

*Ensuring energy and water security in times of droughts*  
*The experience of South America and the role of ITAIPU*

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# Binational Entity ITAIPU



## ITAIPU Treaty

Entered into by Brazil and Paraguay in 1973 for:

-The Economic Advantage that could be obtained from the use of the Parana river, by the construction of a dam to produce hydro-electric power.



# Challenges: Hydrological Crisis

Location:  
Yguazu falls



**Yguazu Falls are left without Water**

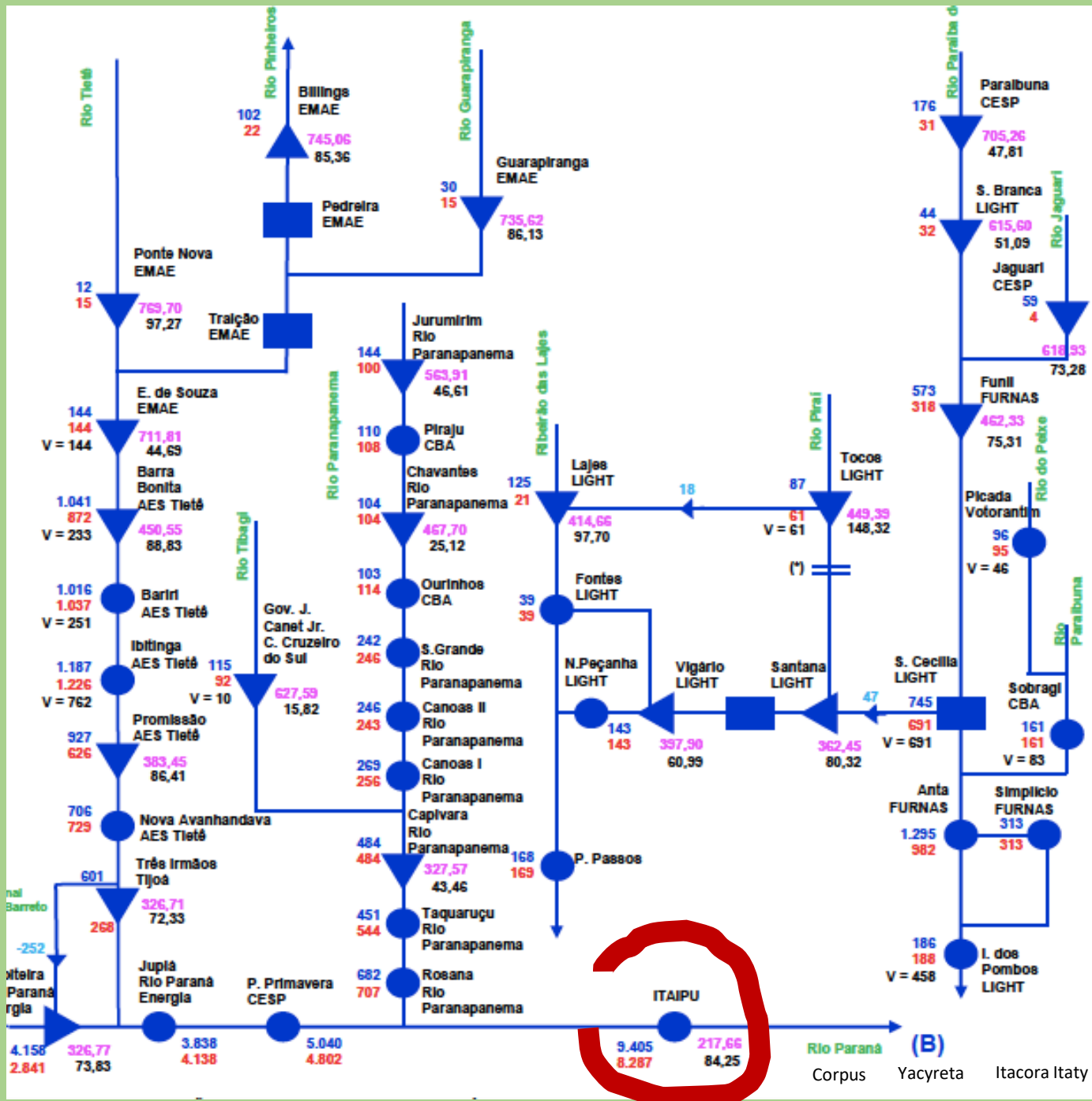
April 1, 2020

Lack of Rain  
Draught

Activities of dams  
in the upper river

Climate Change

# Dams Upper River of Itaipu



**LEGENDA:**

XXXX	Vazão Afluente m³/s
XXXX	Vazão Defluente m³/s
XXX,XX	Nível Montante (m)
XX,XX	Volume útil (%)
V = XXXX	Vertimento m³/s
XXXX	Vazão Transferida m³/s
▼	Reservatório
●	Usina a fio d'água
◀◀	Usinas em Construção
■	Estação de Bombeamento

## Index of Productivity

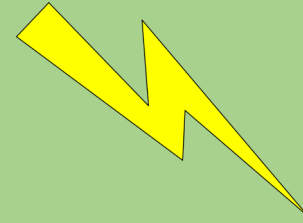
- Calculated by the relation between generated energy and turbinated water, i.e. volume of water that goes through the turbines, measured in cubic meters per second

Year	Generation MWh	Flow of Water (av) m <sup>3</sup> /s	Index of Productivity (av) MWmed/(m <sup>3</sup> /s)
2018	96.585.596	10.763	1,0445
2019	79.444.510	8.586	1,0794
2020	76.382.003	7.908	1,0870
2021	66.369.253	6.932	1,0981
2022	69.491.828	7.355	1,0875

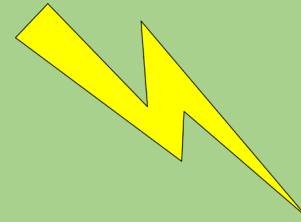
**Reduced flow triggers the necessity of more efficient use of the water.**

# Different Uses of the international river Paraná

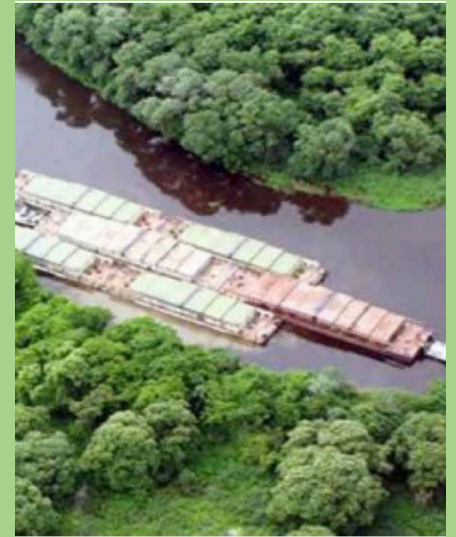
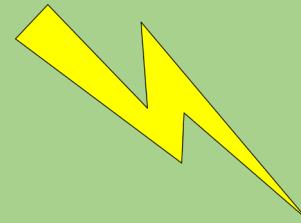
Brazil



Paraguay



Argentina





There had to be a negotiation.

Itaipu was requested to release water from the reservoir.

Governance structure of Itaipu: Board of Directors (executive) and Governing Council (general oversight of the executive actions of the Board of Directors).

Typically, only regional treaties and agreements are taken into consideration.

In this case customary international law was also taken into account.

Shared Natural Resource: The utilization of international waters is based on:

### Reasonable and Equitable utilization

- taking into account rights of the other countries
- reaching a balance on the multiple uses

### No significant harm

- Take appropriate measures to prevent or minimize significant harm

### Procedural Obligations

- Exchange of data
- Notification, consultation

UN Watercourses Convention 1997; International Court of Justice cited as customary international law in several cases)



# South American Experience

Water release... to balance multiple uses of the international river, based on technical data and information from an ad hoc Intergovernmental Commission.

Practices in the region show successful practices of international cooperation in this area.

**Special Operations  
“Water Windows”**

**May 18-29, 2020**

**Aug 3-16, 2020**

**May 21-31, 2021**



Baixo Iguacu Dam

# CONCLUSION

- Continue to work on actions implementing the WEF E nexus and SDGs as they enable transboundary water cooperation.
- Operation “Water Windows” have shown successful examples of transboundary water cooperation *and the practical relevance of international law*.
- Benefits: Renewable energy provided for growing population demands.
- Environmental support and compliance with Paris Agreement.
- Sustainable Development.

Thank you!