

# Maranhão

Innovation and International Cooperation

João Arthur Reis International Advisor



### Maranhão

Population: 7 million

Area: 331.983.293 km<sup>2</sup>

Located in both Northeast region and Legal Amazon

Vast natural resources and potentialities



### Maranhão is a logistic hub



# Maranhão Foundation for Research, Science and Technology Development - FAPEMA

What we do?

Funding for basic and applied research

Subsidizing government policies in cutting-edge research fields

Support
upgrading
strategy in
production
chains intensive
in natural
resources

Fostering
international
cooperation
on research,
science and
innovation

#### Inova Maranhão



### Three main areas of cooperation



Renewable energy sources



Biotechnology and natural resources



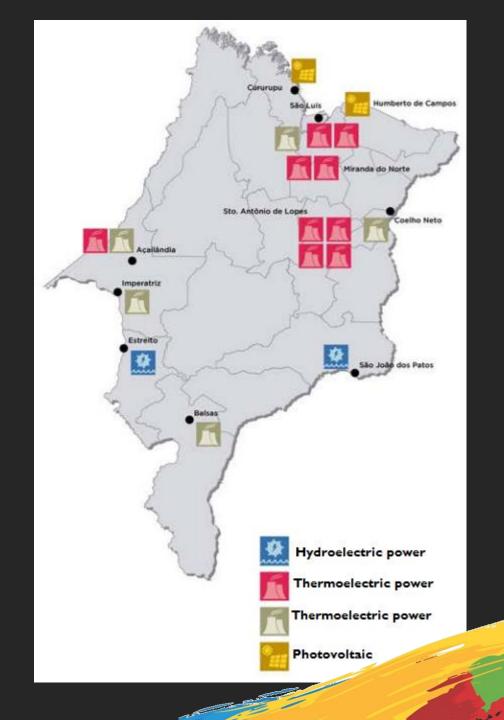
Agricultural production chains



### State with Energy Surplus

Current generation capacity: 3065 MW/h
Current energy consumption: I585 MW/h

Maranhão advances in energy production and distribution as strategic differentias in the diversification of its energy matrix



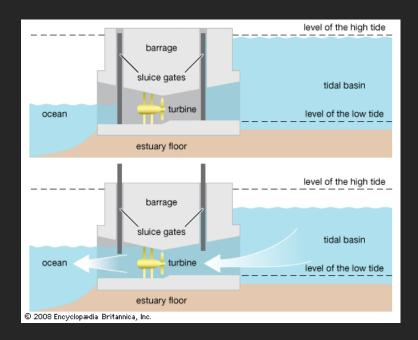


# Oceanic and river energies

Maranhão has the one of the highest tide variations in the the world

High Potential Areas for Tidal Resources Canada: British Columbia, the UK: ~18TWh/yr of technically India: The Gulf of Kutch and Korea: In the south, around Bay of Fundy and the St. extractable tidal current the Gulf of Khambhat in the Mokpo, the tidal currents are awrence seaway are some of resource 40% ofitis State of Gujarat both have amongst the fastest in the world he world's best tidal current concentrated in the far north of According to KORDI, the Korea significant tidal power Scotland (Pentland Firth and es ources and are close to resource fortidal current power resource >260MW significant electricity demand Orkney Islands) US: Alaska, Washington, Japan: Excellent resources California and Maine have between the islands good power density. Clear China: has enormous tidal over particular sites current resources as well as river resources. Best large tidal sites found in Shanghai Chile: At least 500MW and Zhejiang province region potentially available France: Strongtides around the Channel Islands Australia: King Sound in the North West has tides in the world

A National Institute of Science and Technology on Oceanic and River Energies was established in Maranhão



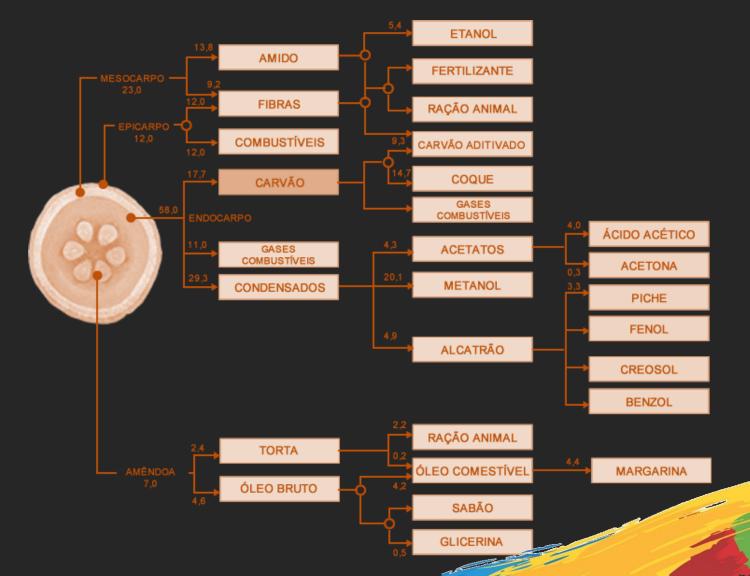
### Babaçu

How to make the best and more sustainable use of such rich natural

resource?







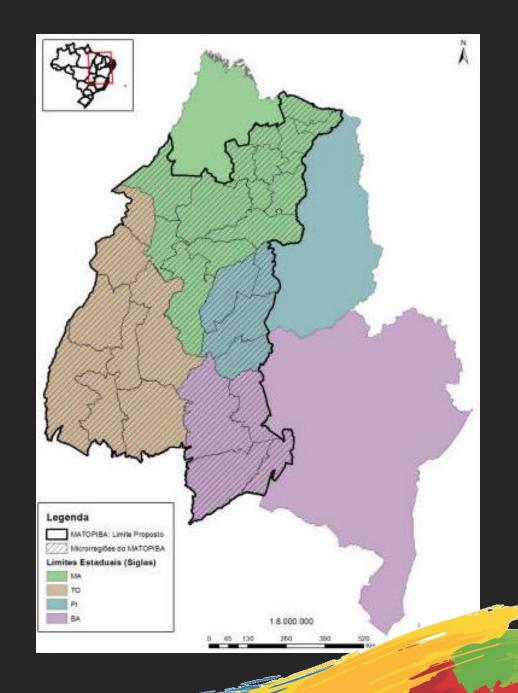


# MATOPIBA: Maranhão, Tocantins, Piauí and Bahia

• Brazil's agricultural frontier

• GDP: I 12 bi USD

• Given its strategic position and existing infrastructure conditions, Maranhão is na important access route to the potentialities of MATOPIBA.





## "More Production" Program



**Objective:** strengthen 10 strategic productive chains in order to verticalize it and aggregate value

**Current bottlenecks:** processing, storaging and commercialization

Cooperation opportunities: investment and technical exchange





## Rice production: Salangô project

- Ist productor in the Northeast region and the fifth largerst rice producer in the country
- In 2016, almost 3 mi BRL were invested in equipment and infrastructure
- Main challenge: technology for increasing productivity and alternatives for grain processing and storage



## Thank you!

João Arthur Reis International Advisor joao.reis@fapema.br