



ACCELERATING SDG 7 ACHIEVEMENT

# ACTION BRIEF 1

## GLOBAL ENERGY INTERCONNECTION

7 AFFORDABLE AND  
CLEAN ENERGY



# **ACTION BRIEF #1**

## **GLOBAL ENERGY INTERCONNECTION**

Developed by

Global Energy Interconnection Development and Cooperation Organization (GEIDCO)

In collaboration with

UNFCCC, Sustainable Development Solutions Network, SEforAll, and Regional Center for Renewable Energy and Energy Efficiency

## Summary

Global Energy Interconnection (GEI) provides an infrastructure platform through which clean energy can be largely developed, transmitted, and consumed globally using a combination of 'smart grid + ultra high voltage grid + clean energy.' Its aims are to replace fossil fuels with renewable energy in electricity generation, and to replace fossil fuels with clean electricity for energy consumption. The results will be increased electrification levels and energy efficiency for end users, less use of fossil fuels for energy production and as industrial raw materials, lowered carbon emissions, an accelerated energy transition, and advances in sustainable development throughout the world.

## Call to action

**Concept comprehension:** Build consensus and involvement by the United Nations and national governments, incorporate the GEI initiative into multilateral international cooperation frameworks and national energy development strategies, and encourage engagement from both private and public sectors in project investment and implementation.

**Cooperation establishment:** Call for international cooperation to facilitate policy making to serve the GEI power market, relating to clean energy planning, development, trade, and operation.

**Project promotion:** Speed up the energy transition pace by developing a pipeline of mature economic and investment projects featuring clean development, electrification, power integration, and smart grids.

## Description of the GEI Action Platform

Global Energy Interconnection (GEI) is a clean energy-dominant, electric-centric modern energy system that is globally interconnected, jointly constructed, and mutually beneficial to all. As an action platform, GEI will foster large-scale clean energy exploitation and utilisation, and improve energy efficiency, economy, and sustainability. GEI will help realise an economic, clean, and efficient energy utilisation system, providing a fundamental solution for achieving SDG 7 and sustainable energy for all.

GEI is an innovation to realise world sustainable development

Currently, the world is facing major challenges such as resource scarcity, environmental pollution, climate change, and populations experiencing power poverty and health poverty, together with excessive consumption and reliance on fossil energy. GEI is a groundbreaking innovation that serves as an infrastructure platform, on which clean energy can be largely developed, transmitted and consumed globally. In essence, GEI is "smart grid + Ultra High Voltage grid + clean energy." It aims to achieve the replacement of fossil fuels by renewable energy in electricity generation and replacement of fossil fuels by clean electricity in energy consumption, therefore increasing the electrification level and energy efficiency for end users and limiting the use of fossil fuels as industrial raw materials. GEI is a systematic solution to mitigate over-reliance of fossil energy and heavy carbon emissions, accelerating energy transition and sustainable development of the world.

Building GEI leads to comprehensive benefits

First, it promotes energy transition. In the GEI roadmap, the proportion of clean energy to primary energy consumption worldwide will exceed 70 per cent, and the installed power generation capacity of clean energy will account for 83 per cent, meeting global power demand with clean and green energy.

Second, it solves power poverty. Through large-scale clean energy development and power grid interconnection, annual electricity costs will decrease by US\$ 1.8 trillion globally, and the world energy access rate will rise, with electricity provided to 0.1 billion people experiencing power poverty, thus realising sustainable energy for all.

Third, it mitigates climate change. In the GEI roadmap, global carbon dioxide emissions are estimated to reach a peak value in 2025, drop to less than half of the value of 1990 by 2050, and reach zero emissions in 2065, thus meeting the target of controlling temperature rise to within 1.5°C.

Fourth, it addresses environmental pollution. GEI optimises the use of fossil fuels, and directly reduces the emissions of major air pollutants such as sulfur dioxide, nitrogen oxide, and fine particles by 70 per cent, improving the ecological environment.

Fifth, it balances global development. Building GEI encourages energy cooperation. By accelerating clean energy exploitation in less developed regions and turning resource strengths into economic advantages, GEI will foster economic development, minimise discrepancies, and realise inclusive growth worldwide.

## GEI achievements

The Global Energy Interconnection Development and Cooperation Organization (GEIDCO) has released significant research studies including: “GEI Backbone Grid Research, GEI Development Index,” “GEI Standard System Research,” “GEI Technology & Equipment Innovation Outline,” and major regional clean development planning reports for Africa, Northeast Asia, and ASEAN countries, in connection with establishing a clean energy development and power interconnection network.

The GEI initiative is recognised by the United Nations. The UN Secretary-General, Mr. António Guterres, commended GEI as a way to achieve world sustainable development and inclusive growth, urging all governments to step up efforts for participation. GEIDCO has partnered with key UN entities such as UN DESA, the UNFCCC secretariat, UN Environment, and UN-OHRLS. GEIDCO has presented the “GEI Action Plan to Promote the 2030 Agenda for Sustainable Development,” “GEI Action Plan for Promoting the Implementation of Paris Agreement,” “GEI Action Plan for Promoting Global Environmental Protection,” and “GEI Action Plan for Addressing Population without Power Access, Poverty and Health Issues” on the occasion of the UN High-level Symposium, and at COP 24, UNEA4, and the Global Conference on Scaling-up Energy Access and Finance in LDCs, respectively. GEIDCO is dedicating efforts to aligning with the 17 SDGs and promoting sustainable development.

GEIDCO has established cooperation ties with major international organisations, such as the African Union Commission, ASEAN Union, League of Arab States, and Gulf Cooperation Council Interconnection Authority (GCCIA), as well as many governments, enterprises, institutions, and universities. GEI is part of several international cooperation frameworks and is ready for implementation.

Specifically, GEIDCO is seeking to speed up some clean energy development and cross-country interconnection projects, such as the exploitation and distribution of hydropower from the Congo River, the Northeast Asia power grid interconnection, the China-Myanmar-Bangladesh power grid interconnection, and the Gulf Region-East Africa power grid interconnection. Moreover, to advance business operations for Africa, Southeast Asia, and Latin America, GEIDCO proposed the coordinated development of electricity, mining, metallurgy, industrial parks and trade, activating the engine for investment, resource exploitation, industrial production, export, and economic benefits. It provides a packaged solution to energise the market and empowers the capability for project financing.

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**HIGH-LEVEL POLITICAL FORUM  
ON SUSTAINABLE DEVELOPMENT**

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