

2025 SIDS NDE Joint Programme

Session 5: Collaborative Research,
Development & Demonstration

- Outcomes of the Learning Visit on Green Hydrogen Production

PRESENTER

Ms. Jaekyung YOO, Research Engineer
Global Strategy Team, Korea Institute of Energy Research (KIER)

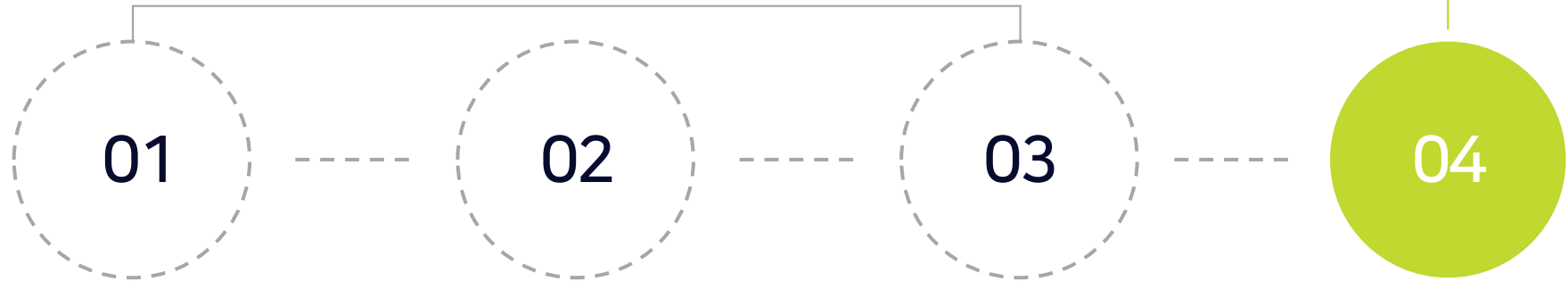


Introduction of KIER



Jaekyung YOO

Educational Background



Bachelor's degree (2016)

- Double major in French Language and Economics

Master's degree (2023)

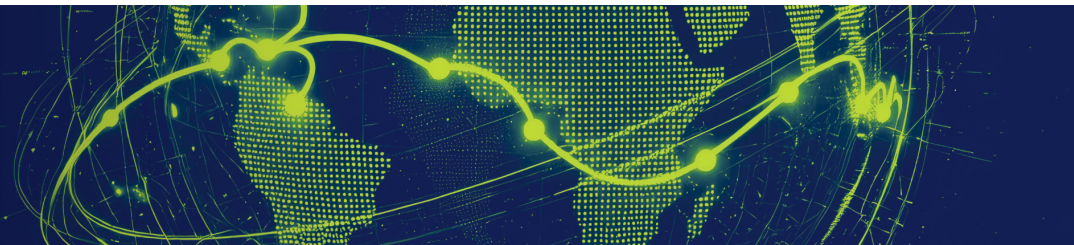
- M.A. in Climate and Environmental Economics
- Research trends and policy analysis in the hydrogen sector using big data methods.

Ph.D. candidate (2025-)

- Science and Technology Policy

KIER (2016-)

- Korea Institute of Energy Research (KIER)
 - Startup Incubation Center and SME/industry support & technology commercialization units (7.5 years)
 - Global Strategy Team (2.5 years)



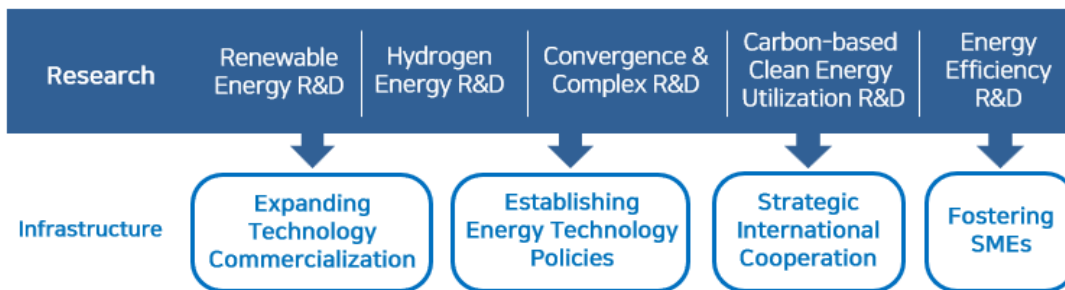
Overview

Purpose

Contributing to national growth and economic development through energy R&D and diffusion

Mission

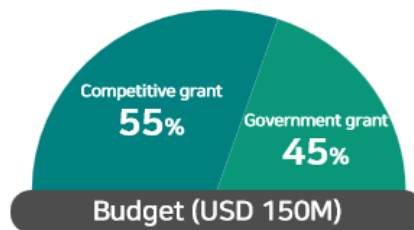
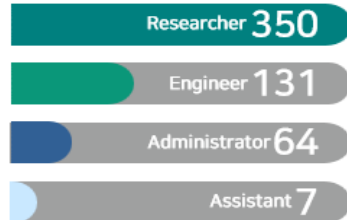
Leading Energy Research, Enhancing Quality of Life, and Realizing a Sustainable Future



Regular Staff, Budget

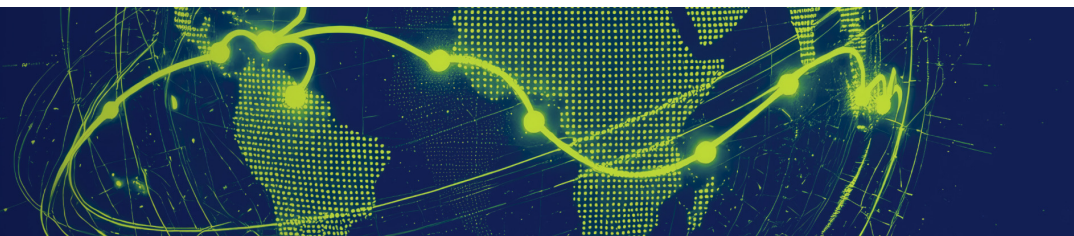
As of Sep 2025

Regular Staff
552
(Ph.D. 349)








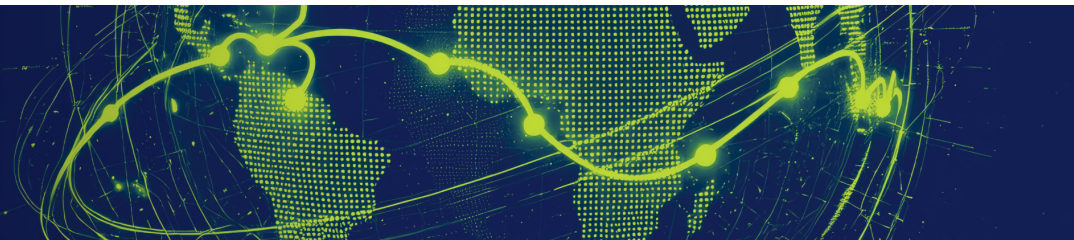
History

- 2000.12 Leap** Korea Institute of Energy Research
- 1991.11** Separated into Korea Institute of Energy Research(KIER) and KIGAM
- 1986.09** Separation of Korea Energy Economics Institute
- 1981.01 Growth** KIER and KIGAM merged to Korea Institute of Energy and Resources(KIER)
- 1977.09 Start** Establishment of Korea Institute of Energy Conservation

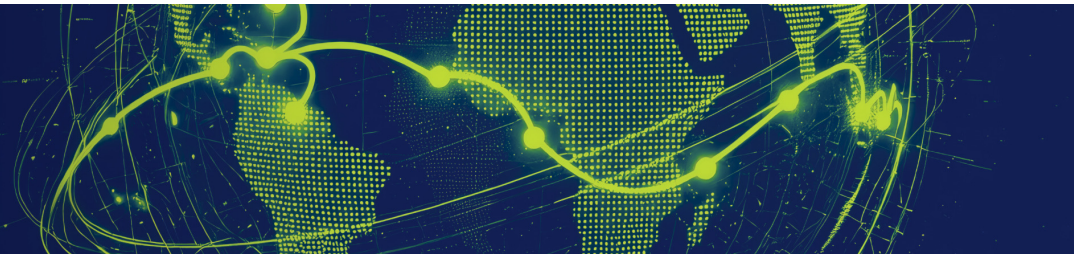
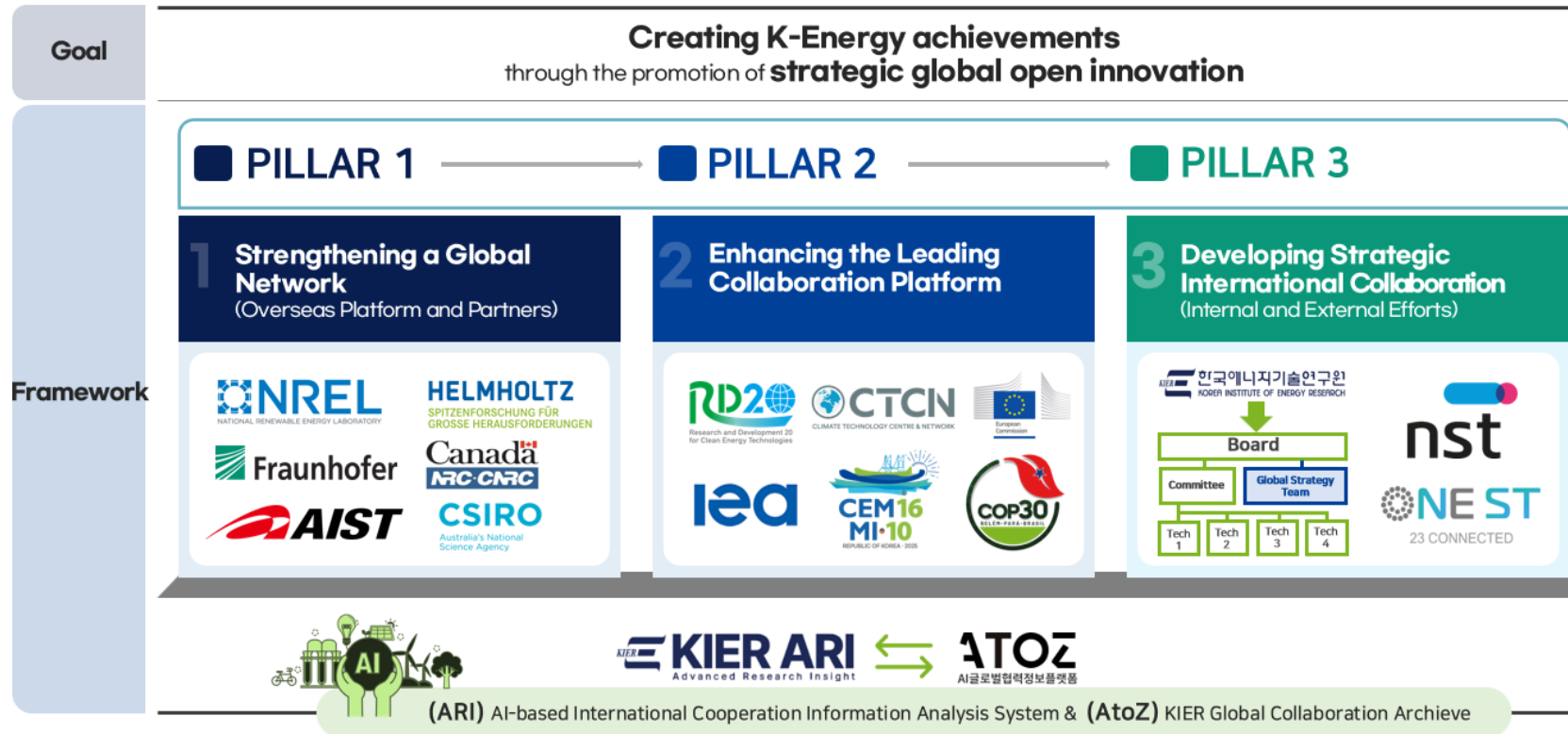


Overview of Research Areas

 New Energy	Hydrogen Energy	<ul style="list-style-type: none"> ✓ Production: Source conversion process — water-based (alkaline, PEM, ion exchange membrane), and photoelectrochemical green hydrogen ✓ Storage: Metal hydride, complex hydride, and composite materials-based hydrogen storage ✓ Utilization: Demonstration and modeling of hydrogen energy systems using fuel cells
 Renewable Energy	Solar Energy Wind Energy	<ul style="list-style-type: none"> ✓ Next-generation solar cells: Silicon, perovskite, bifacial, tandem, and multi-junction technologies ✓ Performance evaluation: High-efficiency and reliability enhancement of solar power systems ✓ Wind turbine blade design, system control, and functional O&M platform technologies ✓ Low-frequency noise measurement, analysis and evaluation technologies, core technologies for large-scale floating wind turbines, and offshore wind farm operation technologies
 Clean Fossil Energy Utilization	Greenhouse gas reduction & Processing innovation	<ul style="list-style-type: none"> ✓ Greenhouse gas reduction: CO₂ capture, conversion, and utilization technologies ✓ Process innovation: Low-carbon process design, energy-efficient conversion, and pollutant removal
 Energy Efficiency Enhancement	Energy ICT Energy Integration Systems	<ul style="list-style-type: none"> ✓ Integration of energy and ICT: Data-driven operation and optimization for energy efficiency and GHG reduction Smart buildings & grids: Microgrid design, energy/environmental diagnostics, and heat/electric network optimization ✓ Energy management: Data analytics for energy optimization and integrated system operation
 Common Infrastructure	Energy Storage System (ESS)	<ul style="list-style-type: none"> ✓ Next-generation batteries: Lithium-ion, solid-state, flow batteries, and capacitors ✓ Renewable linkage: PV and waste battery recycling, hybrid energy generation, and material separation technology



KIER's International Collaboration Framework



KIER's International Collaboration Status(2025)

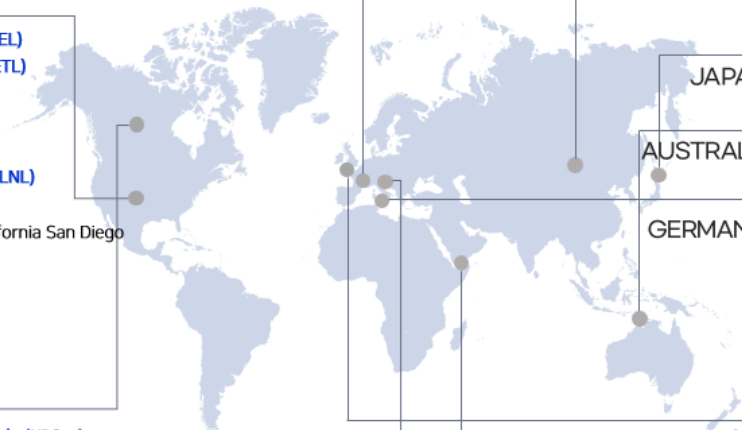
● Collaboration → ● Active MOU → ● Active R&D Project

USA

- ● National Renewable Energy Laboratory(NREL)
- National Energy Technology Laboratory(NETL)
- Sandia National Laboratories(SNL)
- Brookhaven National Laboratory(BNL)
- Los Alamos National Laboratory(LANL)
- Lawrence Livermore National Laboratory(LLNL)
- Texas A&M AgriLife Research
- Qualcomm Institute at the University of California San Diego
- North Dakota State Government

CANADA

- ● Department of Natural Resources of Canada (NRCan)
- National Research Council Canada(NRC)



Czech

- Czech Technical University in Prague (CTU)

CHINA

- China Research Academy of Environmental Science (CRAES)

JAPAN

- National Institute of Advanced Industrial Science and Technology(AIST)

AUSTRALIA

- Commonwealth Scientific and Industrial Research Organization(CSIRO)

GERMANY

- FORSCHUNGSZENTRUM JÜLICH(FZJ)
- Helmholtz-Zentrum Berlin für Materialien und Energie GmbH(HZB)
- Fraunhofer IMWS
- Fraunhofer IFAM
- Fraunhofer IWES
- Fraunhofer IEE

UK

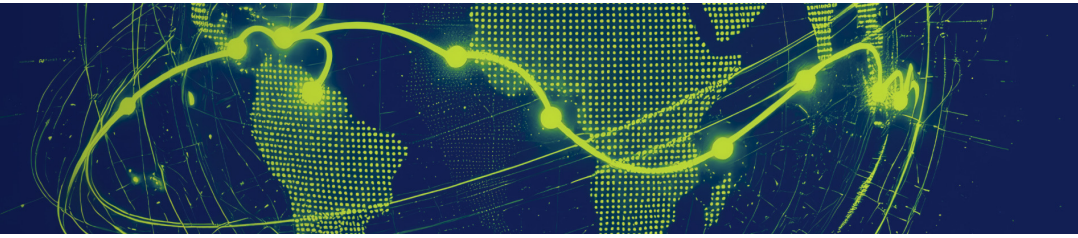
- Energy Research Accelerator(ERA)
- Offshore Renewable Energy Catapult(OREC)

DENMARK

- Technical University of Denmark(DTU)

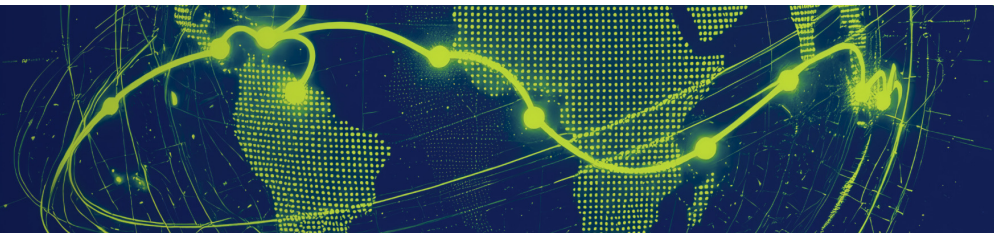
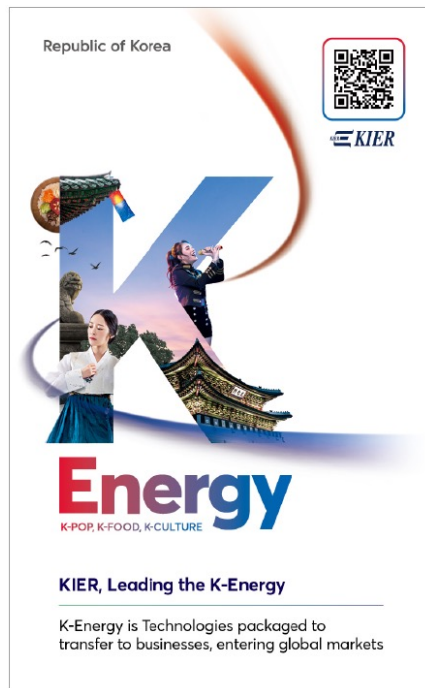
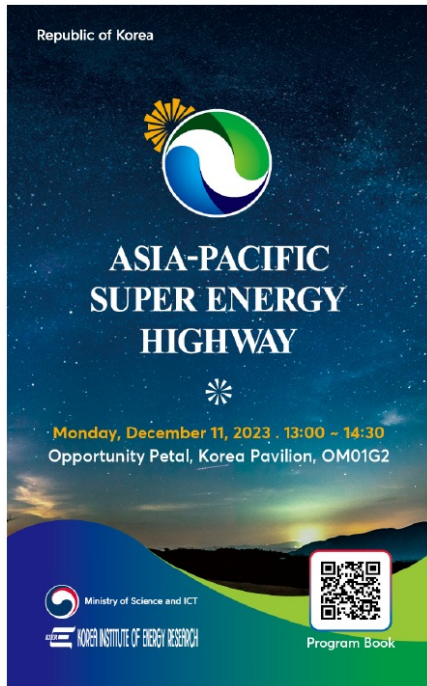
SAUDI ARABIA

- King Abdulaziz City for Science Technology (KACST)



Collaboration with CTCN

COP28 side event @ Korean Pavillion



CTCN multilateral meeting @ COP28

Cambodia



COP28 Bilateral Meeting Room, Dec. 10

- Cambodia Environment Ministry, Sum Thy Director General
- Green Hydrogen Production, Capacity Building in Renewable Energy

Thailand



COP28 Bilateral Meeting Room, Dec. 11

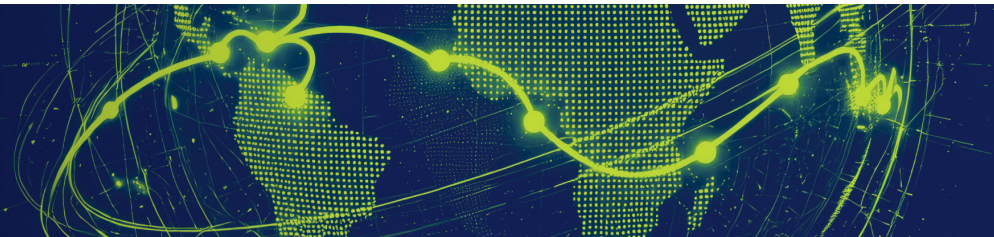
- NXPO
- Methanol Production and Hydrogen Production

CTCN



COP28 Bilateral Meeting Room, Dec. 11

- CTCN
- Bio energy and Recycling of solar panel waste technology transfer



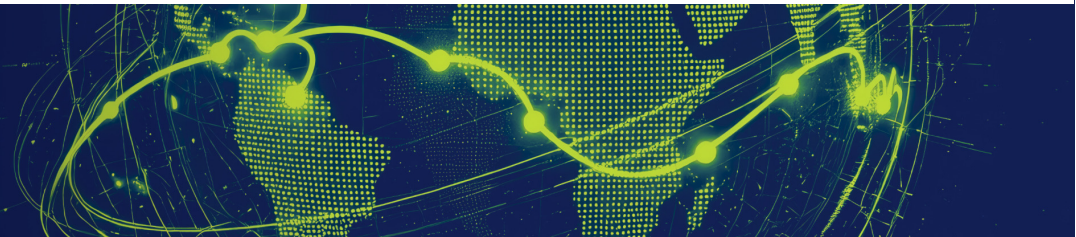
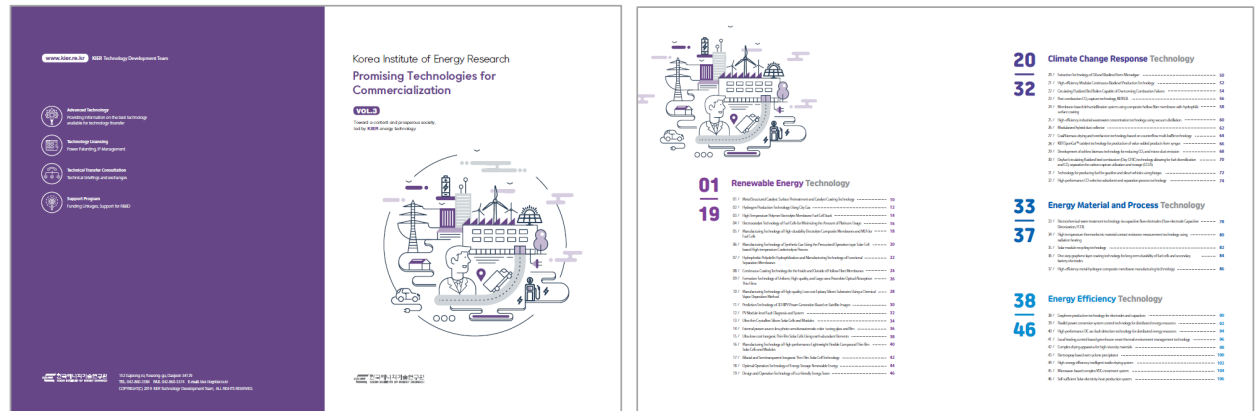
Follow up after COP28

Jan 17, 2024

Six technical descriptions were submitted to CTCN to identify TA needs:

- ① Recycling/reuse of waste solar modules (Lee Jin-seok)
- ② Salinity gradient power generation (Kim Hanki)
- ③ Smart inverter (Jung Hak-geun)
- ④ Continuous biodiesel production technology (Kim Deok-geun)
- ⑤ Plastic pyrolysis technology (Ra Ho-won)
- ⑥ Bio char technology (Yu Ji-ho)

Sales Materials Kit (SMK):
Promising Technologies
for Commercialization



Report to Management on the Progress of CTCN TA Project

Mar. 2024

Weekly Management Meeting

- ① To get the approval or consultative idea of the planning and joining the CTCN TA
- ② To the formation of a consensus or get support
- ③ (Feedback) Welcome if the F/S results in the Collaborative RD&D

기후기술센터네트워크(CTCN) 현황 및 시사점

<한국외국어대학교, '24.3.4>

1. CTCN (Climate Technology Centre & Network) 개요

□ 설립목적 및 운영

- 개도국의 기후변화대응을 기술적으로 지원하기 위해 유엔 기후변화협약 (UNFCCC)에 따라 설립된 국제기구로 유엔환경계획(UNEP)이 운영 지원
- 기후기술센터(Climae Technology Centre/CTC): CTCN의 사무국 역할 수행
 - (본부) 덴마크 코펜하겐 UN City에 위치
 - (지역센터) 케냐, 멕시코, 태국 지역센터가 있으며 2021년 협력관사사무소 (인양) 개소 → GCF와 물리의 협력 및 연구개발실증 촉진 업무
- 기후기술네트워크(Climae Technology Network/CTN): 기후기술이해관계자의 집합체로, CTCN의 장구 역할을 하는 각국 NDE와 개도국 기술지원, 지식 공유, 역량강화 등을 제공하는 82 회원기타RD&R 포함 한국 103으로 구성
- CTCN **이사회(Advisory Board)**: UNFCCC의 결정사항에 대한 CTCN의 이행 계획 결정을 위해 연 2회 개최 (과거부 기술혁신연구성채연구 2018년부터 시작)

[그림 1] 국제기후변화대응 기술혁신기금(2009년 COP15 결정문에 따라 설립)
(출처: 유엔기후변화협약 및 기후기술 국제협력 정책 플랫폼, 뉴스타기술센터, 2017)

□ 한국

- (요청) 포집된 CO₂와 그린수소 이용 바이오메탄올 생산 로드맵 및 실증
- (02.23) Biomass to Methanol(BTM) 생산기술 논의(윤형철, 이경호 등)
- CTCN → 에너지인 Top-Down TA 예산 확보 및 TA 수행(24.5월~)
- TA 완료 후 다음 단계인 2025년 RDND 사업(5~10억) 논의

□ 케냐

- (01.20) 케냐의 폐태양광 기술 관심 표명 후, 케냐-CTCN-KIER 회의
- 케냐측이 케냐 시장조사 및 기술 활용방안 자체조사 후 의견 예정

□ 기타 국가

- (코프더부아르) 바이오차(char) 분야(유지호 박사) 3월초 회의 예정
- (파푸아뉴기니) 열분해 및 열분해(정남호 박사) 회의 예정

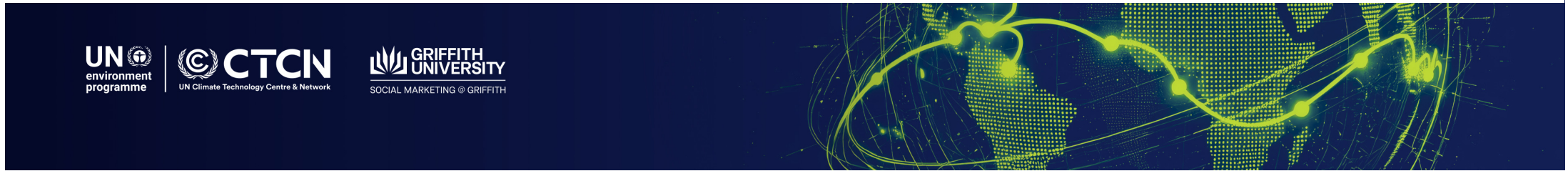
□ 시사점

- (내부적 요인) K-Energy 해외 시장 진출을 위한 글로벌 수요 발굴
 - 기술메카니즘 국제기구 단계적(TA, RDND) 사업 수주를 통해 향후 GCF 등 재정메카니즘 메가 프로젝트 참여를 위한 경험 축적
 - CTCN 사업으로 형성된 협력의 네트워크로 기술이전 가능성 모색
- (외부적 요인) CO₂ 해외감축분 달성 기여 출연연 역할 제고
 - CTCN은 COP 결정문에 의거, 개도국을 지원하는 유인한 기후기술 기부로서, CTCN의 모든 사업은 매년 개최되는 유엔기후변화협약 당사국총회에 보고되어 국가온실가스감축목표(NDC) 실행으로 인정
 - 한국정부의 RDND, 기술이전, 재정메카니즘 연계 성과 창출 이행
- CTCN 및 개도국 협력사업 참여 **여부 및 범위 관련 고려할 사항**
 - 사전기회/TA 및 RDND 수행/교류의 등 연구원 투입 시간 소모 **도**
 - CTCN 이외 다자 및 양자 ODA 사업 수행 병행 필요성 검토

□ CTCN은 027년 Delivery Partner & CTCN회원국인 CTCN이 운영하는 COP 시장 참여를 통해 추 가도

KIER Issue Report: CTCN Collaboration: Current Progress & Implications

Based on Korea's 2023 investment declaration in CTCN, KIER positioned CTCN as the key platform for K-Energy's overseas expansion and briefed management (Mar. 2024) on CTCN project models/cases and their linkage to large-scale funding (e.g., GCF). Internal barriers (R&D-ODA rule gaps, heavier cross-department workload, and need for stronger coordination) were identified, and management approved moving forward with CTCN project planning and response strategy development.



NIGT's preceding study

Brief

The National Institute of Green Technology (NIGT) published GTC BRIEF Vol. 3 No. 6 (2022): "Barriers and Improvement Measures in Korea's CTCN Technical Assistance Demand Discovery System", which was used as a core reference for identifying barriers in K-Energy's CTCN project discovery.

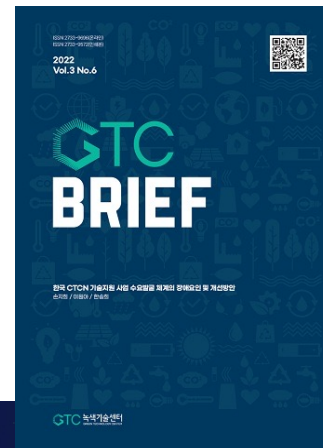
NIGT analyzed barriers to effective overseas expansion of Korean climate technologies and proposed complementary measures.

Barriers were categorized by key actors (NDEs, domestic CTCN member institutions, CTCN Secretariat) and by policy/system. As a solution, NIGT recommended establishing a CTCN Partnership Liaison Office (PALO) in Korea.

Findings were based on NIGT's experience operating CTCN Councils, NDE meetings, and communications with CTCN.

Improvement Plan for the Demand Discovery System of Korea's CTCN Technical Assistance Project

(Source: NIGT, GTC BRIEF Vol.3 No.6, 2022)



구분	문제점	보완 방안	
이행주체	① NDE 협의	- (수요중심 사업) 개도국 담당자 변경에 따른 NDE 의향 변경 →	- (PALO 협력) 한국에서 지원하는 사업에 대해 개도국 NDE와 협의가 완료된 수요 목록 요청
		- (공급중심 사업) 국내기관의 NDE 접촉 한계, 공급중심 사업에 대한 부정적 인식 →	- (PALO 협력) 수요-기술 매칭을 통해 국내기관 수요에 부합하는 국가 확인, NDE 협의 지원 및 G2G 협력 확대
		- CTCN 기준에 부합하지 않는 사업 유형 →	- (PALO 협력) CTCN 사무국에서 先 검토
	② 국내 CTCN 회원기관	- 인식저조 및 낮은 동기부여 →	- (역량강화) 인식 제고를 위한 사업 정보 제공 및 역량강화 체계화
		- 경험, 역량 및 네트워크 부족 →	- (제도 개선) 회원기관에서 수요 제출시 사업공모 동의서를 함께 제출
		- 사업 수요에 대한 단순 변심 →	- (PALO 협력) 동 사업에 대한 CTCN 사무국의 주인인식(ownership) 제고
정책/제도	③ CTCN 사무국	- 수동적 협조 및 느린 혁신 →	- (PALO 협력) PALO 실무 담당자 배정을 통해 원활한 소통 협조
		- 실무 담당자 부재 →	- (정책 마련) 우선 협력국 및 기술분야에 대한 기준 설정
	④ 제도	- 수요발굴의 우선기준 부재 →	- (제도 개선) 출연연, 공공기관 간담회 등을 통한 의견 청취 및 소통을 통해 제도 보완 방안 검토
	- 기관별 사업추진심의 등 행정적 참여 제약 →		

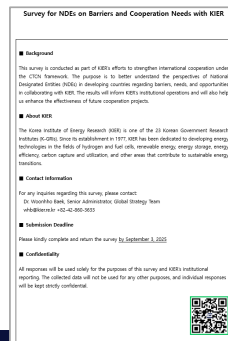
CTCN NDE Technology Exchange & Survey

CTCN NDE Technology Exchange

- KIER-CTCN Global-Up Program event (Aug. 29, as a side event of WCE in Busan), introducing KIER technologies and facilitating exchanges with key technology users, including 8 NDEs from eight developing-country governments and representatives from CTCN.
- Meeting with CTCN representatives and conveying KIER's needs (Feb., Seoul)
- Survey on barriers and cooperation needs for K-Energy overseas expansion targeting 13 country NDEs (Aug. & Sep.).
- Presentations delivered at the CTCN NDE Forum (Oct. & Dec.).

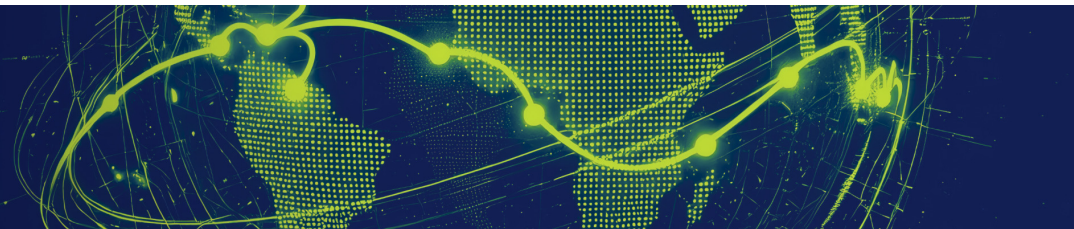


< Global Up (8.29, Busan) >



Survey

- **Respondents (Countries): 13 NDEs visiting Korea (all senior government officials; 9/13 from Ministries of Environment).**
 - Aug. 28, 2025 – CTCN CRD2B2 Workshop (6 countries): Timor-Leste, Malaysia, Panama, Zimbabwe, Tajikistan, Gambia
 - Sep. 3, 2025 – CTCN Member Org Council & Asia NDE Forum (7 countries): Pakistan, Sri Lanka, Philippines, Indonesia, Nepal, Kazakhstan, Afghanistan
- **Accessibility of KIER Technical Information (avg., 1-5 scale):**
 - Research themes/trends **3.57**
 - Demonstration case info **3.29** (lowest)
 - Early-stage technology info **3.57**
 - Publications/data access **3.86** (highest)
 - English/local-language materials **3.71**
 - **Common gaps:** limited English/local materials and insufficient demo case information.
- **Key Barriers to CTCN project origination/planning (multiple responses):**
 - Lack of information (technology/market/regulation) 61.5%
 - Difficulty securing finance 53.8%
 - Limited feasibility (F/S) capacity 38.5%
 - Difficulty verifying local partners 38.5%



CTCN NDE Technology Exchange & Survey

•Priority Cooperation Areas:

- Renewable energy 70%, Energy efficiency 70%, Batteries/ESS 62%
- Followed by Hydrogen/Fuel cells and CCUS (each 38%), Bioenergy (30%).

•Expected Impacts & Support Needs:

- Expected impacts: Capacity building 84.6%, Pilot/demonstration scaling 61.5%, Policy support 46.2%.
- Needed support: hands-on project development & demonstration support, joint research/training, knowledge & case sharing, tailored country-specific assistance.

•Implications

- High demand despite low awareness: NDEs show strong cooperation and demo needs even though KIER awareness is low → expand a demand-driven CTCN pipeline.
- Barriers cluster around “information-finance-F/S-partnering”: KIER should strengthen its role from a technology provider to a co-planning and demonstration partner (incl. feasibility and partner matchmaking).

•Outreach priority:

- repeated calls for more multilingual (English/local) materials and demo case sharing → upgrade a multilingual demo/case platform and web-based communication channels.



Papua New Guinea



Progress

PNG NDE – CTCN - KIER (Researcher & Global Team)

- ① Technology Request* was already uploaded on the CTCN homepage
 - * Pre-feasibility study on Salinity Gradient Energy Technology
- ② During the meeting KIER suggested to add e-OTEC*
 - * electrochemical Ocean Thermal Energy Conversion
- ③ Response Plan (RP) writing assistance by CTCN
- ④ Designated as Implementing Partner
- ⑤ On the process to register KIER to UNEP

'24.9.~'25.12., USD 250,000

Title: Pre-feasibility study on ocean energy focused on salinity gradient power and e-OTEC.

Proponent: National Energy Authority (NEA); Contact: Larsen Daboyan (Research & Statistics Manager).

Aims: Build the technical/knowledge base to use PNG's ocean potential, apply advanced technologies suited to PNG's geography, and support renewable transition and climate commitments.

Technologies: Salinity gradient power, e-OTEC, and Blue Battery (seawater-based energy storage).

UN environment programme		CTCN		CTCN Technical Assistance Request Submission Form	
<p>Guidelines:</p> <ul style="list-style-type: none"> This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question The Form must be signed by the NDE. Please see updated contact list of NDEs here: http://unfccc.int/tclear/support/national-designated-entity.html The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file For requests submitted by multiple countries, all the NDEs of the respective countries shall sign identical Forms before official submission to the CTCN NDEs have the opportunity to submit CTCN requests in collaboration with National Designated Authorities (NDAs) for the Green Climate Fund (GCF) if targeting the GCF Readiness Programme. 					
Requesting country or countries:	Papua New Guinea				
Request title:	Pre-feasibility study on Salinity Gradient Energy Technology				
NDE:	Mr. Danny Nekitel Manager Mitigation and Low Carbon Growth, Climate Change & Development Authority +675 7700-7838 danny.nekitel@ccda.gov.pg ; dan.nekitel@gmail.com Enchi Bldg Ground Floor Wards Rd, Hohola, Port Moresby NCD Papua New Guinea				
Request Applicant:	Organisation: National Energy Authority Contact Person: Larsen Daboyan Position: Manager Research and Statistics Email: Larsen.Daboyan@nea.gov.pg Address: Goads Herea Building, Waigani Dr., P.O. Box 494, WAIGANI, National Capital District, Papua New Guinea.				
Climate objective:	<input type="checkbox"/> Adaptation to climate change <input checked="" type="checkbox"/> Mitigation of climate change <input type="checkbox"/> Combination of adaptation and mitigation of climate change				

UN environment programme		CTCN		CTCN Technical Assistance Response Plan - Terms of Reference Version: 05/2024	
Country:	Papua New Guinea				
Request ID#:	2024000020				
Title:	Pre-feasibility study on Ocean Energy focusing on Salinity Gradient Energy Technology and Electrochemical Ocean Thermal Energy Conversion				
NDE:	Mr. Danny Nekitel Manager Mitigation and Low Carbon Growth, Climate Change & Development Authority +675 7700-7838 danny.nekitel@ccda.gov.pg ; dan.nekitel@gmail.com Enchi Bldg Ground Floor Wards Rd, Hohola, Port Moresby NCD Papua New Guinea				
Preponent:	Organisation: National Energy Authority Contact Person: Larsen Daboyan Position: Manager Research and Statistics Email: Larsen.Daboyan@nea.gov.pg Address: Goads Herea Building, Waigani Dr., P.O. Box 494, WAIGANI, National Capital District, Papua New Guinea				
Summary of the CTCN technical assistance	Papua New Guinea (PNG) is on the verge of harnessing its ocean energy potential to enrich its renewable energy portfolio. However, the scarcity of comprehensive data and expertise in emerging ocean energy technologies, such as Salinity Gradient Energy and Electrochemical Ocean Thermal Energy Conversion (e-OTEC), alongside Blue Battery Technology, presents obstacles to their practical application. The CTCN's Technical Assistance (TA) project is designed to tackle these challenges through a detailed pre-feasibility study, assessing the practicality, technical demands, and environmental consequences of deploying these technologies within PNG. This endeavour involves crucial stakeholders, including the PNG Department of Petroleum & Energy, Climate Change and Development Authority (CCDA), National Energy Authority and local energy sector participants, setting a solid foundation for subsequent ocean energy ventures in PNG.				
	Situated at the frontier of tapping into ocean energy to diversify its energy resources, PNG's strategy aligns with its National Energy Policy 2018-2028 and its commitments under the Paris Agreement, underscoring the urgency of seeking out sustainable energy alternatives to conventional sources. The exploration into ocean energy technologies comes as a strategic response to the energy sector's current reliance on hydro and fossil fuels, addressing critical issues of access, reliability, and sustainability—challenges acutely felt within PNG's remote and island communities. The PNG government's commitment to exploring sustainable ocean energy solutions underscores a strategic move to address the nation's growing energy demands sustainably.				
	The CTCN's TA project is strategically positioned to provide the essential technical groundwork and knowledge base enabling PNG to utilize its ocean energy potential effectively. By focusing on cutting-edge technologies compatible with PNG's unique geographical and environmental landscape, the project aims to contribute to the nation's renewable energy journey and reinforce its commitments to both national and global climate action.				

Côte d'Ivoire

Progress

Côte d'Ivoire NDE – CTCN - KIER (Researcher & Global Team)

- ① **Technology Request submitted (~Mar. 2024):** Côte d'Ivoire NDE uploaded a CTCN Technology Request on household-waste-based biochar/biocarbon, aimed at replacing charcoal use in savannah areas.
- ② **Online consultations (Mar. 12 & May 2, 2024):** Discussed the request form and scope, and KIER introduced its biochar production technology.
- ③ **In-person meeting (Jun. 3, 2024, Seoul/COEX):**
 Agreed to revise the Technology Request and detailed implementation steps:
 → KIER to visit Côte d'Ivoire to inspect and propose improvements to local biochar equipment
 → Two local government officials to join 3-month training at KIER
 → A Korean company to join the consortium to co-develop a business model (market analysis & system proposal).
- ④ **During the CTCN RP phase (through ~Feb. 17, 2025),** the RP was finalized with CTCN's support and prepared for signing before March 2025. Subsequently, Côte d'Ivoire's Biochar pre-feasibility study project was selected in Aug. 2025, and a USD 250,000 agreement is currently under discussion.

UN environment programme | **CTCN** | **CTCN Technical Assistance Request Submission Form**

Instructions :

- Le présent formulaire de requête doit être renseigné par l'organisation requérant une assistance technique auprès du Centre et réseau des technologies climatiques (CTCN) en collaboration avec l'Entité nationale désignée (END) du pays concerné.
- Le formulaire doit être signé par l'END. Veuillez-vous reporter à la liste à jour des END disponible à l'adresse : <http://unfccc.int/ttclear/support/national-designated-entity.html>.
- Le formulaire peut être retourné au format Word après y avoir apposé une signature électronique. Il est également possible de retourner le formulaire Word non signé, accompagné d'une copie signée et scannée au format PDF.
- En cas de requête multipays, chaque END doit signer un formulaire identique avant la remise officielle au CTCN.
- Les END souhaitant obtenir des fonds au titre du Programme de préparation du Fonds vert pour le climat (GCF) peuvent soumettre leur requête au CTCN en collaboration avec les autorités nationales désignées (AND).

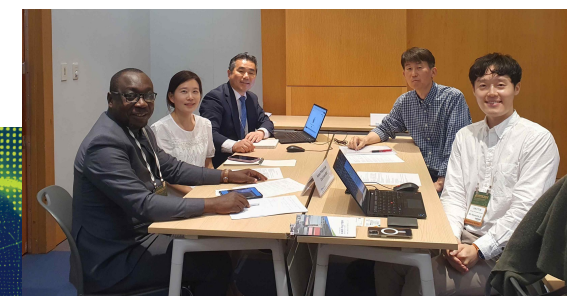
Pays requérant(s) :	Côte d'Ivoire
Intitulé de la requête :	Valorisation des déchets ménagers en biocharbon : alternative à l'utilisation du charbon de bois dans les zones de savane.
Entité nationale désignée :	KOUADIO KUMASSI PHILIPPE END Côte d'Ivoire, Mail : k.kouadio@environnement.gouv.ci / kumasphil@gmail.com Mobile : +225 0707924334
Organisation requérante :	CABINET IVOIRE TECHNO PLUS (CITP) Cabinet d'études et d'exécution de travaux dans divers domaines d'activités GÉRANT : KOUADIO ADJI FRANÇOIS Contacts : +225 0103080828/+225 0747071358 Mail : adji_kouadio@yahoo.fr

Objectif relatif au climat :

Adaptation au changement climatique

Atténuation du changement climatique

Adaptation et atténuation du changement climatique



Outcomes of the Learning visit on green hydrogen production

KIER-CTCN Learning Visit Programme

Green Hydrogen Learning Visit (Jun 26, 2024, KIER Daejeon Campus) Co-hosted by KIER and CTCN to identify potential technology transfer demand from developing countries

Introduced key technologies (e.g., alkaline water electrolysis) and conducted a lab tour

Participants: NDEs and researchers from Thailand, Mongolia, Vietnam, and Cambodia
Follow-up: additional meetings with the Thailand NDE on project planning and funding (Nov 2024)

Follow-up Learning Visit Plan (2026)

- Theme: green hydrogen production and fuel cells
- Planned as the 3rd Learning Visit
- Discussing with CTCN how to link the program to Collaborative RD&D (CRD&D)

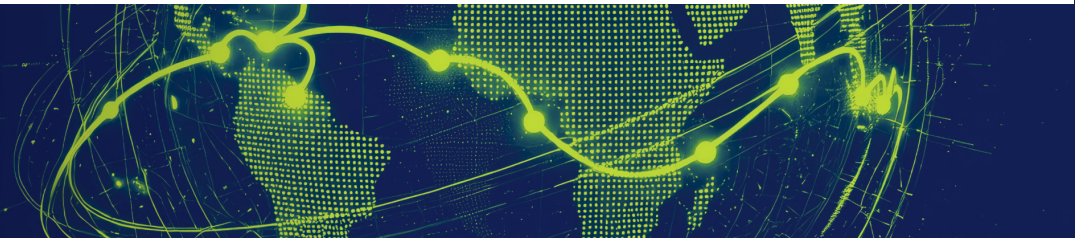
Energy Storage Linked Program (2026)

- Organize the 2nd **CRD2B2 Workshop** on Energy Storage
- Conduct an Energy Storage **Learning Visit** alongside, covering policy, technologies (public & private), and projects

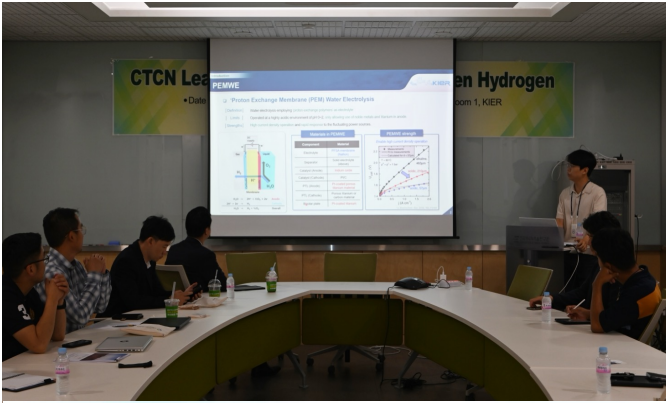
Under Discussion

Learning Programme at KIER on 23 July 2024

Activity	Time	Title	Presenter
Lecture 1 Lecture 40 min Q&A: 20min	10:00~ 11:00	Trends in Hydrogen Technology and Overview of Water Electrolysis Technology	Min-Joong Kim, Principal Researcher, Hydrogen Research Department
Lecture 2 Lecture 40 min Q&A: 20 min	11:00~ 12:00	Introduction to KIER Alkaline Water Electrolysis Technology	Chang-Soo Lee, Senior Engineer, Hydrogen Research Department
Lunch 12:00~13:30 (Lunch box will be provided the KIER)			
Lecture 3 Lecture 40 min Q&A: 20min	13:30~ 14:30	Introduction to KIER PEM Water Electrolysis Technology Development	Gi-Su Doo, Senior Researcher, Hydrogen Research Department
Laboratory Tour (40 min)	14:30~ 15:10	-	All three instructors above



KIER-CTCN Learning Visit Programme



Introduction of Hydrogen Production Technology using Water Electrolysis

The H₂ is a green energy resource that is easy to produce. It can be used for various energy technologies based on open innovation. We will research quality assurance, performance and user acceptance. Thanks to H₂ will become for our energy technology that support in the world, contributing to the creation of energy and employment in Korea in the future.

CTCN Learning Visit at KIER

2024. 06. 26 (Wed.)

MinJoong Kim
Hydrogen Research Department
Korea Institute of Energy Research



December 1, 2025

Thank you for your attention.

Ms. Jaekyung YOO, Research Engineer
Global Strategy Team, Korea Institute of Energy Research (KIER)
jkyoo@kier.re.kr