

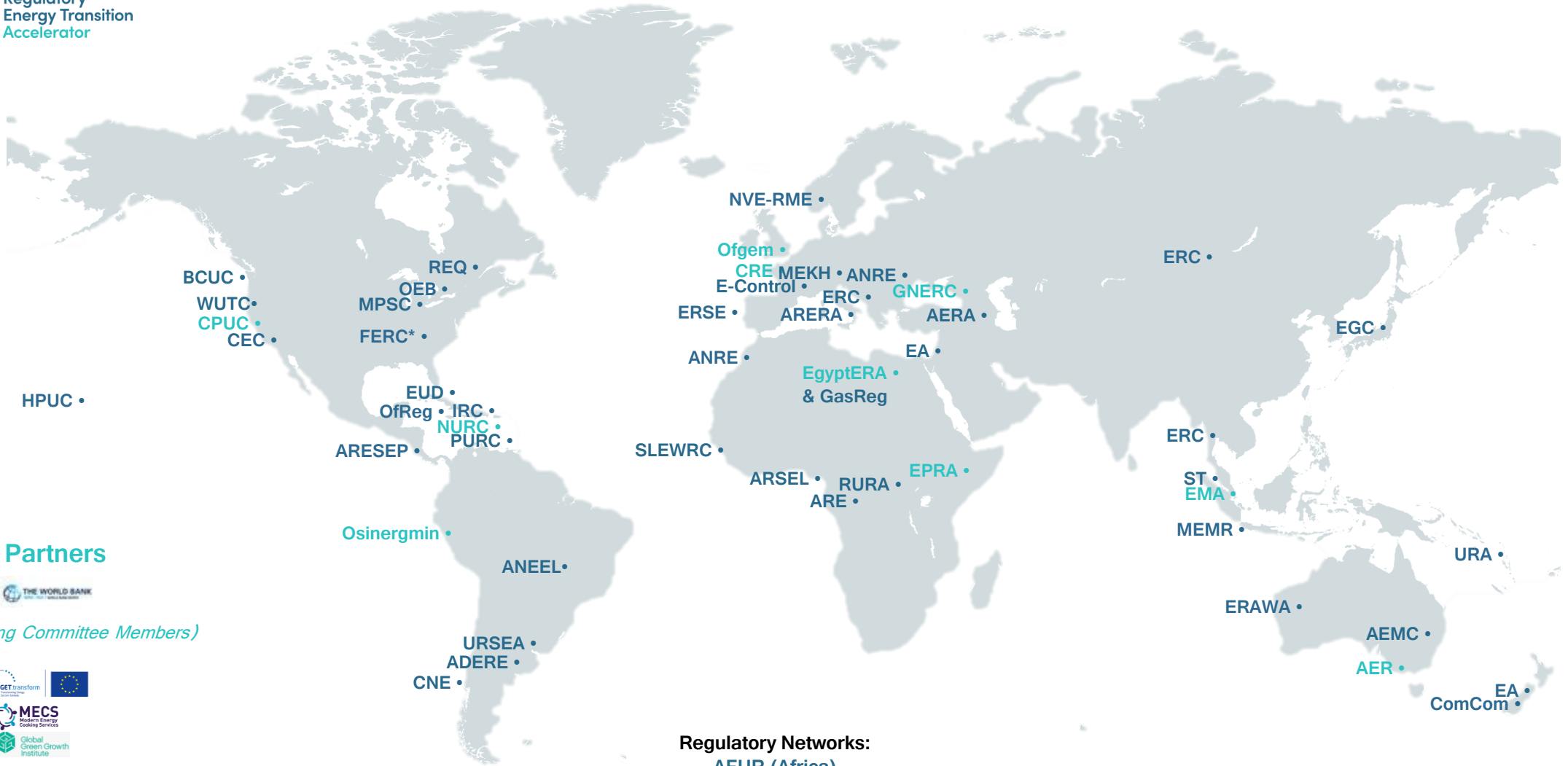
Session II:

IMPACT OF CLEAN ENERGY SOURCES ON THE GRIDS AND SYSTEM STABILITY

# The Regulatory Energy Transition Accelerator (RETA) & Regional Interconnection

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International Energy Agency



## Delivery Partners



*(also Steering Committee Members)*



### Legend

Steering Committee members

Participants

\*Commissioner Allison Clements Office

### Regulatory Networks:

- AFUR (Africa)
- CAMPUT (Canada)
- ICER (Global)
- ERRA (Eurasia & Global)
- NARUC (USA)



# Flagship project on Regional Interconnection

- **WHY**

- Support energy regulators facing challenges in dealing with cross-jurisdictional interconnection of power systems

- **WHAT**

- Three knowledge products (policy guidance notes\*):
  1. Institutional architecture
  2. Transmission pricing
  3. Grid codes harmonisation

*\*Topics prioritised through a survey of energy regulators in Feb-March 2023*

- 2 Workshops, 12 bilateral meetings between energy regulators for knowledge exchange, 4 dissemination events

- **WHO**

- IEA, IRENA and World Bank's Energy Sector Management Assistance Program are delivery partners



# Institutional Architecture for Regional Power System Integration:

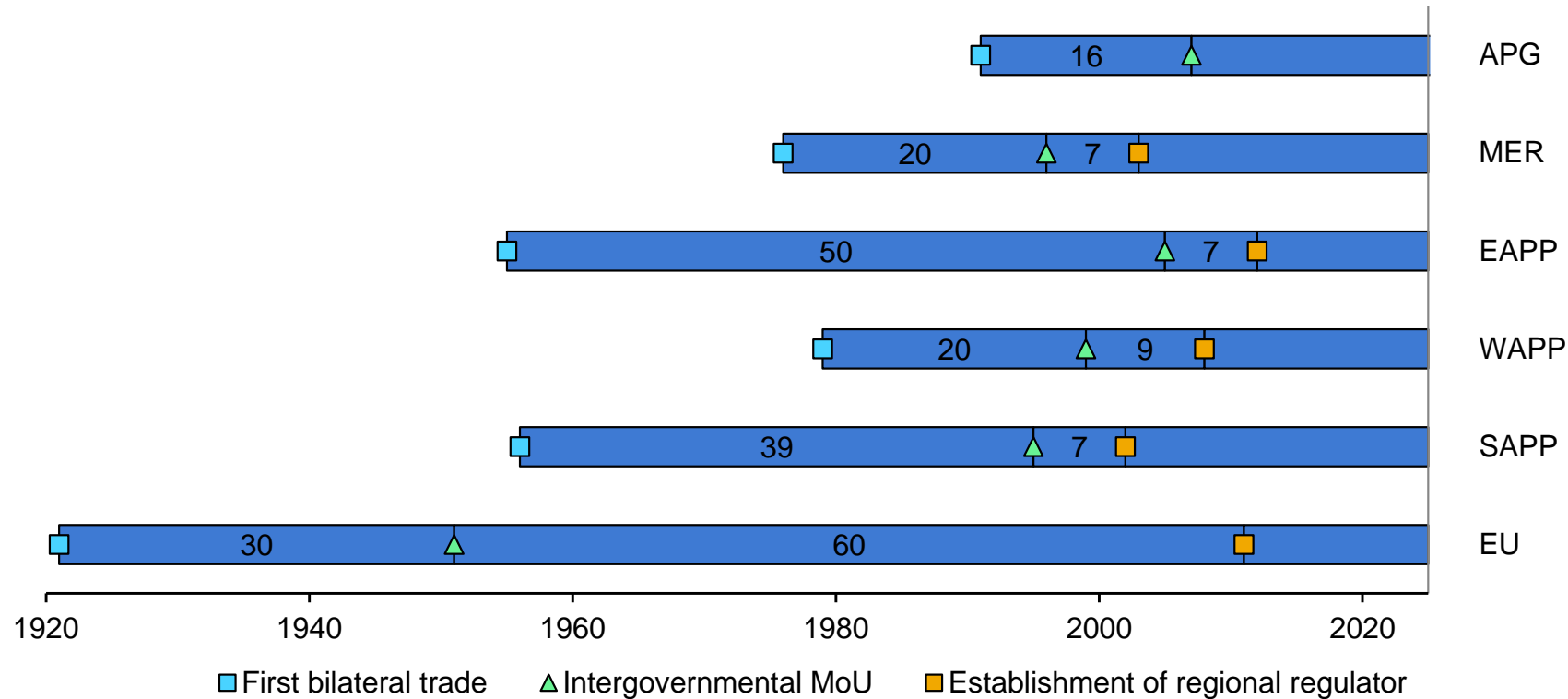
*Government, Utility and Regulator roles*

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report



# Key milestones mark the lengthy regional power system integration process

## Historical milestones of selected regional power system integration initiatives



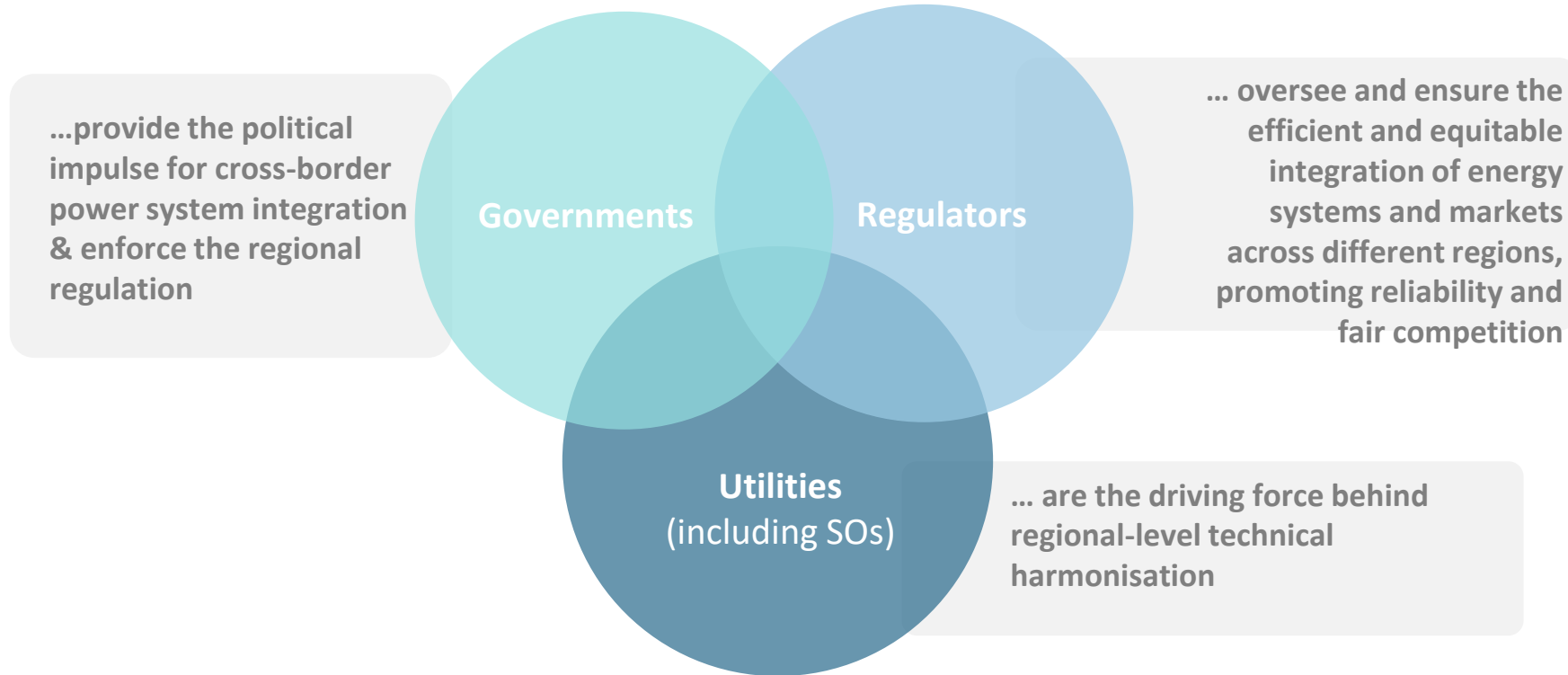
IEA. CC BY 4.0

Notes: APG = ASEAN Power Grid. MER = Mercado Eléctrico Regional. EAPP = East African Power Pool. WAPP = West African Power Pool. SAPP = Southern African Power Pool. EU = EU Internal Electricity Market.

**Achieving these milestones and advancing multilateral power trading requires political, technical and institutional co-ordination between stakeholders.**



# What roles for governments, regulators and utilities in regional interconnection of power systems?



IEA. CC BY 4.0

**Reaching higher regional integration levels calls for the active participation of multiple stakeholders – governments, utilities and regulators – across jurisdictional boundaries.**



# Regulator mandates differ regionally and locally in supporting the regional interconnection initiative

## Regional (where designated)

- **Regulatory oversight** of regional electricity infrastructure development and power grid planning.
- **Harmonisation of investment recovery methodologies** among interconnected jurisdictions.
- Definition and regulation of the **regional market framework**.
- **Monitoring of electricity markets and market participants** to ensure transparency, compliance with market regulations and fair competition, and the designation of **dispute resolution methods** (potentially also including an arbitration role for regulators).

## Local

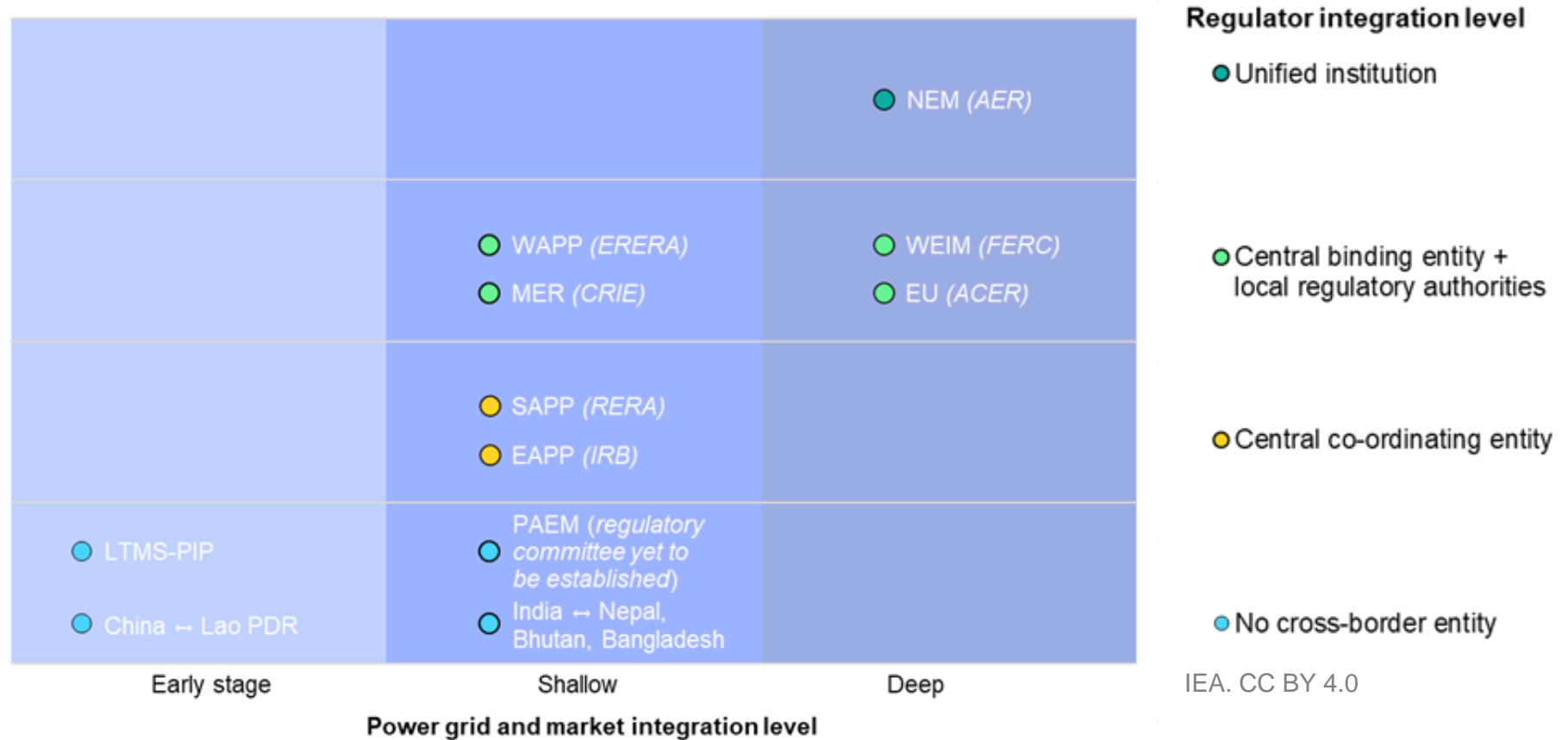
- Ensuring the **harmonisation of local rules** with regional regulations.
- Verifying that **cost-benefit analyses and plans of regional regulators and utilities** are sound, approving the outcome of these plans.
- Establishing and maintaining **dialogue with the other local regulators** to ensure alignment and the sharing of best practices.
- Creating a **dedicated department or team** and developing staff expertise to handle interconnection matters.

**Where a regional regulatory entity has been designated, it is a key institution for regional interconnection, facilitating fulfilment of technical and institutional requirements**



# Different regulatory frameworks are possible at different levels of regional integration

Regulator integration levels, corresponding to regional power grids and market integration



**Classification is based on whether a supra-jurisdictional regulatory entity is in place, whether this entity has binding powers, and whether regulatory entities at local levels exist in parallel with the central regulatory entity.**





## Key enabling factors for successful regional interconnection initiatives

Strong political will to co-operate

**Intergovernmental agreements** and co-ordinated political leadership are necessary to facilitate strong regional integration, for instance through regional economic communities.

Sound cross-border trading rules and transmission regulation

**Utilities** have a crucial role in ensuring that the technical aspects of these rules do not compromise the delivery of secure, reliable and affordable electricity to consumers.

**Harmonising these rules** can take several iterations to progressively reach higher levels of integration.

Regional institutions with clear and significant executive power

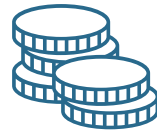
Often, **regional institutional** design takes longer to formulate than the technical aspects of interconnection, as it can be political. Designing regional institutions from the beginning of a project enables faster implementation of co-ordinated action.



# Upcoming knowledge products for 2024...



**Transmission Pricing and  
Cost Allocation for Regional  
Power Trade**



**Technical and regulatory  
harmonisation of grid  
codes**





# ERRA

21<sup>st</sup> Annual Conference  
ENERGY REGULATORS FORUM

CO-LOCATED WITH FGA

## Adaptive Regulation in Energy Transition

15 - 17 MAY 2024 | Bangkok, Thailand

# Thank You

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