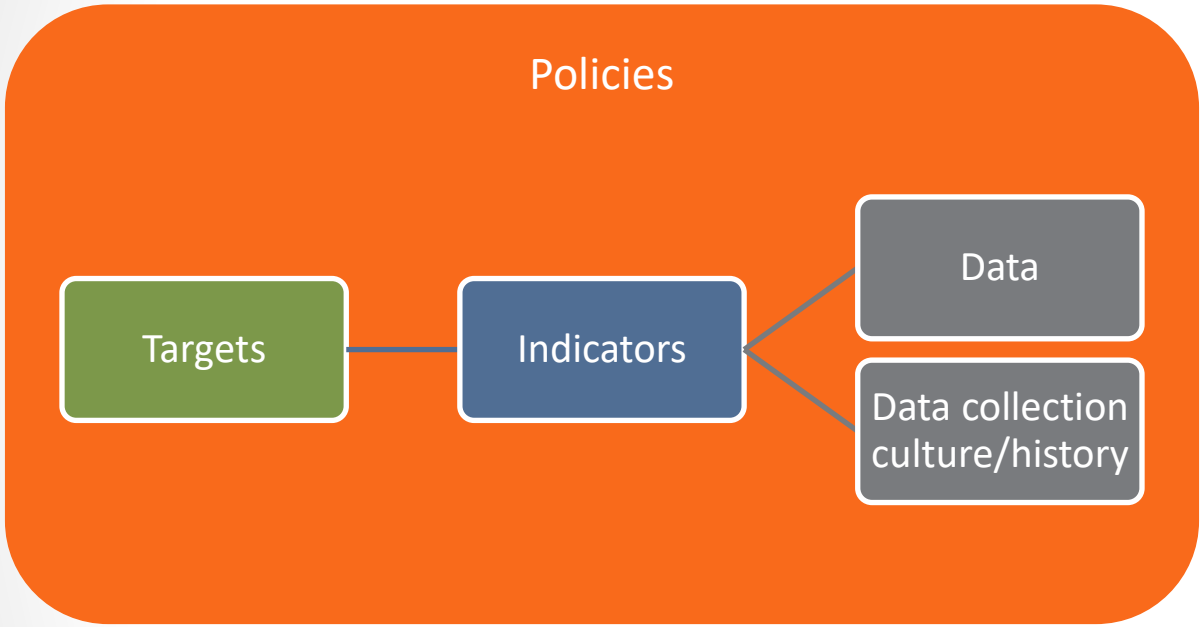
Role of targets in Brazilian Energy Transition

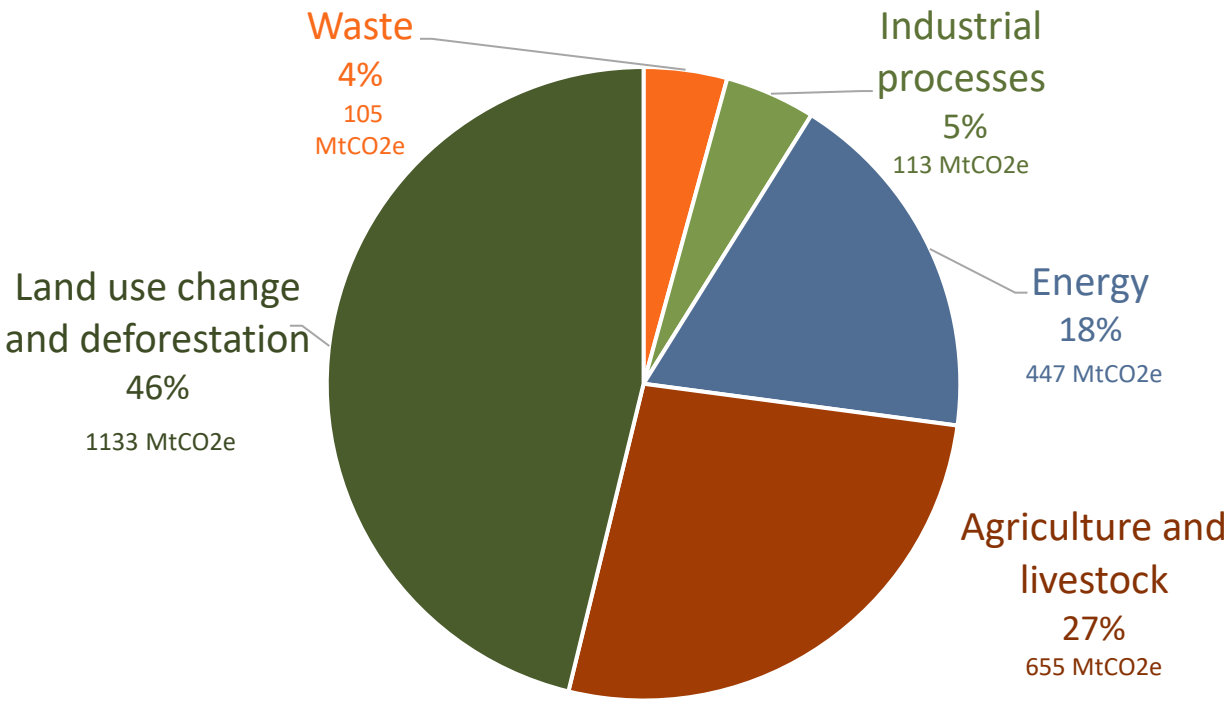
Stefania Gomes Relva, PhD

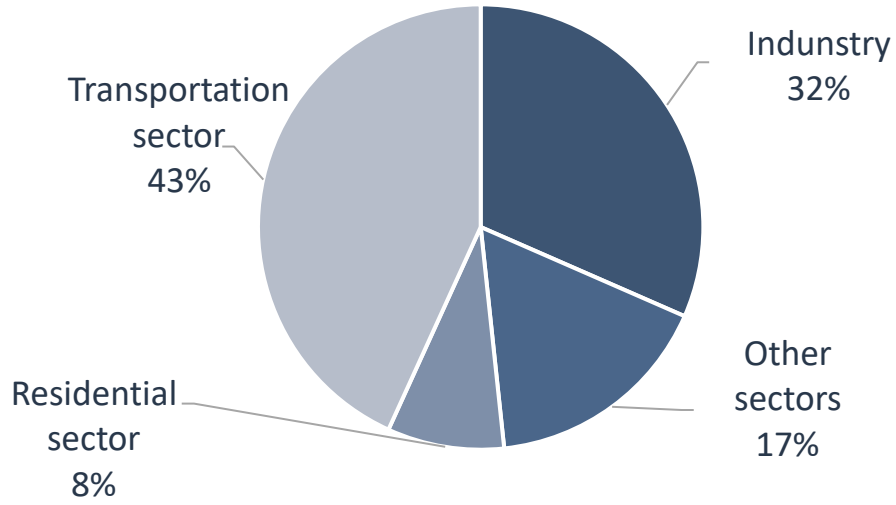
Agenda



1. *Emissions in Brazil*
2. *Brazilian NDCs*
3. *Brazilian data*
4. *Energy transition policies tendency in Brazil*
5. *Final considerations*

GHG Emissions in Brazil 2021/2022





45% of Renewable in the energy supply mix

90% of renewables in electricity supply mix

Source: EPE and SEEG

transição energética

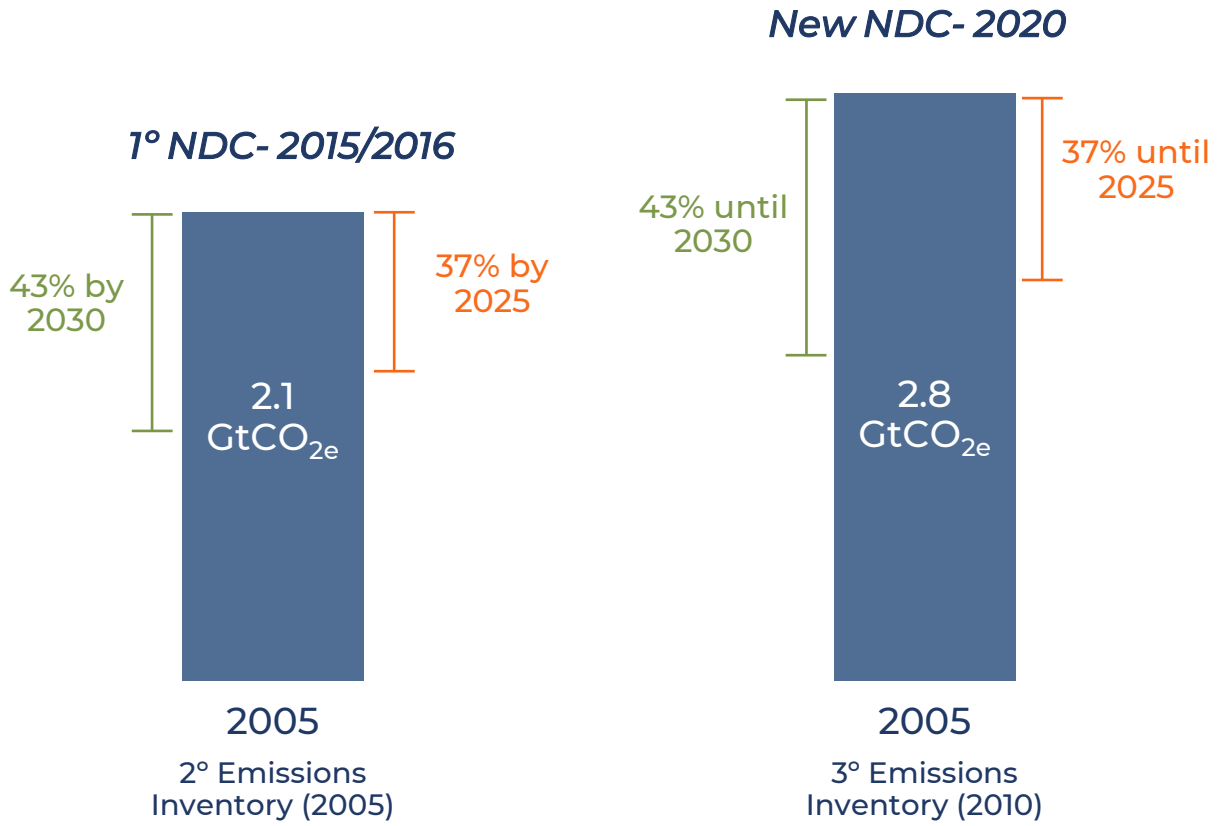
Brazilian NDCs

The annex of 1° NDC – sector targets to 2030:

- *eliminating illegal deforestation in the Amazon,*
- *restoring 12 million hectares of forests,*
- *achieving between 28% and 33% of non-hydropower renewable energy in the national energy mix.*

The NDC presented in 2020 did not offer any indication of sector-specific measures to reach the proposed targets.

The new government probably will launch a new NDC

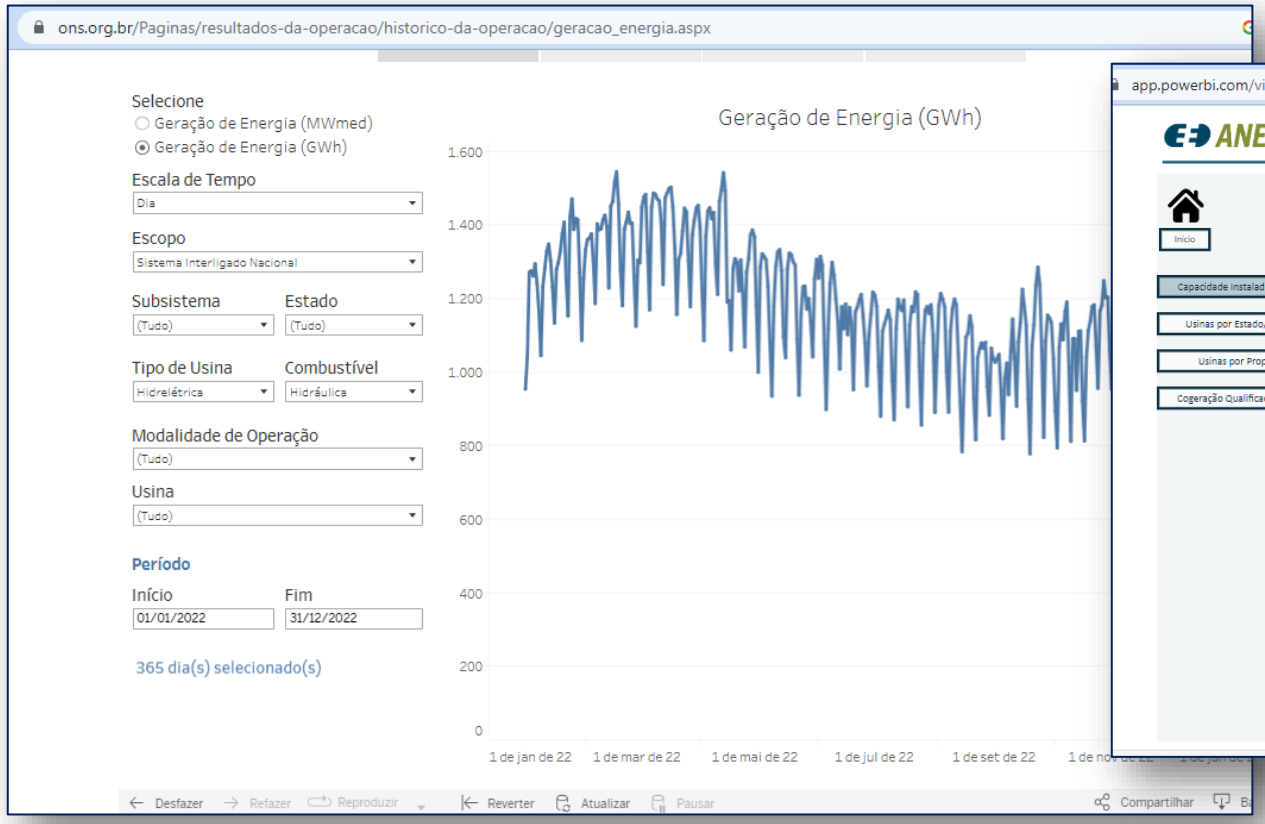


The new NDC enables Brazil to emit around 400 million metric tons of greenhouse gases, exceeding the target submitted in 2015

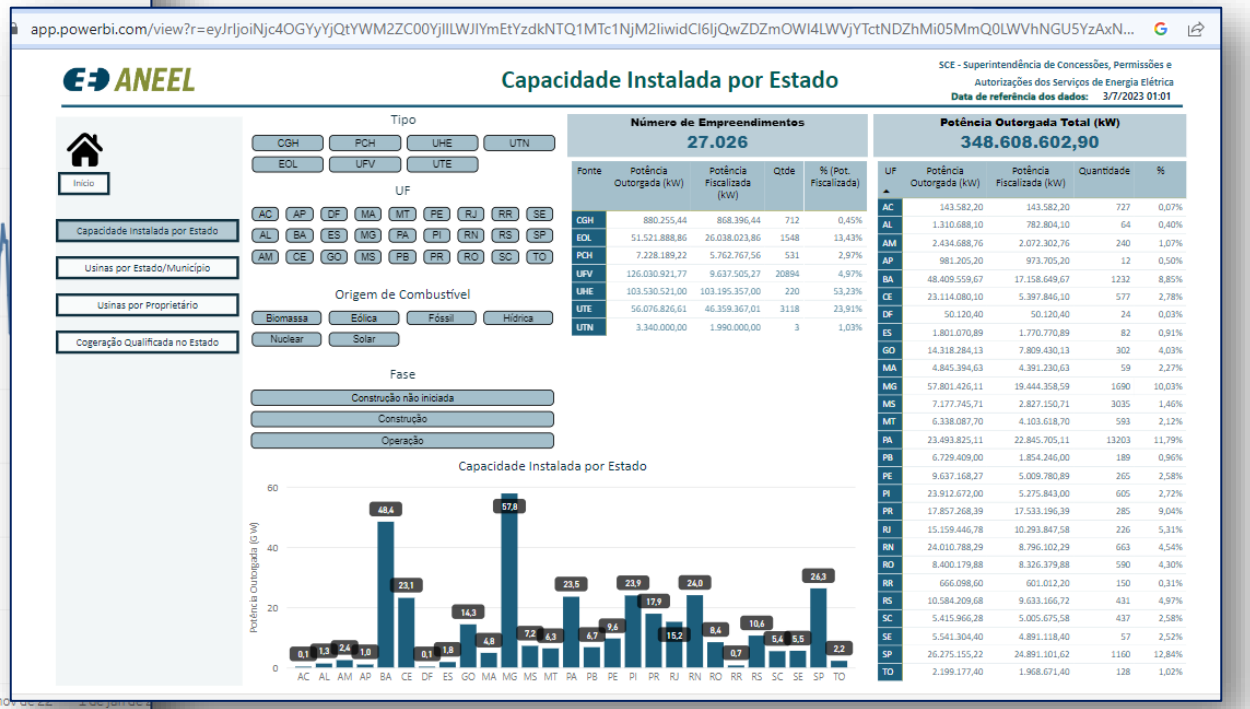
transição energética

Brazilian Data – Energy sector

ONS - National power system operator *Link*



ANEEL - National energy regulatory agency *Link*

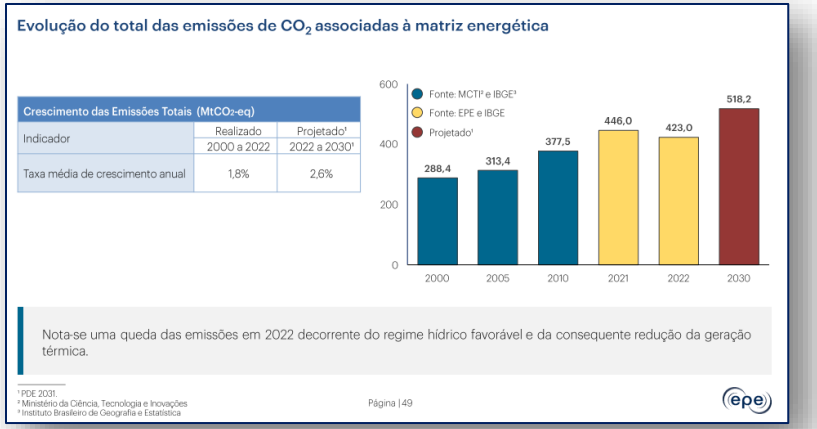


transição energética

Brazilian Data – Energy sector

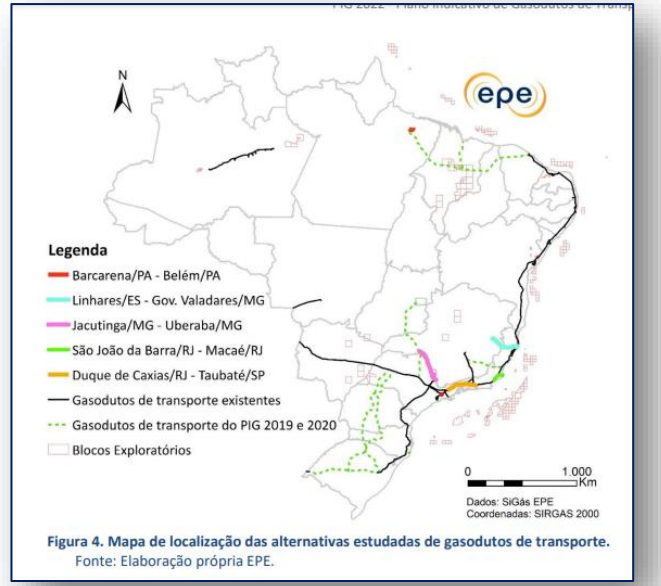
EPE - Energy Research Company of the Ministry of Mines and Energy

Link



Annual energy balance

10 years energy planning



Pipelines expansion plan

transição energética

Brazilian Data – Emissions and Land use

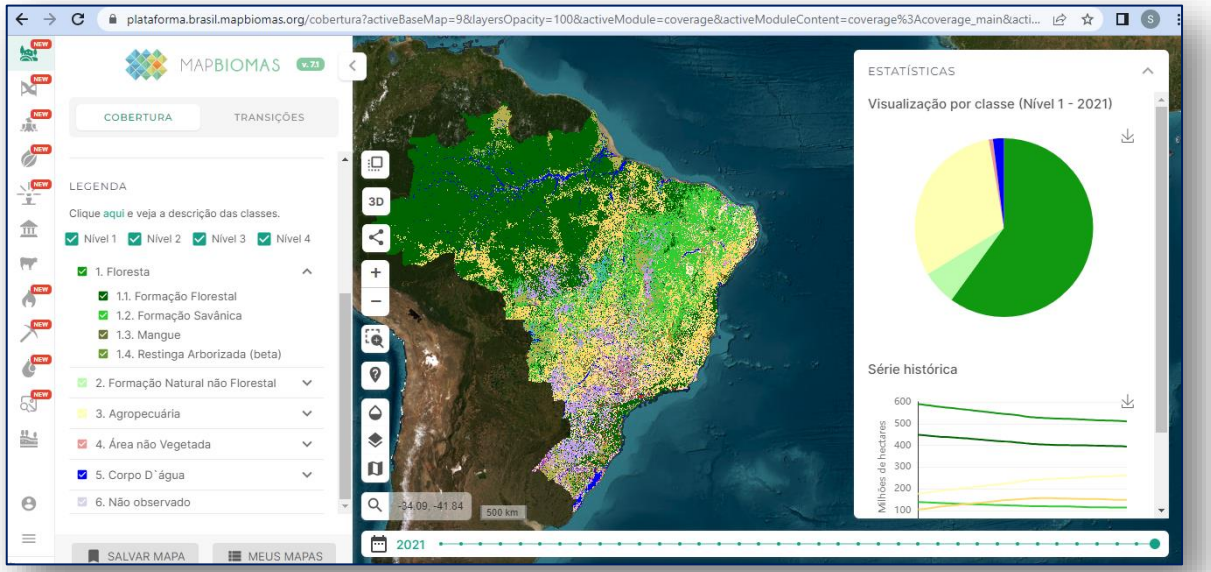
Seeg *– Non-governamental – financed by philanthropy*

Link

Emissions by sector, by different industries, historical series
Difficulties in receiving actual data – industries emissions by estimation

Biomass *- collaborative network composed of NGOs, universities, and technology startups*

Link



Annual mapping of land cover and monitoring of water surfaces and fire scars

transição energética

Energy transition polices

Initiatives at the secretary level

Ministry of Development, Industry, Trade, and Services

Secretary of Green Economy, Decarbonization, and Bioindustry

Ministry of Environment and Climate Change

National Climate Change Secretary

Ministry of Mines and Energy

Secretary of Planning and Energy Transition

No initiatives at the secretary level

Ministry of Transportation

Ministry of Science, Technology and Innovation

Lula autoriza mais R$ 300 milhões para programa do carro popular

O montante autorizado por Lula se somará aos R$ 500 milhões liberados pelo governo inicialmente – valor que já se esgotou

Igor Gadelha

Compartilhar notícia

O presidente Lula decidiu autorizar a liberação de mais R$ 300 milhões para o programa de incentivo à venda de carros populares no Brasil. O montante se somará aos R$ 500 milhões liberados pelo governo inicialmente – valor que já se esgotou.

"Lula authorizes an additional R$ 300 million for the popular car program.

The amount authorized by Lula will be added to the initially released R$ 500 million, which has already been depleted.

President Lula has decided to authorize the release of an additional R$ 300 million for the program incentivizing the sale of popular cars in Brazil. This amount will be added to the initially released R$ 500 million, which has already been exhausted."

transição energética

Final Considerations

Targets for energy transition may go beyond GHG emissions and renewables :

- *Green jobs*
- *Water footprint (CCS, H2)*
- *Mineral depletion*
- *Land use*
- *Hazardous waste*
- *Energy efficiency (modernization)*
- *Bureaucracy*
- *Subsidies*
- *Certifications according to country specificities*
- *Cross-sectors policies/targets*

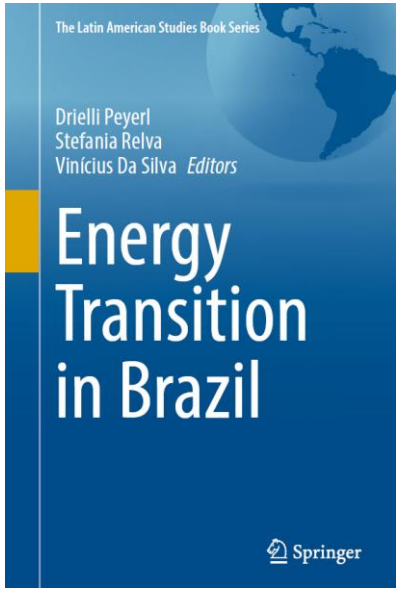
This targets are linked to an economic policy

Brazil is a Green Power and Energy Transition is a window of opportunity!

- *Renewable Resources: sun, wind, biomass.*
- *Land.*
- *Water.*
- *Integrating sectors, adapting alternatives to our reality, and adding value to the national industry through green production, Brazil can become a supplier of high-value green products to the world!*

transição energética

Final Considerations



Energy 220 (2021) 119659

Contents lists available at ScienceDirect

Energy

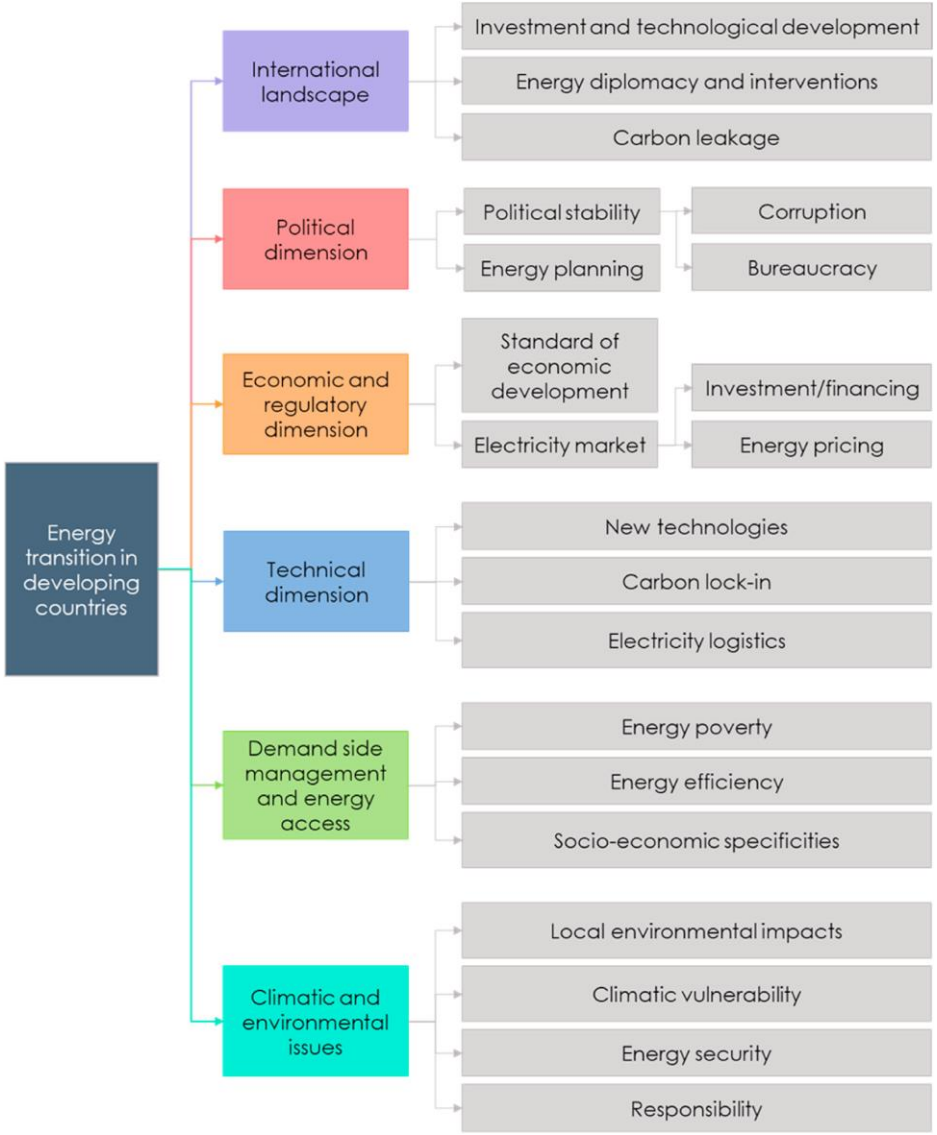
journal homepage: www.elsevier.com/locate/energy

Enhancing developing countries' transition to a low-carbon electricity sector

Stefania Gomes Relva [a], Vinícius Oliveira da Silva [a, *], André Luiz Veiga Gimenes [a], Miguel Edgar Morales Udaeta [a], Peta Ashworth [b, c], Drielli Peyerl [d]

[a] Energy Group of Department of Energy and Electrical Automation Engineering of the Polytechnic School, University of São Paulo, Av. Professor Luciano Gualberto, Travessa 3, Nº 158, Prédio da Engenharia Elétrica, São Paulo, Brazil
[b] School of Chemical Engineering, The University of Queensland, Brisbane, Australia
[c] Center for Coal Seam Gas, The University of Queensland, Brisbane, Australia
[d] Institute of Energy and Environment, University of São Paulo, São Paulo, Brazil

Conceptual framework of the dimensions of impact on the energy transition in developing countries.



transição energética

Thank you!
Obrigada!

stefania.relva@emaisenergia.org

transição energética

www.emaisenergia.org

emaistransicaoenergetica

emaistransicao

emaistransicao

emais transicao energetica