



CAETS 2021
ARGENTINA
Engineering a Better World
THE FUTURE OF ENERGY



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Further decarbonization of the Uruguayan Economy

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Future of Energy

- Realizing Uruguayan full potential as a green energy producer and exporter.
- Accelerating our climate ambition and potential.
- Realizing that carbon has a cost.



Past, Present, Future

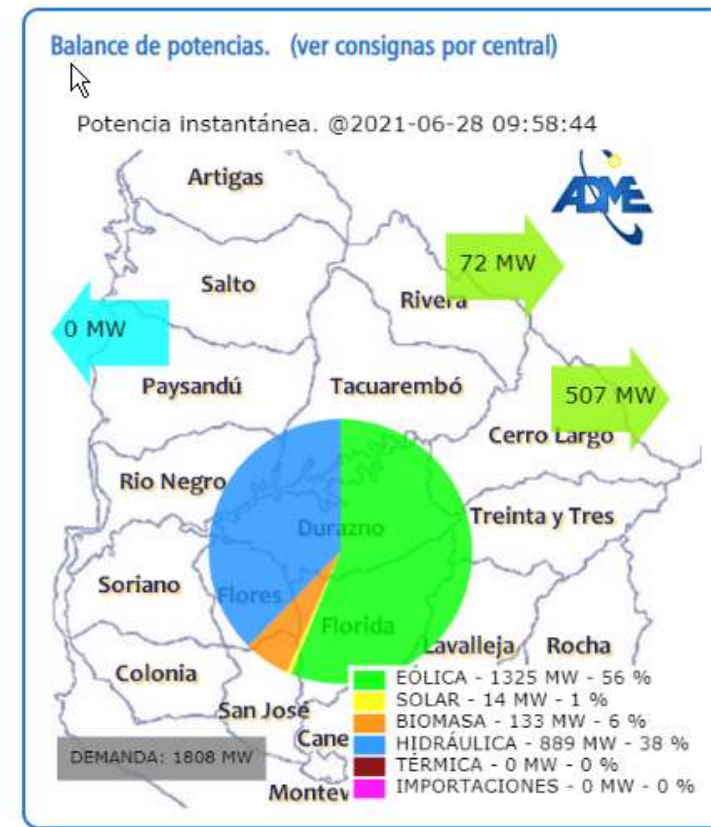
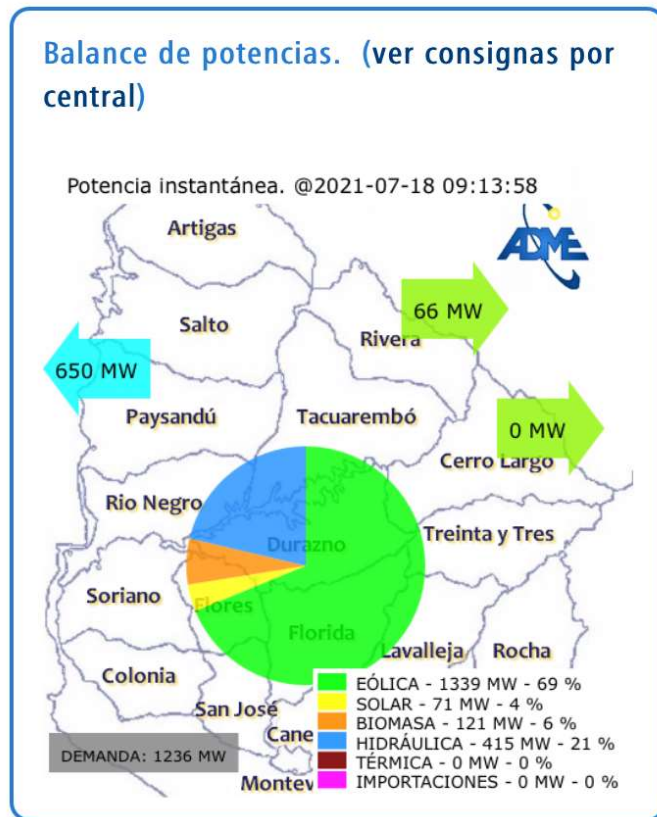
Past: high volatility in costs, high dependence on imported electricity, high risks of blackouts.

Present: **96,5% Renewables**, average cost per MWh down by 45%, higher resilience. Exporting electricity to neighbours.

Future “electricity demand will grow 3-4 fold from today’s level.” IRENA

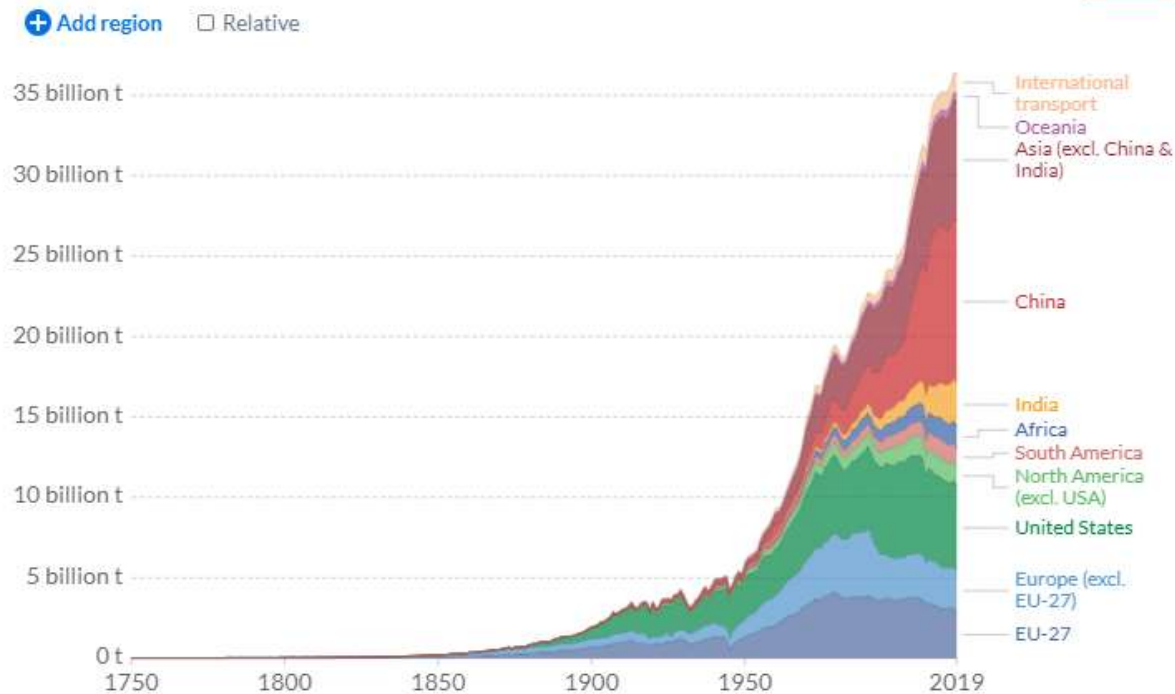
Electricity Supply (GWh)	Average 2007-2011	Average 2015-2019
Hydro Salto Grande	4297	4570
Hydro Rio Negro	2281	2836
Wind	44	3651
Solar	0	241
Biomass	188	853
Fossil	2196	443
Total Supply	9006	12593
Imports	815	9
Exports	-406	-1530
Local Demand	9416	11072
Cost (US\$ million)	560	366
Unitary Cost (US\$/MWh)	59	33

Exporting renewable electricity instead of importing.



Emissions (and temperatures) are rising at alarming speed

Annual total CO₂ emissions, by world region



Source: Our World in Data based on the Global Carbon Project OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY
Note: This measures CO₂ emissions from fossil fuels and cement production only – land use change is not included. 'Statistical differences' (included in the GCP dataset) are not included here.

51bn ton CO₂
70% Energy related

Global Climate Challenge

- Climate ambitions have strong political support in EU (55% reduction by 2030), Japan (net zero by 2050) and US (50% reduction by 2030).
- The world is convince that there is a need for a more sustainable energy system.
- Reaching these targets is a great challenge.
- Successful climate policy cannot be achieved by a unique country policy.

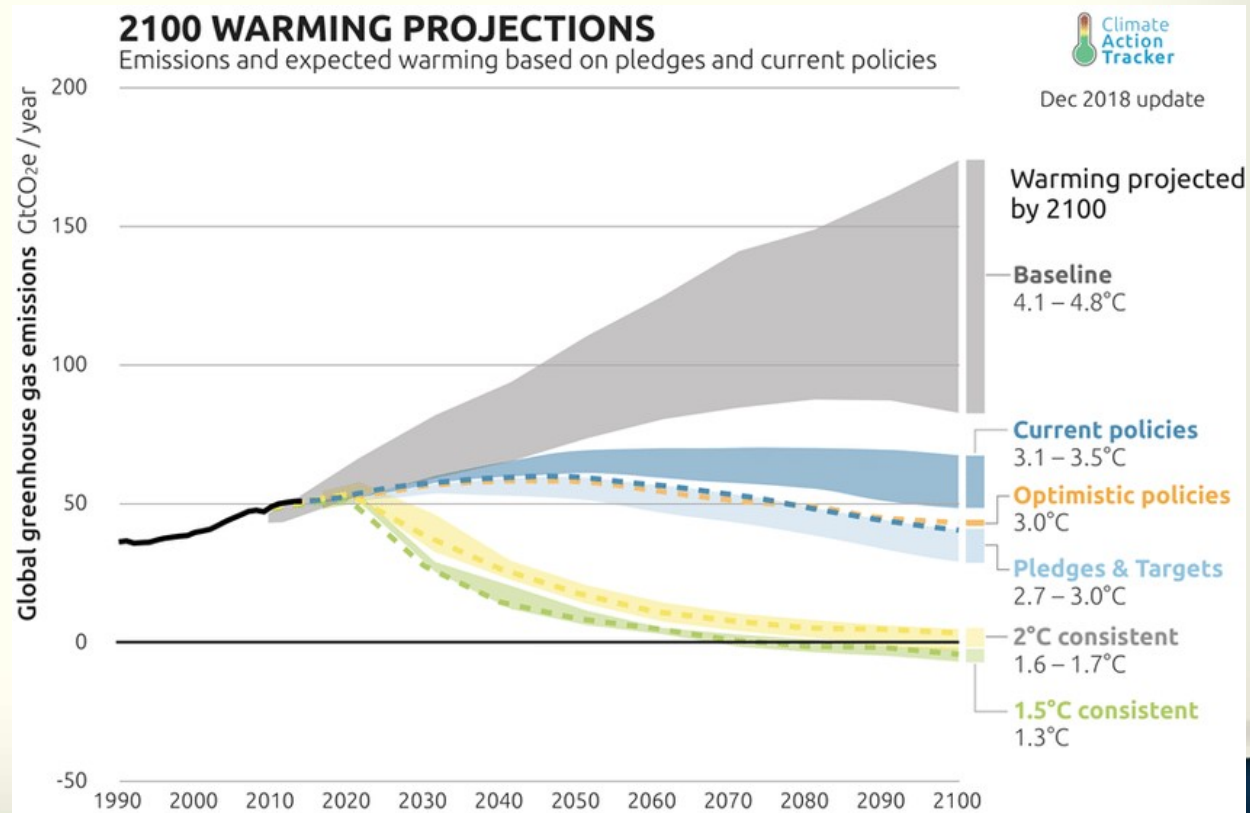


Green Transformation

Transformation of the economy for a zero-carbon future is an opportunity for Uruguay as has been the first energy transition.

Main principles:

- Affordable; Competitive
- Resilient; Produce your own energy
- Sustainable



Which are the main drivers for these changes?

First. Technology.

Second. Consumer pressure.

Third. Regulation and Taxonomy.

Fourth. Financial institutions requirement.



Green Transformation (second transition)

Operation of power systems with a high share of variable renewables requires much higher flexibility.

Whole energy system approach will improve resiliency, with a focus on both, supply side and demand side.

It is important to differentiate firm demand from flexible demand



What is needed?

A concrete set of policy actions (regulation, taxonomy among others) at national and international level is needed to bring a cost-effective path for decarbonization.

Right policy is needed to set the bases for developing new investments in technologies that will allow to reach the three main challenges: affordable costs, security of supply and CO₂ reduction.





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THANK YOU

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