



# **HVDC PROJECT KIMAL - LO AGUIRRE** *Enabler for a Sustainable Decarbonization Process*

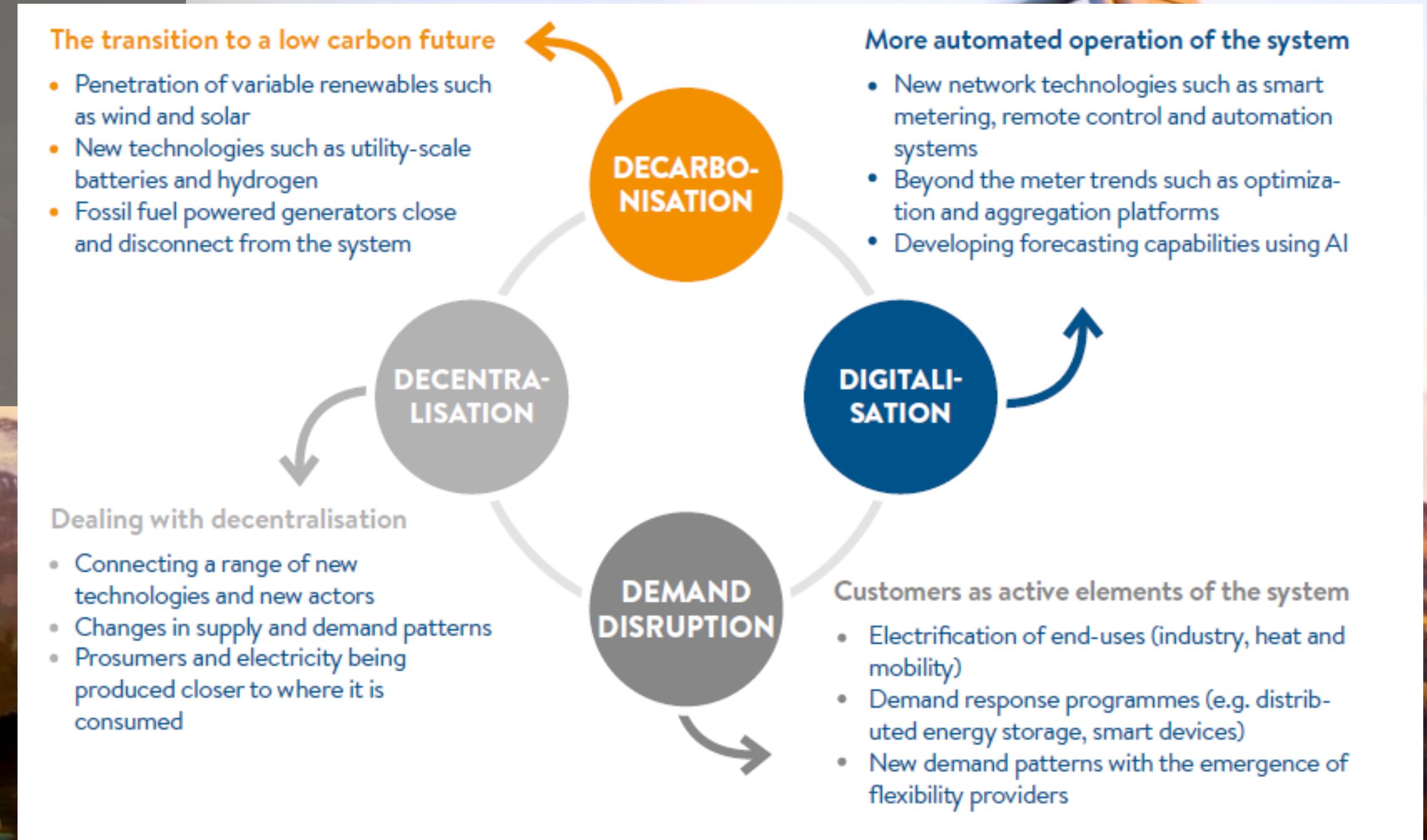
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NOVEMBER 10<sup>th</sup>, 2020



# Energy Transition

- ✓ Decarbonization & Renewable Energy
- ✓ Infrastructure Development
- ✓ System Security & Flexibility
- ✓ Digitalization & Smart Grids



Source: Performing while transforming – WEC, 2020



# Opportunities & Challenges

**New Technologies**

**Flexibility**

**Multiple Agents**

Greater complexity to  
plan, develop, and  
operate the grid of  
the future

**Infrastructure**

**Dynamic Markets**

**Security**



# ¿What Infrastructure?

**Efficient**

**Timely  
Avaliable**

**HVDC  
KIMAL – LO AGUIRRE**

**Environmentally  
Friendly**

**Reliable & Flexible**



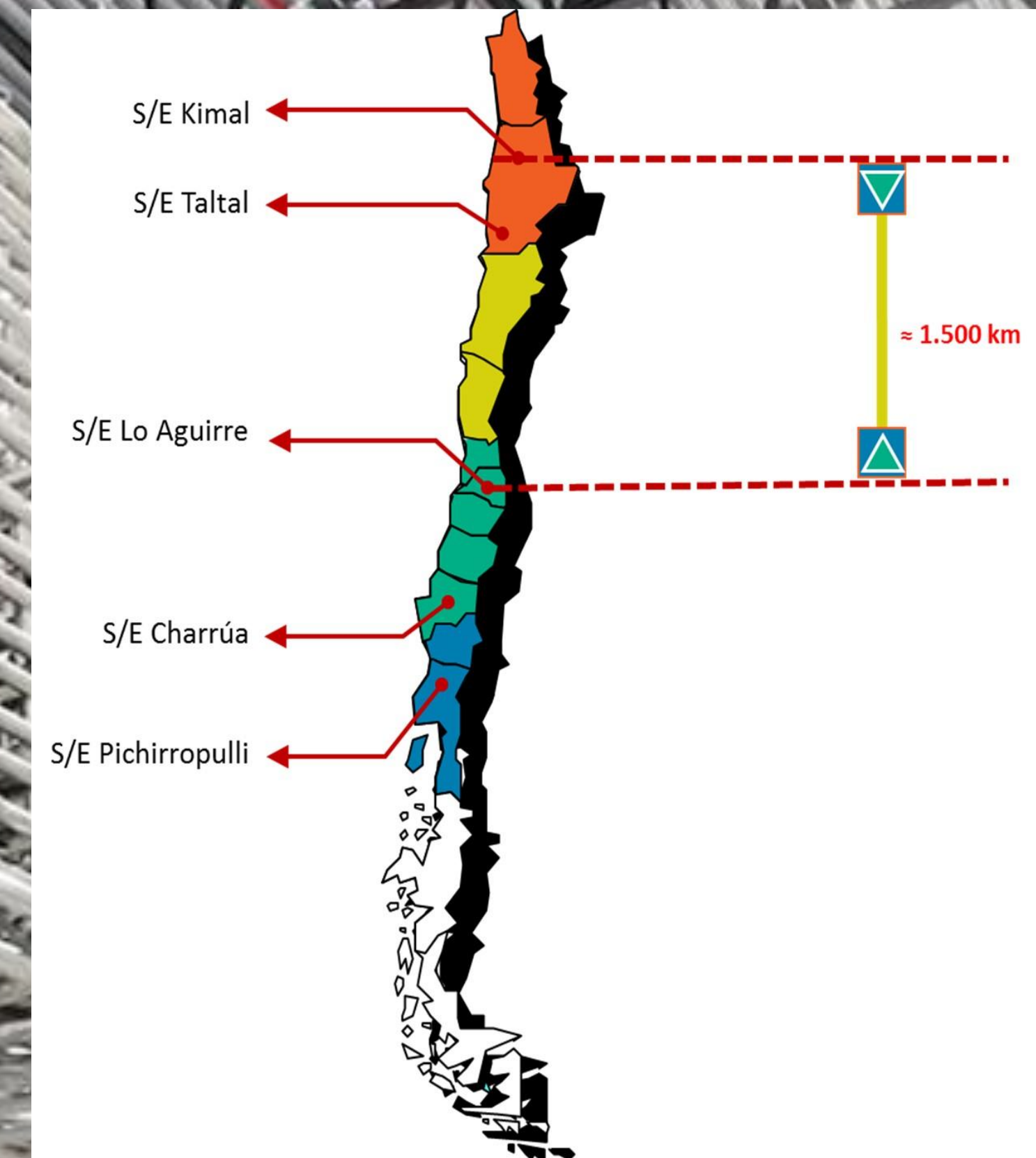
# Benefits of the HVDC Project

- ✓ Integration of large amounts of renewable energy
- ✓ Enable decarbonization process
- ✓ Allow energy exchange between main load centers
- ✓ Make the grid more robust and resilient
- ✓ Improve grid stability against faults
- ✓ Enable future regional interconnections
- ✓ Environmentally friendly, less use of land, and lighter structures



# General Characteristics of the Project

- ✓ LCC Technology
- ✓ Bipolar system with dedicated metallic return (DMR)
- ✓ Nominal capacity of 3000 MW
- ✓ Point-to-point of 1500 km long
- ✓ Voltage level of  $\pm 600\text{kV}$
- ✓ Construction period 84 months
- ✓ Start of Operation in December 2028





# Activities and System Studies

- ✓ **Transgrid Solutions (Canada) – Consulting services**
  - General characteristics and design
  - Power system studies
  - HVDC Technical specifications
- ✓ **Dessau Engineering – Consulting services**
  - Design criteria, applicable standards, and DC line specifications
  - Investment costs and chronogram
- ✓ **Collect system data and requirements**
- ✓ **Other system studies (SC, DB, impedances, harmonics measurements)**





# Bidding Process Schedule

No	Stage	Deadlines
1	Preliminary Bidding Terms & Conditions	October 26 <sup>th</sup> , 2020
2	Preliminary Technical Specifications	November 23 <sup>rd</sup> , 2020
3	Participant Registry, Definitive Terms & Conditions, and Specifications	February 1 <sup>st</sup> , 2021
4	Bidding Terms Acquisition	Until June 18 <sup>th</sup> , 2021
5	Questions and Answers Period	From February 1 <sup>st</sup> to April 22 <sup>nd</sup> , 2021
6	Period of Answer to Questions	May 5 <sup>th</sup> , 2021
7	Maximum deadline for modifications and Amendments to the Terms	May 12 <sup>th</sup> , 2021
8	Period for Proposal Submission by Bidders	August 2 <sup>nd</sup> to 4 <sup>th</sup> , 2021
9	Opening of Admin. And Technical Offers	August 5 <sup>th</sup> , 2021
10	Opening of Economic Offers	October 25 <sup>th</sup> , 2021
11	Project Awarding	October 29 <sup>th</sup> , 2021

**100 interested parties as of today**



# Preliminary Bidding Terms & Conditions

- ✓ General Characteristics of the Project
- ✓ Guarantees and Policy Bonds
- ✓ Offer Requirements and Evaluation
- ✓ Opening and Awarding
- ✓ Guaranteed Performance
- ✓ HVDC Experience
- ✓ Project Milestones
- ✓ Consortia and Minimum Capital
- ✓ Spanish and English version (reference)





# Preliminary Technical Specifications (Nov. 23<sup>rd</sup>)

- ✓ General Technical Specifications
  - Substation and Tr. Lines
  - AC Technical Datasheets
  
- ✓ HVDC Functional Technical Specifications
  - Technical Requirements
    - Converter Stations
    - DC Transmission Line
  - System Data
  - DC Technical Datasheets
  - Performance Datasheets







# Bidding Process Information

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**THANKS**