



**KGID
2025**

**Green Growth:
The Path to
Sustainable Jobs**

Global Climate Technology Cooperation of Korea - focused on the perspective of S&T

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National Institute of Green Technology



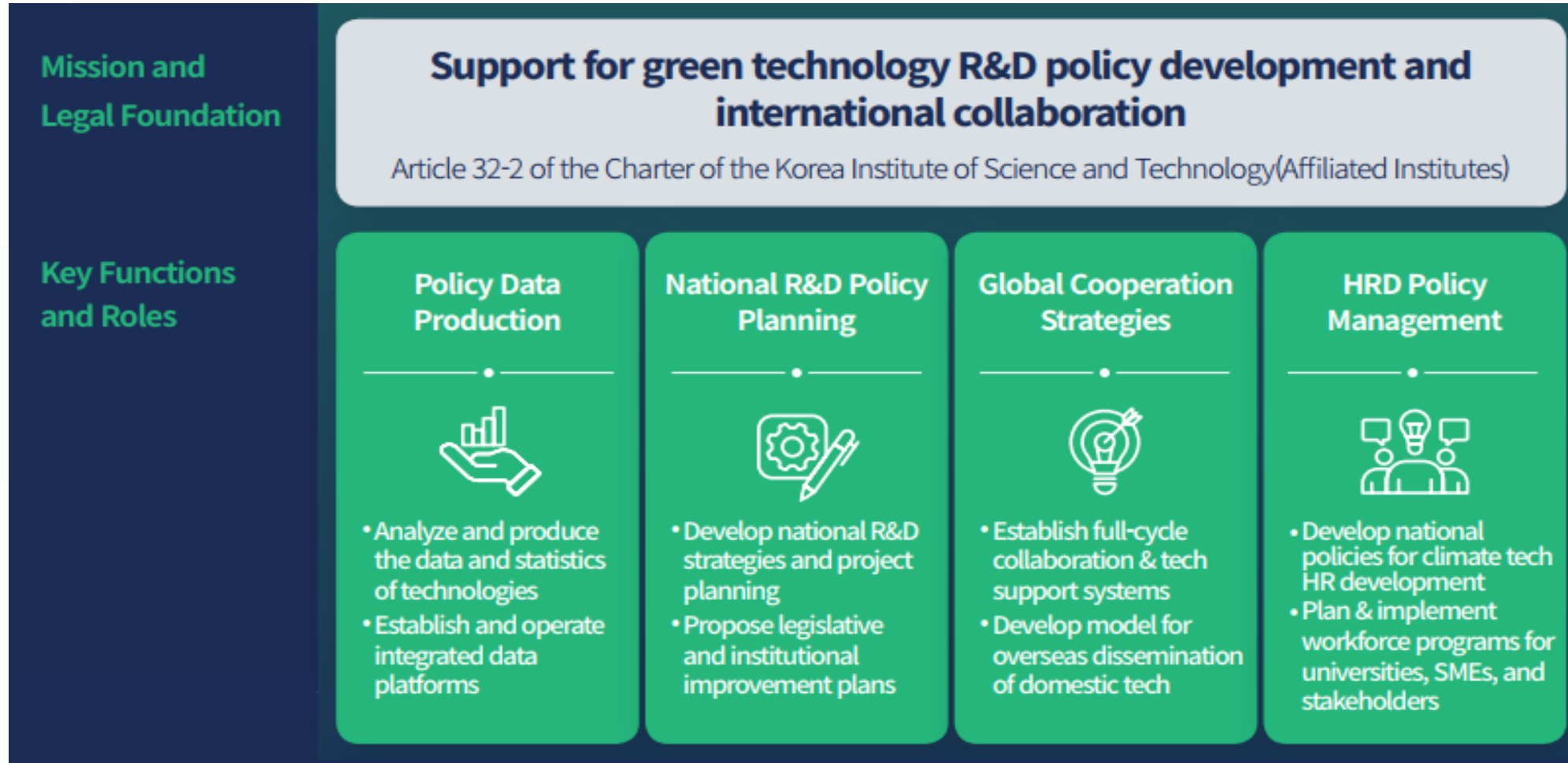
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2. Global R&D Strategy Map
3. KGGTF Collaboration Cases
4. Global Climate Tech Cooperation Programs

1 National Institute of Green Technology



Mission and Key Roles



1 National Institute of Green Technology

Key Activities

- **Support for Government Policy Development** – *Supported and contributed to multiple agenda items adopted by the National Science and Technology Advisory Council and the presidential reports*
- **Support for Climate Technology Legislation and Regulatory Improvement Plans** – *Provided legislative support for the enactment of the Climate Technology Promotion Act and the pan-ministerial CCUS Integration Act*
- **Provide Consultation for International Negotiations on Technology Agendas** – *Designated as the expert institution for Working Group III of the IPCC National Response Committee, and serves as a specialized advisory institute to the Government of Korea on climate technology agendas within the UNFCCC negotiation framework*

1 National Institute of Green Technology

Key Activities

- **Contribution to Securing Government Budget through Carbon Neutrality R&D Program Planning** – *Planned domestic R&D and international cooperation projects in the field of climate technologies*
- **Production of Green and Climate Technology Information and Establishment of a Digital Platform** – *Produces diverse green and climate-related information based on scientific data analysis*
- **Enhancing Global Carbon Neutrality Competence through Human Resource Development Programs** – *Develops and operates capacity-building initiatives, providing support to a wide range of organizations, including SMEs and startups, to enhance national and global capabilities for achieving carbon neutrality*

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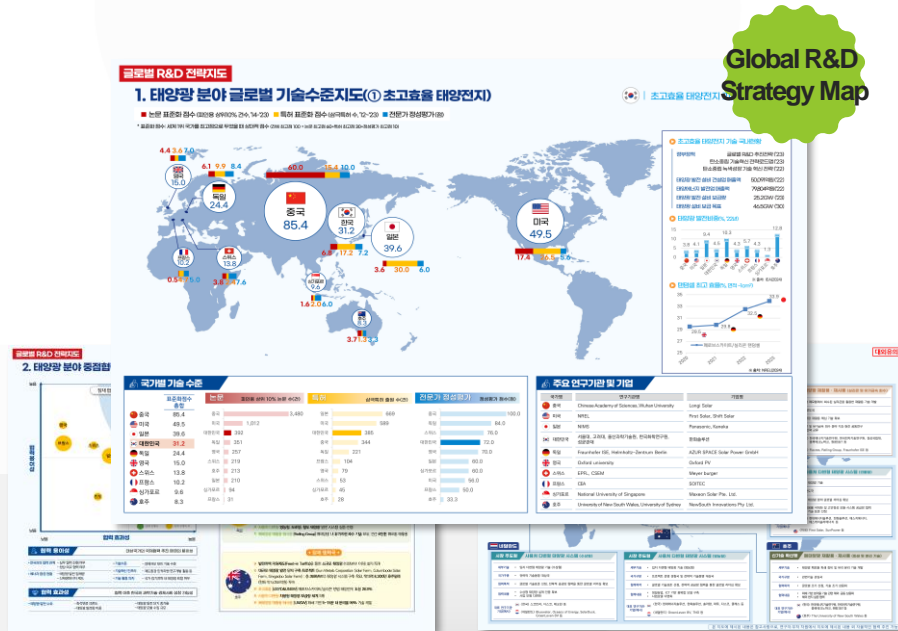
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2

Global R&D Strategy Map



Map of Cooperation Strategy with Tech Leading Countries



Global R&D
Strategy Map

Digital
Platform



<https://www.ctis.re.kr/map/main/>

(2023-2024) First development of a global R&D strategic roadmap model for carbon neutrality, enabling a comprehensive view of major countries' technological levels and cooperation strategies at a glance

(2025) World's first platform established to enable any researcher to access global R&D information on carbon neutrality and develop strategies based on it (currently available only in Korean)

National approval of 14 carbon neutrality Techs, building global cooperation and strategy infrastructure for researchers

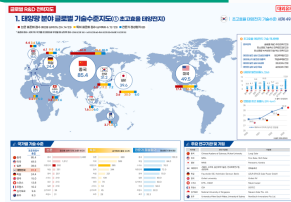
2 Global R&D Strategy Map



Map of Cooperation Strategy with Tech Leading Countries

Global R&D Strategy Ma

① Tech Level



Analyzed based on the number of papers (top 10% by citations), number of patents (triadic patents), and expert qualitative evaluations.

② Partner Country



In addition to technical aspects, the analysis comprehensively considers the ease and effectiveness of cooperation from social and economic perspectives.

③ Cooperation Strategy



Four types of cooperation are classified based on Korea's technological competitiveness and technology development cycle.


Digital Platform



Integrate all information from the global R&D strategy map into a digital platform and systematize it to enable users to develop their own strategies independently.



Map of Cooperation Strategy with Developing Countries (under development)



개발도상국
협력전략지도
Cooperation Strategies in
Developing Countries

지속가능한 미래,
전략적 협력에서 시작됩니다

정보를 조회할
국가를 선택해주세요

국가명으로 검색

아시아 5

베트남 사회주의 공화국

인도

인도네시아

필리핀

방글라데시

아프리카 5

나이지리아

케냐

에티오피아

탄자니아

가나

남아메리카 3

개발도상국 협력전략지도

개인정보처리방침 이메일무단수집거부

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과학기술정보통신부

국가녹색기술연구소
NATIONAL INSTITUTE OF
GREEN TECHNOLOGY

관련사이트

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개발도상국 협력전략지도

국가개황지도 중점협력기술지도 협력지역지도 협력전략지도

베트남 사회주의 공화국

국가개요

국내기업 해외진출

국내기업 해외진출 TOP 3

전력통합 ☐

산업효율 ☐

태양광 ☒

현재지표

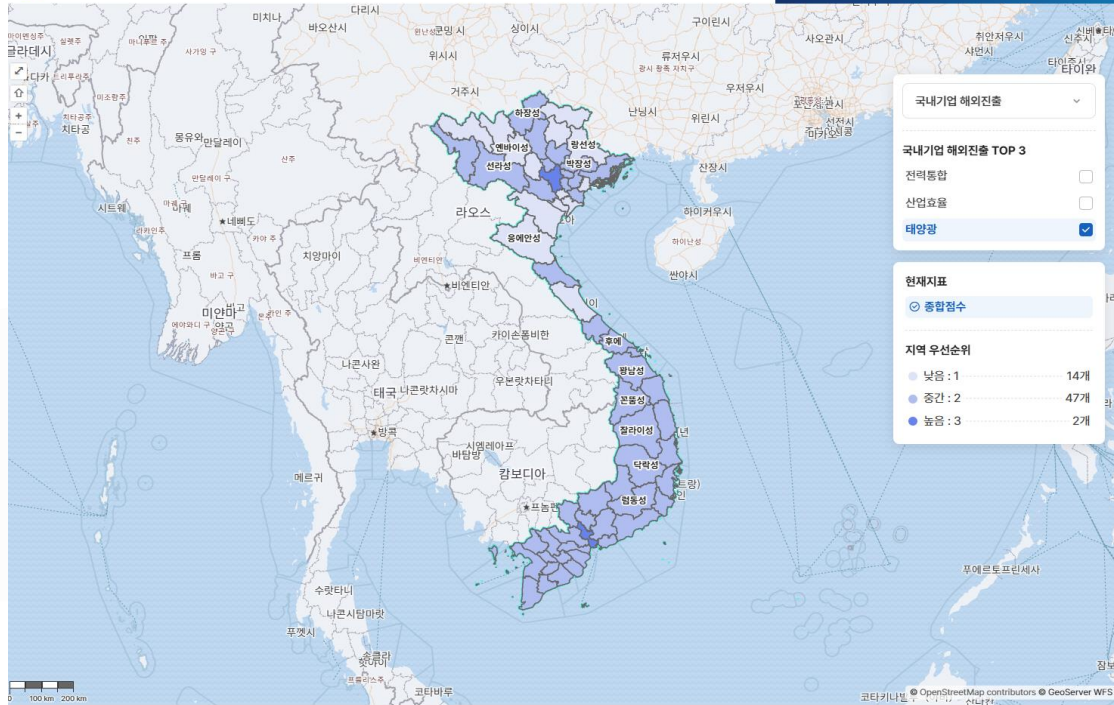
종합점수

지역 우선순위

낮음 : 1 14개

중간 : 2 47개

높음 : 3 2개



0 100 km 200 km

코타키나빌 © OpenStreetMap contributors © GeoServer WFS

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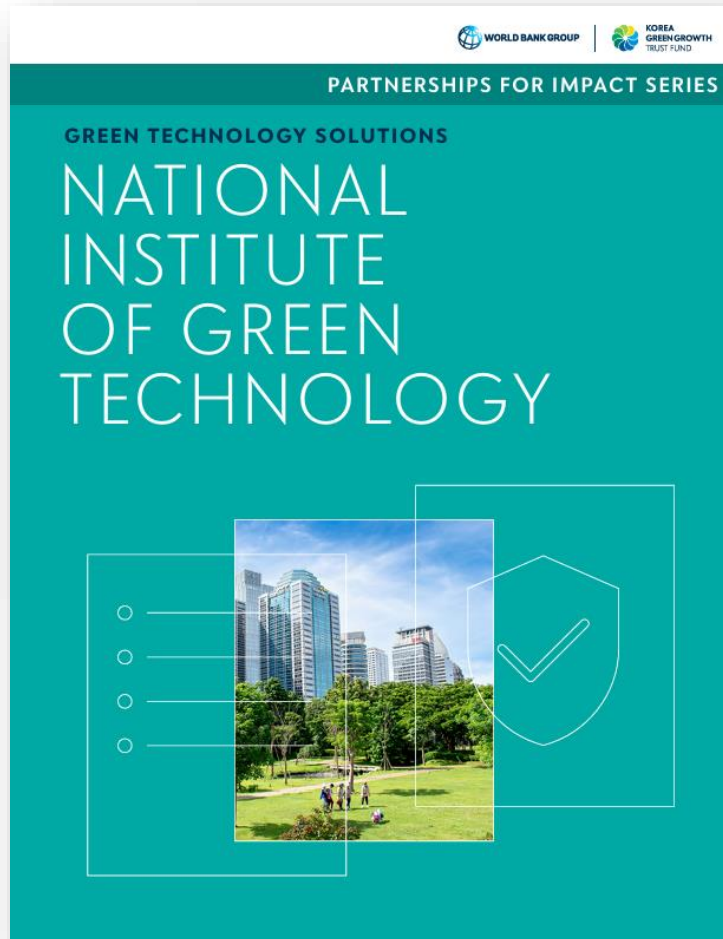
Using detailed data on national resources, industries, infrastructure, and etc., the system identifies regions with high potential for cooperation in climate technologies and includes analytical functions to develop cooperation frameworks according to technological level and collaboration objectives.

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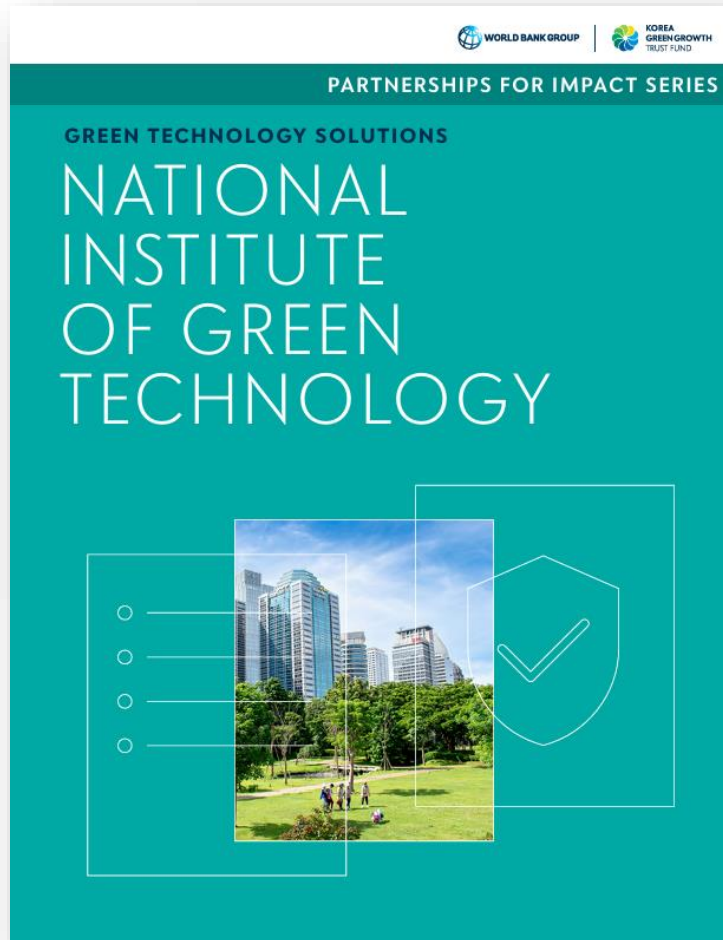
Mongolia: Battery Energy Storage System (BESS) Potential Assessment



- **Tech: BESS**
- **Project Funding:** KGGTF \$200,000
- **Partners:** Ministry of Energy, National Dispatching Center of Mongolia, NIGT, One Energy Island
- **Background:** As Mongolia strives to diversify its energy mix and reduce its heavy reliance on coal-fired power generation, energy storage technologies are emerging as a vital enabler of a more resilient and sustainable power sector. In response to this need, a targeted technical assistance initiative, supported by the KGGTF in 2024, was launched to evaluate the feasibility and strategic potential of Battery Energy Storage Systems (BESS) in Mongolia.
- **NIGT's role:** Through this collaboration, a comprehensive techno-economic assessment was delivered, examining the current policy environment, market readiness, technology landscape, and global trends relevant to BESS deployment.



South Africa: Land Restoration in Retired Mining Sites



- **Tech: Carbon Sequestration**
- **Project Funding:** KGGTF \$600,000
- **Partners:** Environment and development departments in the provincial government of South Africa, NIGT, Korea Mine Rehabilitation and Mineral Resources Corporation
- **Background:** In South Africa's Mpumalanga Province, decades of coal mining have left deep environmental scars. With support from the KGGTF in 2023, a pioneering initiative was launched to chart new pathways to restore retired mining lands and transform them into sustainable, productive landscapes.
- **NIGT's role:** NIGT plays a central technical role by assessing the carbon sequestration potential of the sites, using approaches such as enhancing forest management, improving soil carbon storage, and promoting biodiversity. These assessments will help quantify climate benefits and support the creation of carbon finance mechanisms to attract future investment.

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4 Global Climate Tech Cooperation Programs



Technical Assistance and Demonstration Programs

Korea's CTCN pro bono TA Program (2022~2030)

Project Funding	Approx. 110K – 200K USD for a year
Funding Agency	Ministry of Science & ICT (RoK)
Scope of Support	Technical Assistance
Project Goal	Implementation of early-stage technology transfer activities (such as preliminary feasibility Studies, policy & legal framework, etc.) in developing countries

Global Climate Tech Demonstration Program (expected to launch in 2026)

Project Funding	Approx. 1.1 M – 2.2 M USD for 2 years
Funding Agency	Ministry of Science & ICT (RoK)
Scope of Support	Technology Demonstration / Pilot Test
Project Goal	Facilitate the large-scale demonstration and implementation of core carbon neutrality technologies through small- and medium-scale technology verification in developing countries.

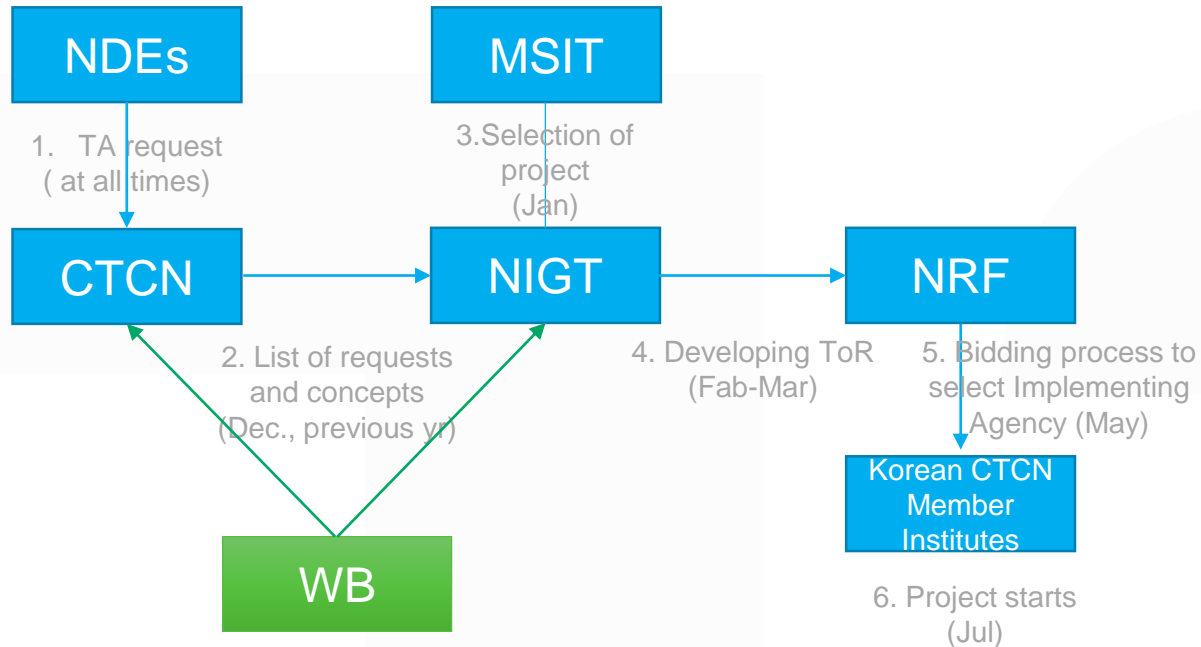
Expand synergies through step-by-step linkage or parallel support with the KGGTF program

4 Global Climate Tech Cooperation Programs

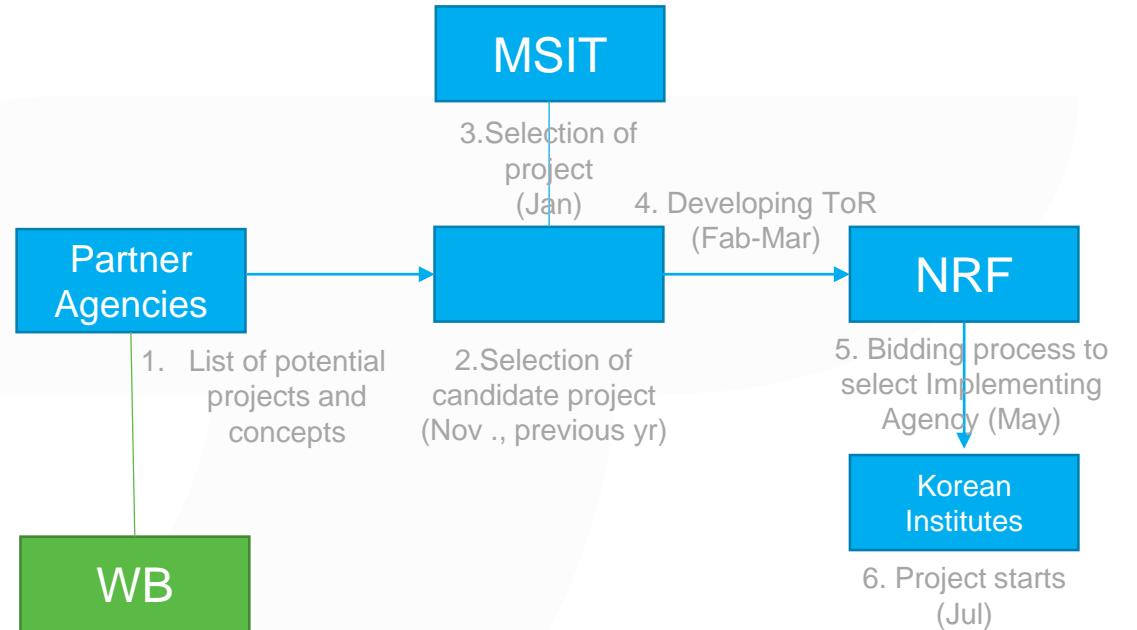


Structure and Timeline

Korea's CTCN pro bono TA program



Global Climate Tech Demonstration Program (tentative)





4 Global Climate Tech Cooperation Programs

Korea's CTCN pro bono TAs (2022-2025)

Partner Country	Project Title / Technical Assistance Description	Funding (Million KRW)	Year
Vietnam	Technical assistance for eco-friendly composting and biogas power generation utilizing livestock manure in Vietnam's agricultural sector	200 (appx. 140K USD)	2022
Uzbekistan	Feasibility study on biogas potential from human waste in Uzbekistan	200	2022
Lao PDR	Establishment of a master plan for a green public transportation system in Vientiane, Lao PDR	200	2022
South Africa	Development of optimal forest management plans for carbon neutrality through individual tree monitoring in Mbombela City	200	2023
Bangladesh	Development of a mid- to long-term hydrological forecasting system for the Ganges–Brahmaputra–Meghna River Basin	200	2023
Uganda	Support for establishing landfill management policies to respond to climate change in Uganda	200	2023
Tanzania	Realization of carbon reduction and health improvement through performance enhancement of biogas plants in Tanzania	160 (appx. 112K USD)	2024
Cambodia	Development of a national green hydrogen roadmap and linkage to international projects to promote carbon neutrality in Cambodia	285 (appx. 200K USD)	2025

Thank you!

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