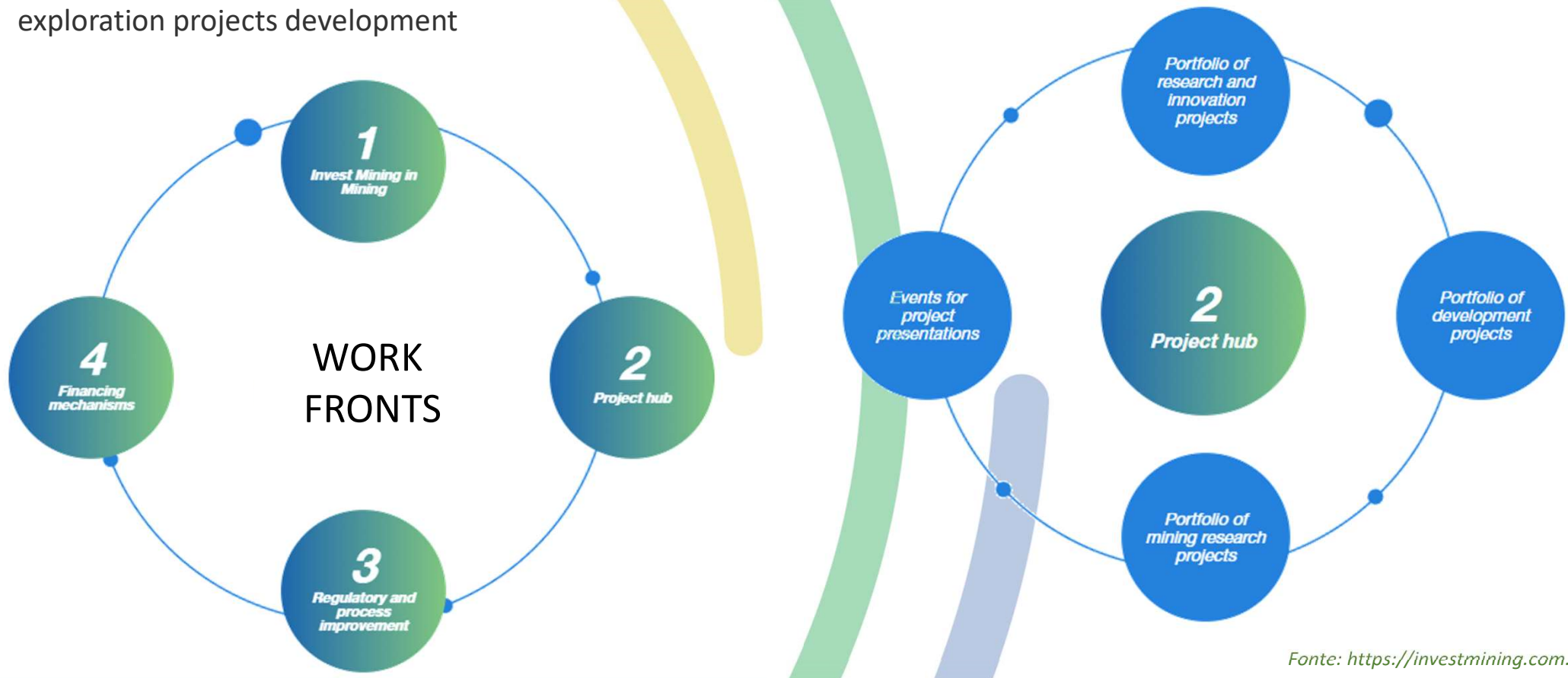
Fonte: <https://investmining.com.br>, 2022





# Invest Mining

Among its 4 Work Fronts it is remarkable the Project Hub for exploration projects development



Fonte: <https://investmining.com.br>, 2022

# Complementary Regulations



- 1 Opening and energizing Lithium market  
Decreto nº 11.120/2022, enable foreign trade of lithium without restrictions
- 2 Projeto de Lei nº 1.488/2022 – guaranties for credit  
Mining rights can be use for financing purposes
- 3 Portaria MME nº 51/2022 - guidelines for geological data base regulations  
Instructions to enable exploration data to be integrated to geological SGB databases
- 4 Portaria MME nº 695/2022 - guidelines for ANM available areas offering  
Define a minimum of two offers annually
- 5 Portaria MME nº 51/2022 - guidelines for geological base geological mapping and studies under partnership between SGB and private companies



Mineral Sector  
Governmental Planning

&

Mineral Exploration



MINISTÉRIO DE  
MINAS E ENERGIA

MINISTRY OF  
MINES AND ENERGY





# Governmental Planning & Mineral Exploration



## Mining National Planning PNM 2030

A framework to the sustainable development of the Brazilian mineral industry.

### Guidelines:

- public governance that promotes the use of minerals for national interests;
- added value in all stages of the mineral industry;
- sustainability in all stages of the mineral productive chain.



*Portaria MME nº 354/2020*

## Fertilizer National Planning 2050

Strengthen policies for Brazil sustainable fertilizers production and distribution competitively increment

### Lines of action:

Nitrogen, Phosphate, Potassium, Emerging chains, CT&I, Environmental sustainability.



*Decreto nº 11.108/2022*

**2010**

**2020**

**2021**

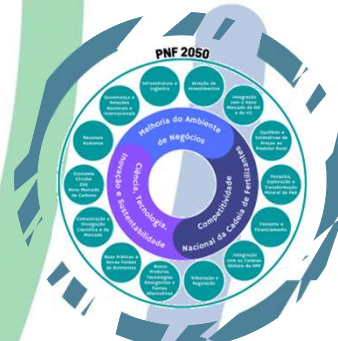
**2022**



## Mining and Development Planning 2020-2023

Goals and Actions Program  
Quantitative and Qualitative  
Expansion of the Brazilian Mining  
Sector

Turning Brazil's Mineral Resources  
Into Wealth for the Sustainable  
Development of the Country



*Decreto nº 10.605/2021*

## Mining National Plan 2050

Strategic agenda to the sustainable development of the mineral sector.

Composed by a set of challengers and policy guidelines for mining, in order to have a competitively and attractiveness that could enlarge the mineral resources use according to the best practices

# Mining National Planning PNM 2030

## Situation at December 2021

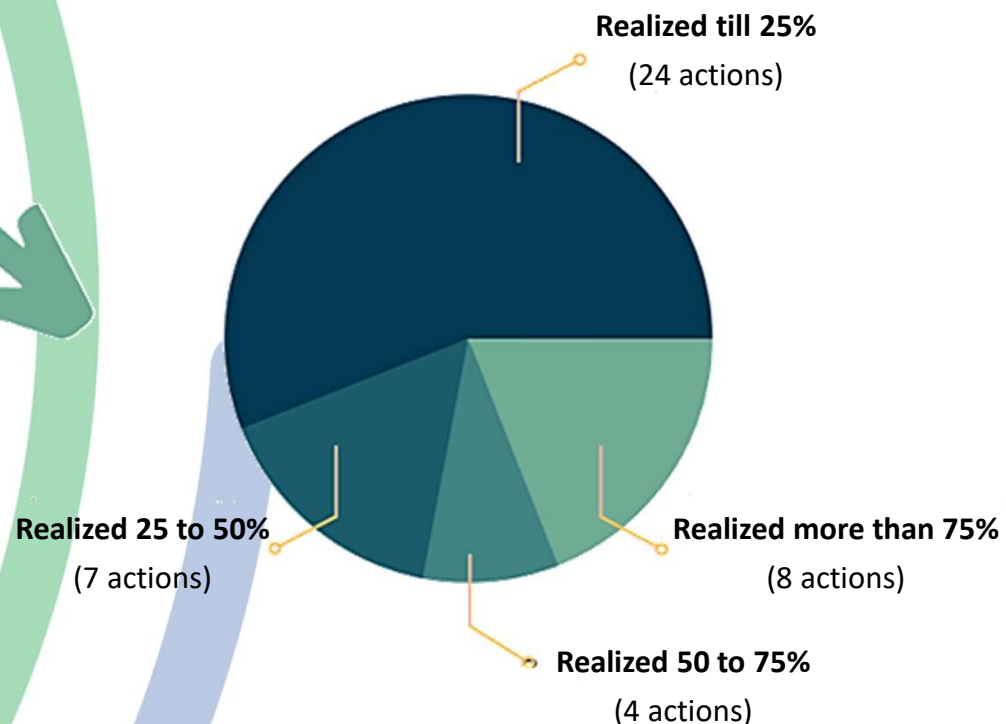


PNM 2030 was launched at 2011  
The balance after half the period let to the summary

**57**  
**ACTIONS**

**25% NOT  
INITIATED**  
(24 ACTIONS)

**75% INITIATED**  
(43 ACTIONS)



# Mining National Planning PNM 2030

## Main Deliveries

### EFFICIENT PUBLIC GOVERNANCE

- Mining Nacional Agency ANM
- PL Royalties - CFEM
- Mining Code Regulation

### GEOLOGIC KNOWLEDGE

- Enlargement
- Brazilian Continental Shelf

### STRATEGIC MINERALS

- PRO-Strategic Minerals Policy
- Fertilizer National Planning

### MINING IN AREAS WITH RESTRICTIONS

- PL Mining at Indigenous Lands
- PL Mining at Border Range

### INFRAESTRUTURE

- CT-Mineral
- Study about Strategic Logistic Corridor- Iron ore

### P, D & I

- CT-Mineral
- % CFEM for CETEM

### FORMALIZATION AND FORTALIZATION OF MAPE

- MAPE Program - PROMAPE
- Small Scale Mining Good Practice Guide

### SUSTAINABLE PRODUCTION

- Mining Tailing Dams Regulation
- Mining Tailing Dams Oversight Procedures

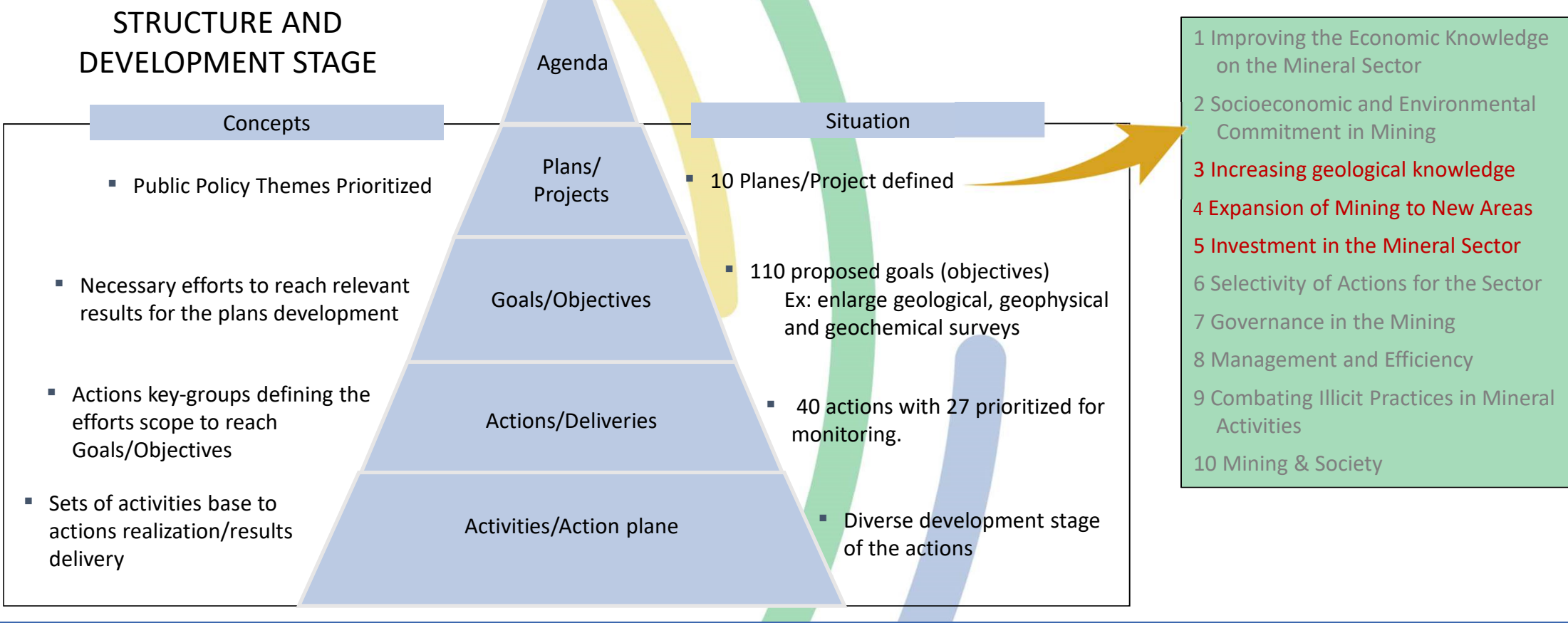
### VALUE AGREGATION WITH COMPETITIVENESS

- Inova Mineral
- Advance Material Program by FINEP



# Mining and Development Planning

## PMD 2020-2023



# Mining and Development Planning

## PMD 2020-2023



### DEVELOPING MINING TO DEVELOP BRAZIL

**BRAZIL IS A MINERAL POWER, AND MINING IS A VECTOR OF PROGRESS AND A SYNONYM FOR DEVELOPMENT**

Brazil holds significant mineral potential and has to employ such goods in a way that meets the country's demands and the needs of the world society

- *Define guidelines for the Brazilian Mineral Sector*
- **Guide for all stakeholders** of mining activity, public and private

### MONITORING PAINEL

#### MINING AND DEVELOPMENT PROGRAM 2020-2023

SECRETARIA DE  
GEOLOGIA, MINERAÇÃO E  
TRANSFORMAÇÃO MINERAL

SGM

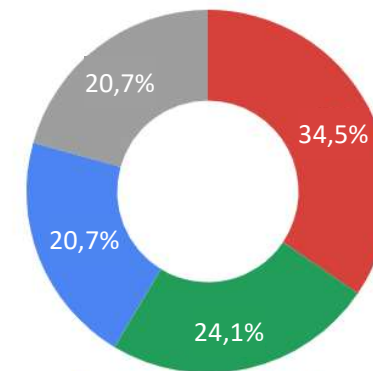
Total Actions

45

Prioritized

29

Actions Status – PMD  
(prioritized actions)



● initiated/late ● in day ● finished ● planning ● not initiated/late ● not initiated



# Fertilizers National Planning 2022-2050



Nitrogen  
Phosphate  
Potassium  
New materials



## Objectives:

- Public and private actions coordination to improve fertilizers production with competitiveness
- Decrease the technologic and production importation dependence
- Increase the Brazilian agribusiness international competitiveness

## The Fertilizers and plants Nutrition National Council is responsible to:

- Coordinate and monitoring the PNF implementation,
- Edit complementary regulations
- Promote articulations/integration for PNF 2022-2050 execution

## Technical Groups regarding mineral raw material:

- Emerging Fertilizers Value Chain
- NPK Fertilizers
- Regulations, Economic, Infrastructure and Logistic Matters
- Science, Technology and Innovation versus Environmental Sustainability

# Brazilian Mineral Policy

Decreto nº 11.108  
29 de junho de 2022



## 1. Principles

## 2. Governance

- Robust
- Wide participation
- Defined Competency

## 3. Planning Instruments

- Effective
- Periodical
- Reliable

## 4. Monitoring System

Mineral Policy  
National Council

Long Term Planning

Short Term Planning



MINISTÉRIO DE  
MINAS E ENERGIA

MINISTRY OF  
MINES AND ENERGY



# Brazilian Mineral Policy Principles



- 1 rational use of national mineral resources  
maximization of socio-economic benefits
- 2 mining sustainable development promotion  
mining environmental responsibility
- 3 adding value to mineral products  
adding value in mineral production chains
- 4 research, development and technological innovation
- 5 promotion of competition and investment attraction for mineral  
research and mining development increase in Brazilian competitiveness

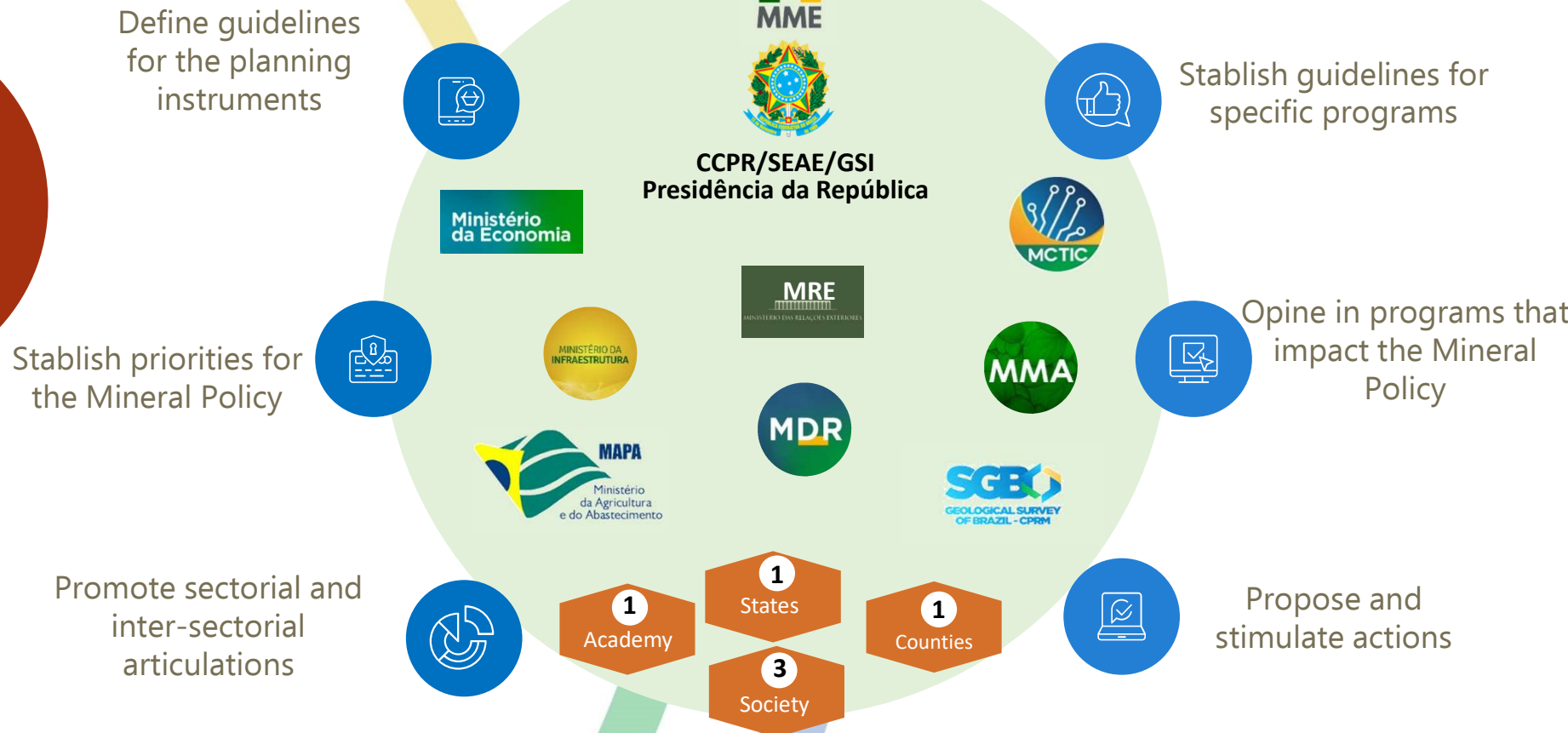




# Mineral Policy National Council - CNPM

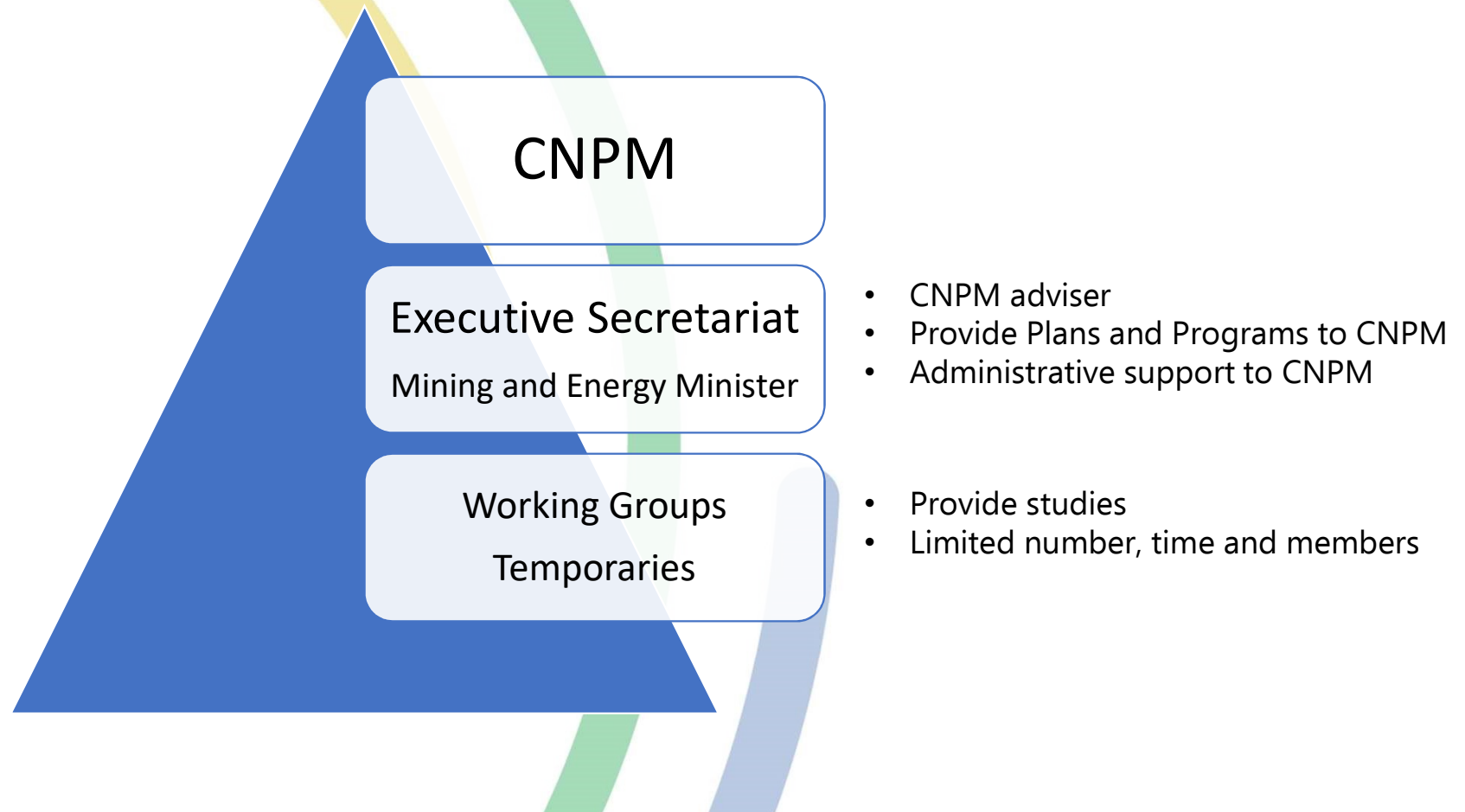
18

Participants





# Mineral Policy National Council Governance







# Brazilian Mineral Planning Instruments



# Mining National Plan 2050

## PNM 2050



### Pillars

1. Mineral Resources Use
2. Competitiveness and Investments
3. Sustainable Development

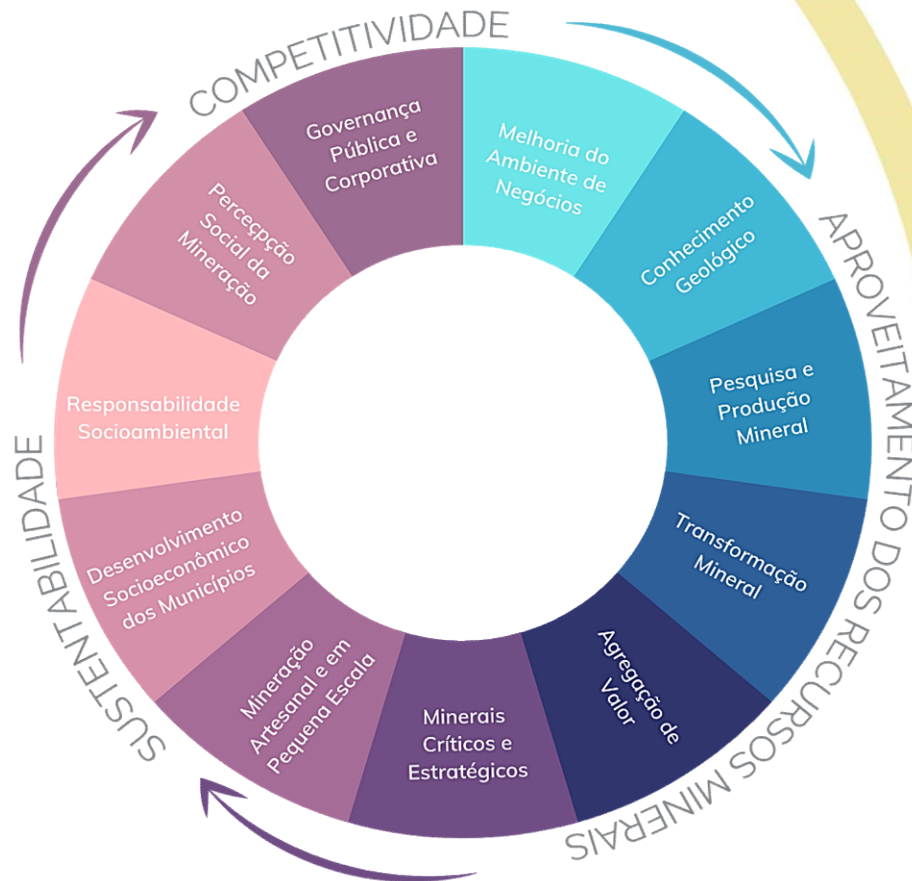


*Preliminary version  
public consultation  
November 22<sup>th</sup> till January 22<sup>th</sup>*

### Thematic Studies



# PNM 2050



## Pillars & Themes

- Transversality
- Synergy
- Dynamism

Brazilian Mining Sector Challengers



# PNM 2050 - Themes



# Theme 2 – Geological Knowledge



## Challengers

- 1 *Basic geological knowledge enlargement*
- 2 *Sea bed geoscientific and mineral resources knowledge enlargement*

## Strategic Guidelines

- ☐ *Improvement of the investments in the generation of geological knowledge*
- ☐ *Mining territorial planning*
- ☐ *Intensification of mapping of the Brazilian Continental Shelf*
- ☐ *Deep bed sea exploration and mining regulation*



# Theme 3 – Mineral Exploration and Production



## Challengers

- 1 Increase in the offer of areas to exploration
- 2 Increase in the mineral exploration investments

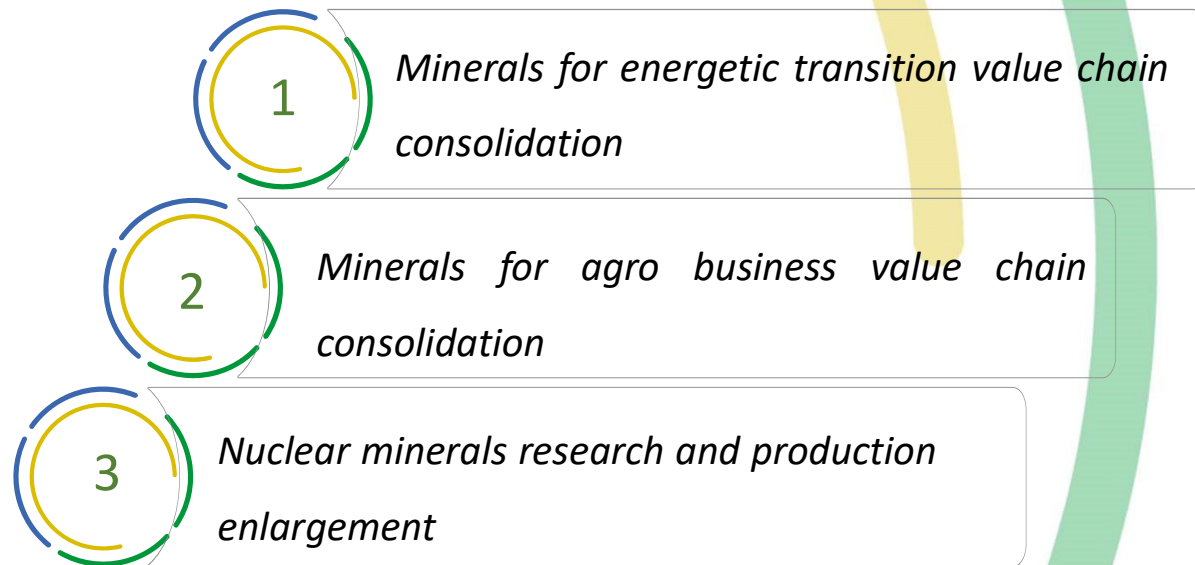
## Strategic Guidelines

- ☐ Continuous offer of available areas ANM
- ☐ Stimulation for productivity titled areas
- ☐ Mineral Exploration financing promotion
- ☐ Small scale companies capacitation for finance capture



# Theme 5 – Critical and Strategic Minerals

## Challengers

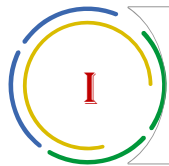


## Strategic Guidelines

- ☐ Intensification of geological research focusing critical and strategic minerals
- ☐ Impulse for expansion of ongoing projects and operations
- ☐ Certification for environmental efficiency (green stamp)
- ☐ Impulse for expansion of Remineralizadores and natural fertilizers' use
- ☐ Improvement of nuclear minerals regulations

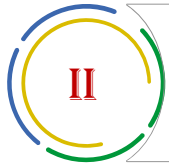


# Strategic Minerals – Brazilian View



## I Minerals of Which the Country is Import Dependent

Sulfur  
Phosphate ore  
Potassium ore  
Molybdenum ore



## II Minerals Used in High Technology Products and Processes

Cobalt ore	Platine group ore	Silicium ore	Titanium ore
Coper ore	Lithium ore	Thallium ore	Tungsten ore
Tin ore	Niobium ore	Tantalum ore	Uranium ore
Graphite ore	Nickel ore	Rare Earths ore	Vanadium ore



## III Mineral Goods the Country has Comparative Advantages Regarding Others

Aluminum ore	Gold ore
Coper ore	Manganese ore
Iron ore	Niobium ore
Graphite ore	Uranium ore



# The performance of Brazilian Mining Sector





# Brazilian Mining Performance - 2021



**MORE THAN 50  
MINERAL SUBSTANCES**



**R\$ 339,1 BILLIONS**  
Brazilian Mining Production  
estimated value



**2,5% of the  
BRAZILIAN GDP  
(4% including O&G)**



**MORE THAN 2.500**  
Producer Counties and 500  
Affected Counties



**MORE THAN 180.000**  
Direct jobs  
and 2 million indirect jobs



**US\$ 51 BILLION** of  
exports; 67% of Brazilian  
balance of trade  
(US\$ 80 billions, including  
mineral transformation)



**R\$ 10,3 BILLION**  
Mining Royalties



**MORE THAN 200.000  
MINING RIGHTS**

Source: ANM / IBRAM / ComexStat

# Recent Upgrade | results



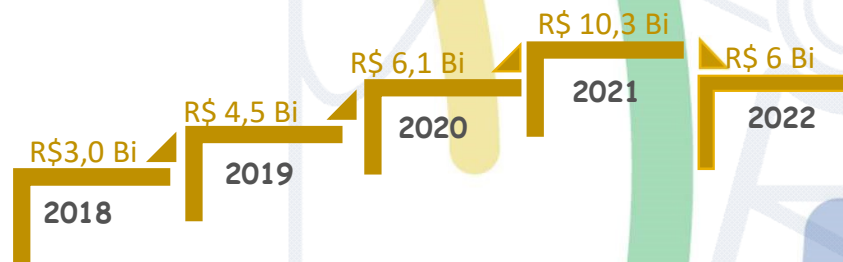
Brazilian Investments in Mining:  
prediction for 2021 - 2025

## US\$ 41 Billions



**~20.000 Mining Rights**  
(5.000 Mining Concessions)

### CFEM - Royalties



### Mineral Balance of Trade



**16.500 AREAS OFFERED**

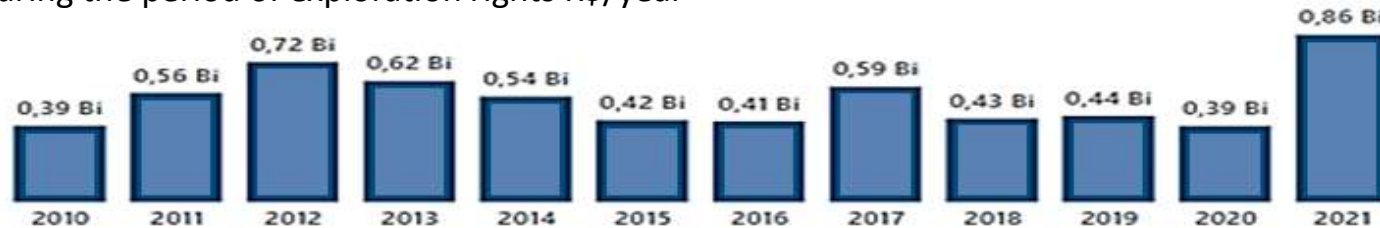


**8 Auctions | \$ 360 Million Profits**

# Exploration Investments



During the period of exploration rights R\$/year



During the period of mining rights R\$/year

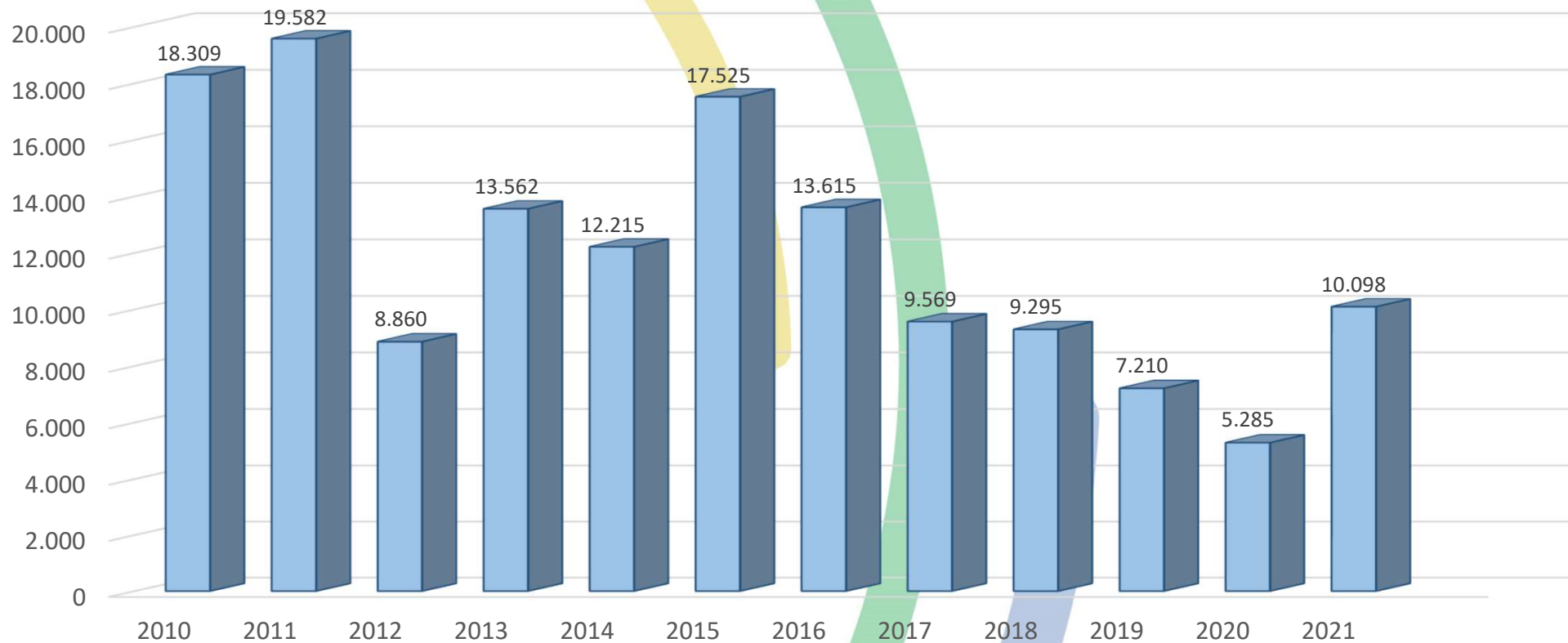


Total investments in Mineral Exploration R\$/year



Fonte: site ANM, 2022

# Exploration Rights



Fonte: site ANM, 2022



MINISTRY OF  
MINES AND ENERGY



PÁTRIA AMADA  
**BRASIL**  
BRAZILIAN GOVERNMENT