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CLIMATE TEAMS

The process of mitigation modelling for CT in Chile

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- Current state
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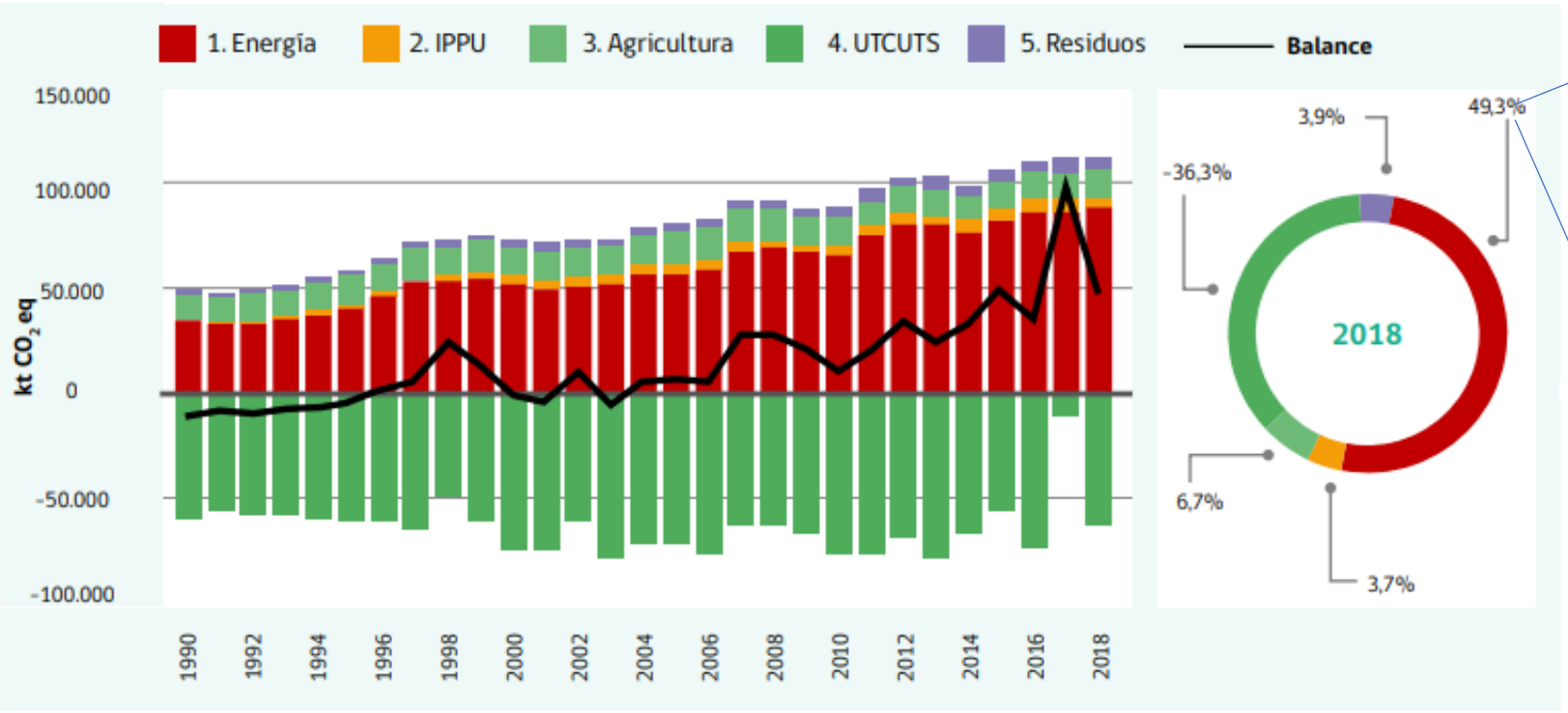
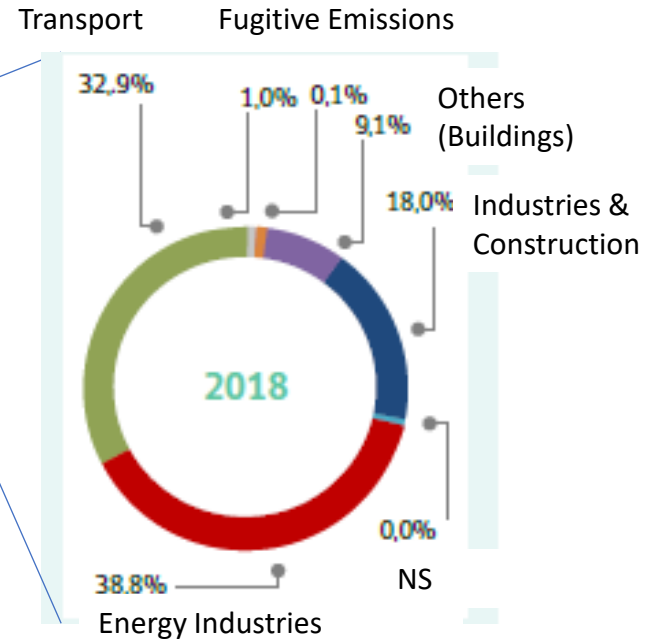
National GHG Inventories: Chile

Figura RE1. INGEI de Chile: balance de GEI (kt CO_2 eq) por sector, serie 1990–2018.





Source: (Government of Chile,2020)

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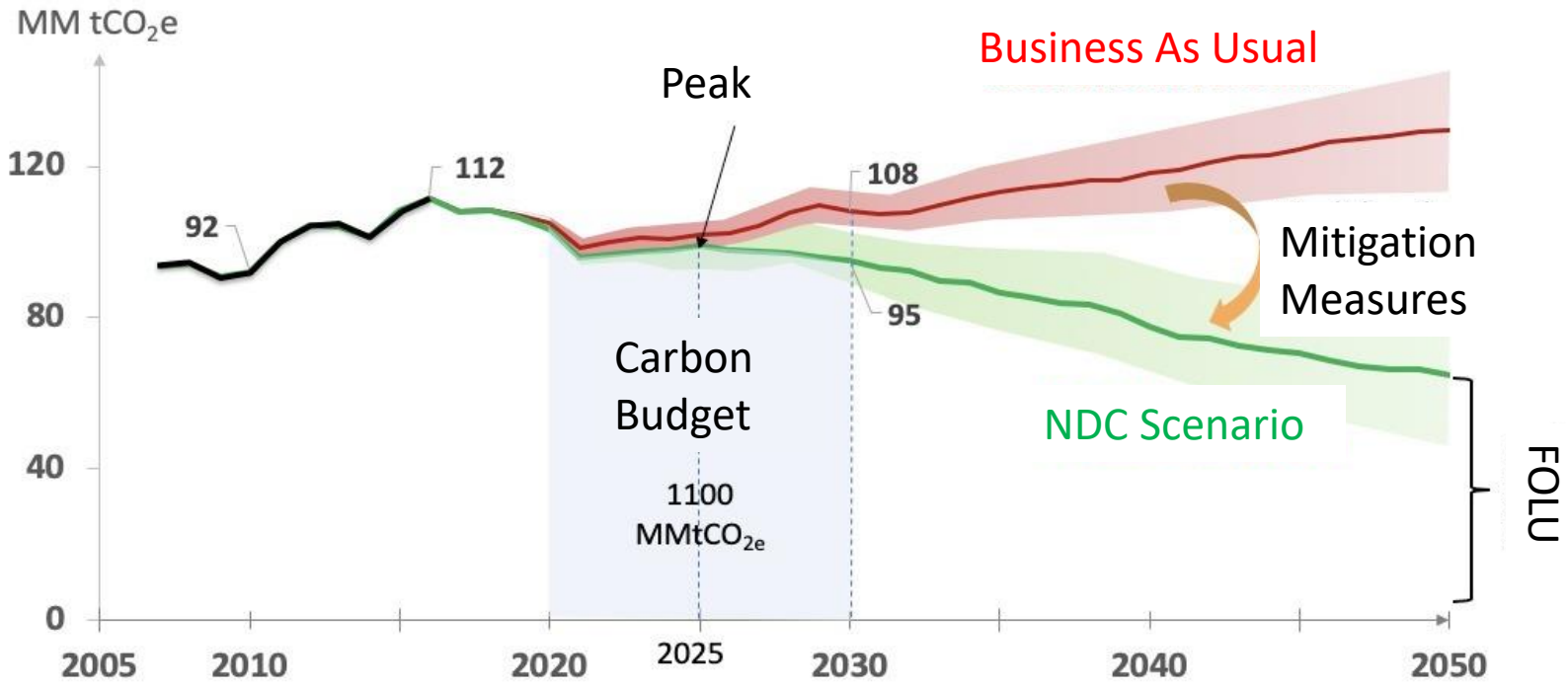
Chilean NDC Commitment



Source: Adapted from (Centro de Energía U de Chile, 2020)

- Whole Economy:
  - 95 MMTonCO2e by 2030
  - Peak before 2025
  - Carbon Budget 2020-2030: 1100MMTonCO2e
  - Carbon Neutrality by 2050
  - Others
- FOLU:
  - 200,000 ha reforested
  - 200,000 ha under Sustainable management
  - 25% less Forest Degradation
  - others

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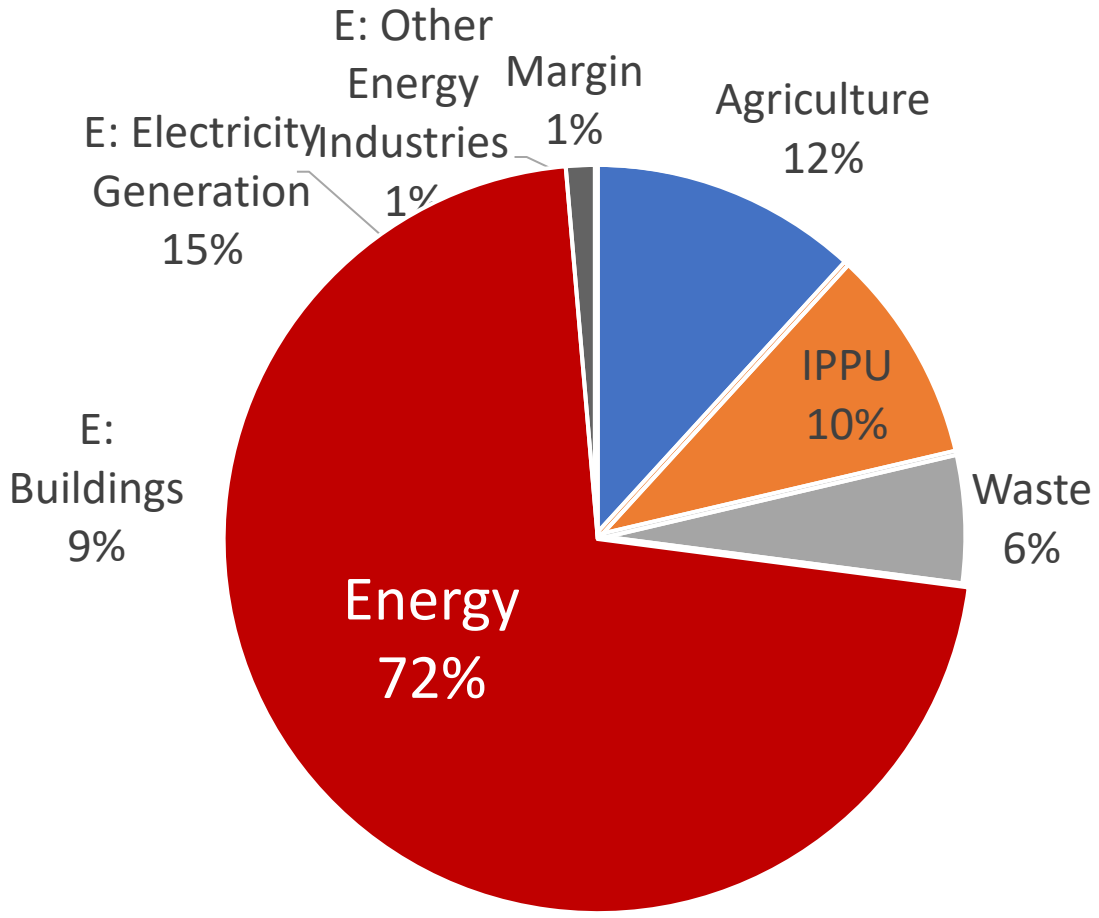
Estimated Sectoral Carbon Budget

Sector/Subsector	CB 2020-2030
Agriculture	**130**
IPPU	**105**
Waste	**63**
Energy	**787**
Industry & Mining	*214*
Transport	*300*
Buildings	*99*
Electricity Generation	*161*
Other Energy Industries	*13*
Margin	**15**
Total	**1100**



Estimated Carbon Budget Share

Previous Mitigation Modelling experiences

- Chile has developed several Mitigation Modelling experiences to assess National Mitigation Commitments:
  - COP15
  - COP21
  - COP25
- Also has conducted participatory process to assess the elaboration of Mitigation models:
  - MAPS (2012-2016)
  - Options to achieve carbon neutrality by 2050 in Chile under conditions of uncertainty (2020-2021)

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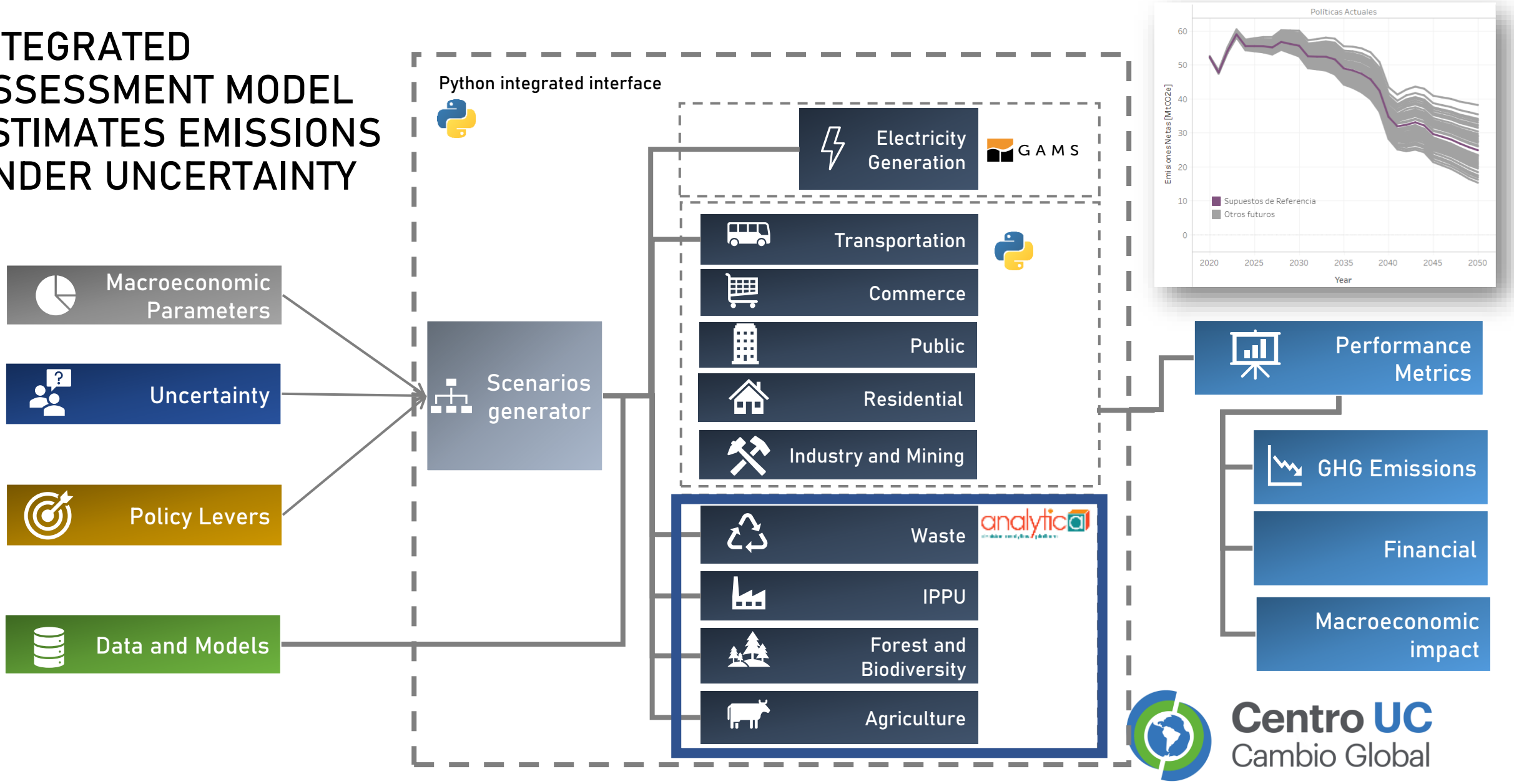
INTEGRATED ASSESSMENT MODEL ESTIMATES EMISSIONS UNDER UNCERTAINTY



Modelling Strategy for Climate Teams

- Sectors Developed:
  - Energy:
    - Electricity Generation (Self Made)
    - Energy Demand Sub-Sectors (Based on M. of Energy 2020)
  - Agriculture (Based on CCGUC 2021)
  - IPPU (Based on DICTUC 2021)
  - Waste (Based on DICTUC 2021)
  - FOLU (Based on CCGUC 2021)

LEAP

analytica

Better Faster Decisions

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Modelling Strategy for Climate Teams: The Team

- Sectors Developed:
  - Energy:
    - Electricity Generation (Alvaro Lorca, Tomás Tapia & Raúl Urtubia)
    - Energy Demand Sub-Sectors (Jose Miguel Valdés & Daniela Quiroga)
  - Agriculture (Francisco Meza, Catalina Marinkovic & Valentina Jara)
  - IPPU (Jose Miguel Valdés & Catalina Veloso)
  - Waste (Luis Cifuentes & Viviana Cerda)
  - FOLU (Horacio Gilabert & Diego Gonzalez)
  - Integration (Andrés Pica, Alvaro Lorca, J M Valdes & Luis Cifuentes)
- Public Policy Analysis:
  - Juan Pablo Montero, Luis Gonzales, Andrés Pica, Jose Miguel Valdés, Sebastián Vicuña, Luis Cifuentes & Francisco Pinto.

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GHG Emission Scenarios

- Current Policies: Expected emissions under current regulation and incentives. (5 Measures)
- NDC Scenario: Considers the implementation of all mitigation measures analyzed to develop the NDC commitment. (38 measures)
- Accelerated Mitigation: Considers enhanced mitigation measures in order to overachieve the Carbon Budget. (58 measures)

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Uncertainty Management

- Economic Variables:
  - Chinese GDP->Commodities Prices & Chilean GDP
- Climate Variables:
  - Precipitations & Temperatures->Hydro Generation, Forest Fires, climatization demand
- Green technologies prices:
  - Price of PV, Wind, Electrolyzers, Batteries, etc.
- Climate Action:
  - National climate mitigation policies & actions are on track.

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Uncertainty Management

	Futures		
Group of variables	Red Future	Reference Scenario	Green Future
Chinese GDP growth, commodities prices and National Production Level	High Chinese GDP	Medium Chinese GDP	Low Chinese GDP
Climate Variables	Drought (2010-2019)	Medium (1990-1999)	Wet (1980-1989)
Green technology prices	High	Medium	Under
Climate Action	Delayed	Medium	Early and active

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Current State

- Model Calibration to the new GHG Inventory (7/8)
- Current Policies Scenario (7/8)
- NDC Scenario (5/8)
- Accelerated Mitigation (3/8)
- Integration
  - Parameters & drivers coherency (100%)
  - Intersectoral interconnection (pending)
- Uncertainty:
  - Futures (2/8)

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Next Steps

- First Report by July 23rd
  - Finish models and Scenarios
  - Integration
  - Uncertainty Analysis
  - Check the fulfillment of the NDC commitment for all futures and analyze the potential reductions available for transfer
- Final Report by August 30th
  - Adjustments
  - Public policy assessment of potential needs/use for climate finance

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Next Steps

Stages	Weeks																		
	19-abr	26-abr	03-may	10-may	17-may	24-may	31-may	07-jun	14-jun	21-jun	28-jun	05-jul	12-jul	19-jul	26-jul	02-ago	09-ago	16-ago	23-ago	30-ago
Review of GHG scenarios developed by the Governement of Chile	x	x																		
Update and development of sectorial emissions models that credits 100% of GHG emissions reported in INGEI 2018		x	x	x	x															
Analyze and develop additional Mitigation measures			x	x	x	x	x	x	x											
Develop a Current Policies Scenario under 3 feasible futures (2018-2030)				x	x	x	x													
Develop a NDC Scenario under 3 feasible futures (2018-2030)						x	x	x	x											
Develop a "accelerated mitigation" Scenario under 3 feasible futures (2018-2030)									x	x	x	x								
Check the fulfillment of the NDC commitment for all futures and analyze the potential reductions available for transfer							x	x	x	x	x	x	x							
First report														x						
Adjustments															x	x	x	x		
Public policy assessment of potential needs/use for climate finance															x	x	x	x	x	
Final report																				x

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Thanks

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