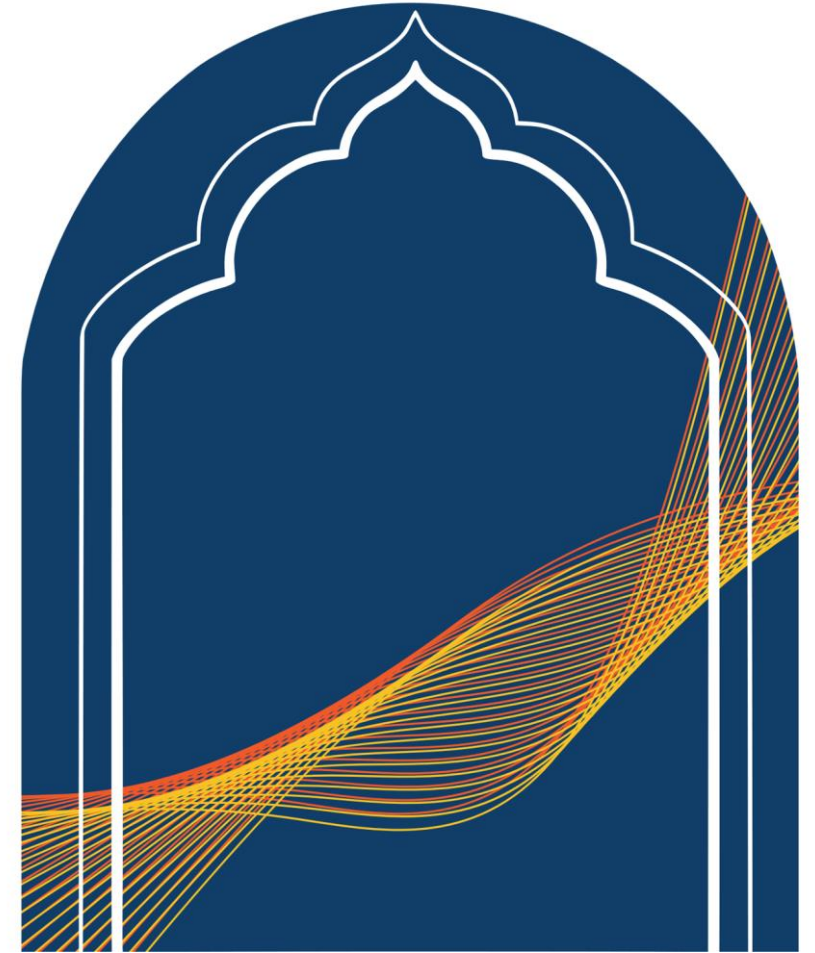


# Bridging Continents: European CBET Insights for South Asia's Energy Future

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# ABOUT US

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# WE ARE BUILDING ON A 20 YEAR LEGACY

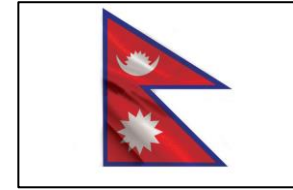
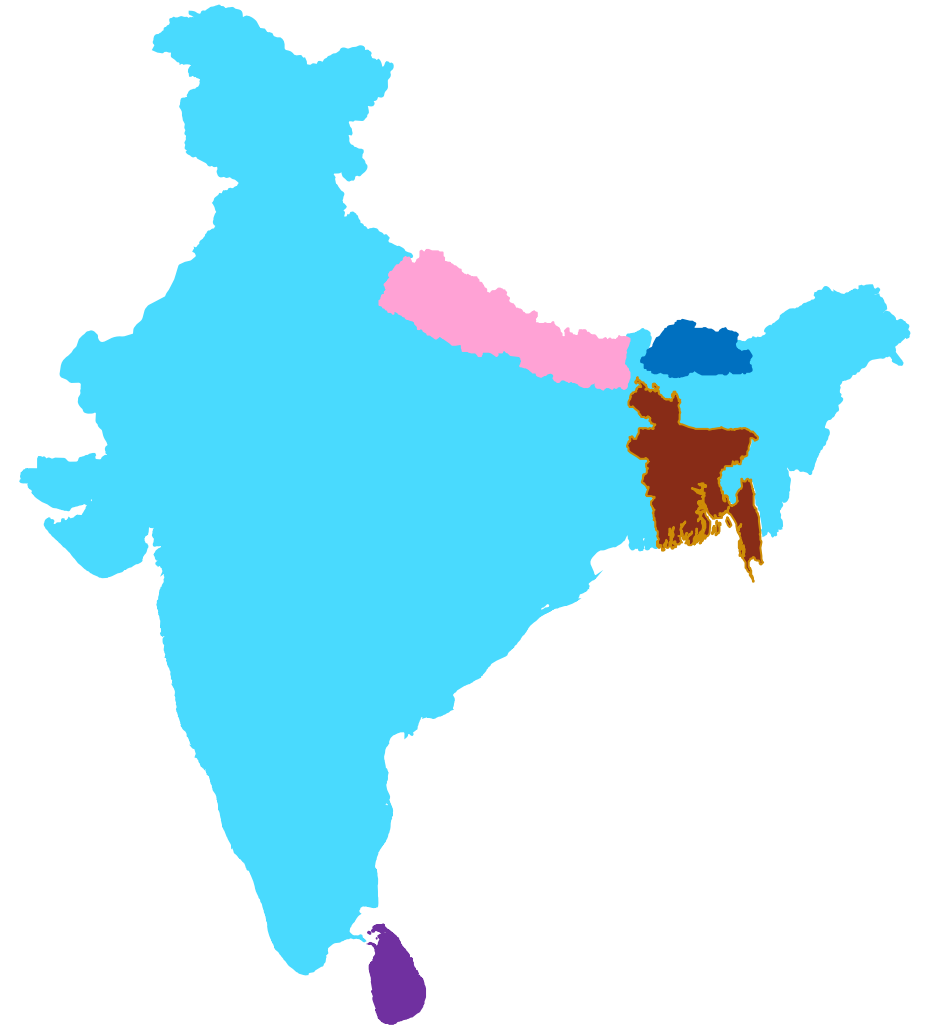
*NETWORK OF INDEPENDENT SISTER SCHOOLS*



**FOCUSED ON KNOWLEDGE DEVELOPMENT + DISSEMINATION + PRACTICE**

# CBET In South Asia

- Home to ~ 2 billion people
- Transitioning towards becoming a developed nation while reducing carbon emissions



# What is CBET? Why is it needed?

- Cross-Border Electricity Trade (CBET) refers to the exchange of electricity between neighbouring countries, facilitating resource sharing across borders
- Need for CBET



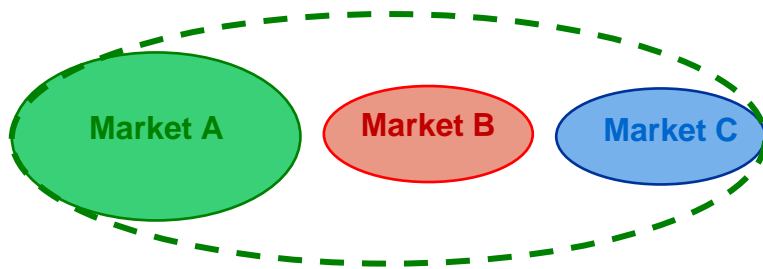
# Regional Electricity Market Integration: Many possible models

1) Extension of the market in one jurisdiction to encompass other jurisdictions

2) Establishment of a regional market, replacing existing markets, with new rules agreed by all involved jurisdictions

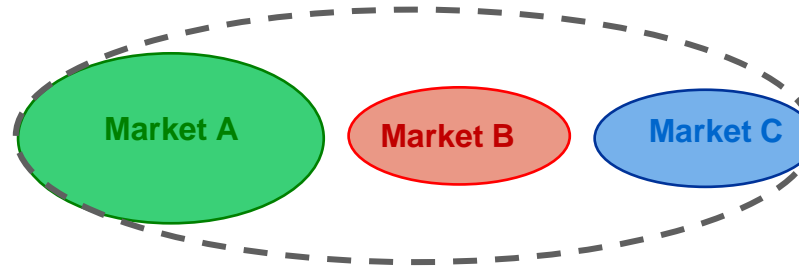
3) Superimposing a regional market on the trading arrangements in the different jurisdictions

Extension of Market A and its rules to Markets B and C



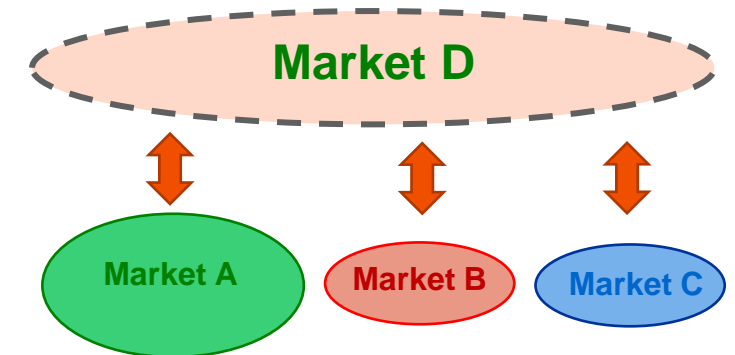
Example: Italy-Slovenia (2011) in Europe

New market and common rules for the regional market



Example: the Internal Electricity Market in Europe

Regional market, with its own rules, superimposed to trading arrangements in the different jurisdictions



Example: SIEPAC in Central America

# CBET in the European Union

A well-integrated system evolving for the past three decades that involves a combination of regulatory measures, network infrastructure and planning mechanisms to facilitate the exchange of electricity across member states.

Two key entities at the regional level – The Agency for the Cooperation of Energy Regulators (ACER) and the European Network of Transmission System Operators for Electricity (ENTSO-E)

- ACER Integrates national energy markets, promotes competition, and facilitates the clean energy transition by coordinating regulations and monitoring market activities across EU Member States.
- ENTSO-E develops and operates electricity transmission networks across Europe, focusing on TSO coordination, drafting essential network codes, and creating the Ten-Year Network Development Plan (TYNDP) to achieve EU energy and climate policy objectives.

# EU's Electricity Market and Cross Border Electricity Trade

Electric Market Coupling: Integration of common electricity markets internally among countries. First market coupling in 2006 – trilateral project of power exchanges and TSOs – Followed by volume coupling of Nord Pool and EEX in 2008 – Third step of price coupling initiated in 2010 – Flow-based coupling in 2015 – Latest XBID in 2018 for intra-day trading

The Regulation on Energy Market Integrity and Transparency (REMIT): Legislation implemented in 2011 to ensure the integrity and transparency of wholesale markets. Monitors for episodes of market abuse – investigation of market manipulation – ensures transparency – strengthen regulatory oversight





# Key Regulations Governing CBET Infrastructure

Regulatory Framework: Governed by key regulations like the Ten-Year Network Development Plan (TYNDP) and Trans-European Networks for Energy (TEN-E), which prioritize long-term infrastructure needs and Projects of Common Interest (PCIs) along with Projects of Mutual Interest (PMIs) for enhanced connectivity.

Cost Allocation Mechanisms: The Cross-Border Cost Allocation (CBCA) mechanism ensures equitable sharing of costs for cross-border projects, promoting justified investments and benefiting all participating countries.

Infrastructure Funding and Guidelines: Key infrastructure projects can access funding from the Connecting Europe Facility (CEF), supported by detailed network codes that guide market interactions, capacity allocation, and congestion management for efficient grid operation.



PCI-PMI Transparency Platform

# The EU Experience – Network Codes

Network codes – Detailed technical standards in terms of market guidelines and grid connection codes that are necessary for achieving an integrated energy market in Europe.

These codes serve as a comprehensive framework aimed at overcoming the barriers that have historically fragmented national electricity markets.

Uniformity in regulations ensures that all member states can operate seamlessly within a shared framework, enabling efficient energy exchanges and enhancing overall market stability

# Multi-Pronged Approach to Cross-Border Electricity Trade (CBET) in South Asia

## Diverse Stakeholder Interests:

A coordinated approach is essential to address the varied interests and aspirations of stakeholders in CBET.

## Regional Electricity Market Model:

Development of a model that considers both infrastructural needs and market design to enhance cooperation and participation.

## Transmission Infrastructure Improvement:

Upgrading national transmission capabilities is crucial for effective CBET, optimizing electricity system connections and resource utilization.

## Market Coupling and Integration:

Promoting market coupling can lead to a cohesive energy landscape, enhancing grid synchronization and price discovery.

## Focus on Regulatory Alignment:

Overcoming regulatory challenges alongside infrastructure development is vital for establishing robust cross-border connections.

## Unlocking Renewable Potential:

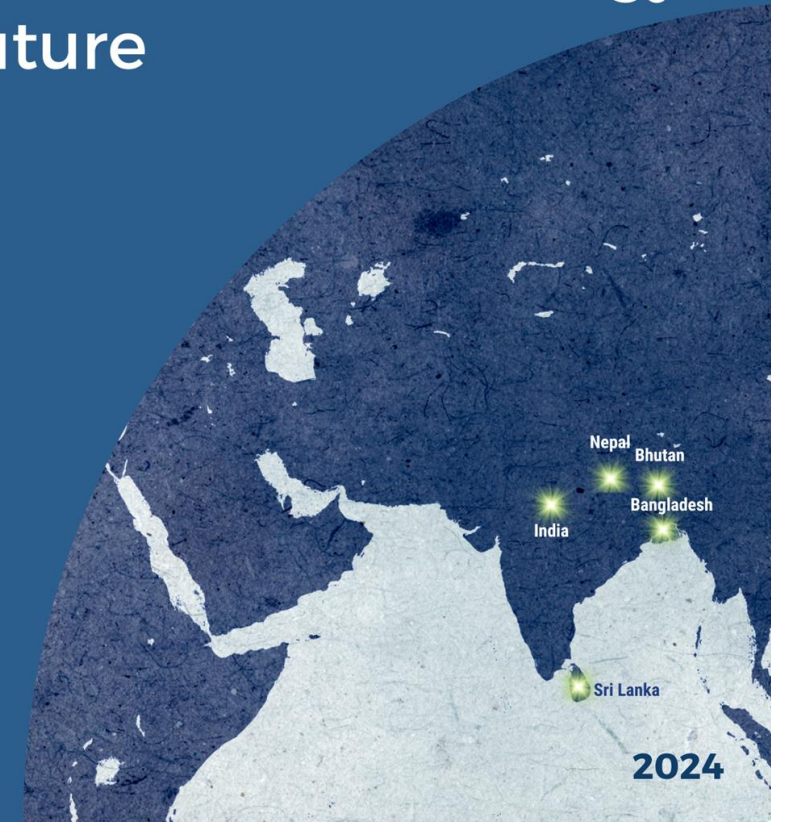
Addressing these aspects will help South Asia tap into its vast renewable energy potential, improve energy security, and foster economic growth.

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## Bridging Continents: European CBET Insights for South Asia's Energy Future



# Thank You



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