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LEAD GUIDE · FOR CANADIAN CCUS OPERATORS

The K-Tech Carbon Bridge

A Canadian CCUS operator's guide to Korean innovation, technology, and cross-border capital.

WHAT THIS IS

A primer on the Korean CCUS ecosystem you cannot easily access from English-language sources — and a practical map of how Canadian and Korean public funding can be stacked.

WHAT THIS IS NOT

A vendor catalogue. We have not endorsed specific Korean suppliers. Every named technology and program in this booklet is publicly disclosed and citable.

CHAPTER 1

The CCUS operator's dilemma.

THE CANADIAN BACKDROP

Canada is one of the most CCUS-mature jurisdictions in the world. Approximately one-seventh of all active large-scale carbon management projects globally are on Canadian soil, and the 2030 federal emissions reduction plan calls for at least 15 million tonnes of CO_2 per year of permanent storage capacity by 2030 — roughly tripling today's installed base.

15 Mt

Federal 2030 target — annual CO_2 captured and stored, Canada-wide.

50%

Federal CCUS Investment Tax Credit — refundable, on capture equipment (37.5 % on transport / storage / use).

THE BLIND SPOT

1. **Hardware bottleneck.** Operators compete for the same short list of qualified solvents, sorbents, and EPCs. FEED cycles tie up engineering teams 12–18 months before any tonne is captured.
2. **Stage-gate friction.** Pilots that work at lab scale stall on the journey to 10 MW slipstream and 100 MW commercial. The know-how to bridge that gap sits in a small global pool.
3. **Sourcing horizon ends at the US border.** Canadian operators reflexively scan US suppliers. Korean R&D — including 10 MW-class capture pilots that have run since the early 2010s — is functionally invisible in English deal flow.

You can be the first Canadian operator in your peer group to source from the Korean ecosystem — or you can wait for it to become consensus.

CHAPTER 2

Korea's CCUS landscape.

Korea has been quietly building one of the most concentrated CCUS R&D and pilot ecosystems in Asia. The framework below is publicly disclosed but rarely synthesized in English.

NATIONAL FRAMEWORK

1st Basic Plan for National Carbon Neutrality and Green Growth

Approved March 2023. 40 % GHG reduction vs 2018 by 2030 (Korea's NDC).

11.2 Mt CO_2 / year

Korea's national CCUS sequestration target by 2030.

MOTIE industrial CCUS innovation strongholds

Sited in the Ulsan, Yeosu and Seosan industrial clusters.

PILOT-SCALE TRACK RECORD

10 MW

Wet amine capture pilot — KoSol-4 solvent, Boryeong plant. >90 % capture, >99 % CO_2 purity.

10 MW

Dry regenerable sorbent pilot — Hadong plant. Scaled from 0.5 MW (2010) → 10 MW (2013).

1.2 Mt

Offshore storage — Donghae Gas Field, Korea's first commercial CCS. Operations 2025–2030.

The Korean ecosystem offers what is scarce in North America: solvent and sorbent chemistries with 10 MW-class pilot data, EPC capability that bridges lab-to-factory scale, and an inbound posture — Korean institutions are actively seeking international demonstration sites.

Public-sector technology providers.

INSTITUTION	FULL NAME	FOCUS & NOTABLE ASSETS
KIER	Korea Institute of Energy Research	Wet & dry CO_2 capture, CCUS process integration. CCUS R&D track since the 1990s.
KIST	Korea Institute of Science and Technology	Catalysis, membranes, electrochemical CO_2 reduction, CO_2-to-chemicals.
KEPCO RI / E&C	Korea Electric Power R&D + Engineering	KoSol-4 amine solvent. Boryeong 10 MW wet amine pilot. Hadong 10 MW dry sorbent.
KOSPO	Korea Southern Power	Operator-host of the Hadong dry sorbent slipstream pilot.
KNOC + Hyundai E&C	Korea National Oil Corporation + Hyundai Engineering	Donghae Gas Field offshore CCS — 1.2 Mt CO_2 / yr, 2025–2030.
KIGAM	Korea Institute of Geoscience and Mineral Resources	Subsurface storage characterization, CO_2-EOR research.

INDUSTRIAL DEMAND DENSITY

Korea concentrates more CCUS-relevant industrial demand per square kilometre than almost any other country. Ulsan (SK, S-Oil, GS Caltex), Yeosu (LG Chem, Lotte Chemical), Seosan / Daesan (Hyundai Oilbank, Hanwha Total), and Pohang (POSCO) form one of the densest industrial decarbonization opportunity sets in the world.

CHAPTER 3

The cross-border funding stack.

The single most overlooked feature of a Korea–Canada CCUS partnership is that public capital from both sides can stack on the same project. Here is a working map.

CANADIAN SIDE — WHAT YOUR PROJECT CAN CLAIM

CCUS Investment Tax Credit	Refundable. 60 % DAC equipment / 50 % other capture / 37.5 % transport, storage, use. 2022–2030 full rates, halved 2031–2040. Enacted June 2024 via Bill C-59.
NRC IRAP	Advisory and R&D funding for SMEs, including international co-development streams. Typical project up to ~CAD 500K–10M depending on stream.
Canada–Korea Co-Innovation Call (NRC IRAP × KIAT)	Joint industrial R&D with a Korean partner. Annual since 2020. 2025 call open. Up to ~CAD 600K per Canadian SME, matched by KIAT on the Korean side.
Strategic Innovation Fund (SIF)	Large strategic deployments. Project-by-project; multi-million tickets.
Net Zero Accelerator (under SIF)	Industrial decarbonization at scale. Major projects, often $50M+.
Canada Growth Fund	Concessional debt, equity, and carbon contracts for difference. $15B fund. Typical tickets $50M–$500M.
Mitacs	Industry–academic R&D pairings, including international internships and grants.

FOOTNOTE — SDTC

Sustainable Development Technology Canada was disbanded as an independent foundation in June 2024 and its programming was folded into the National Research Council. Operators previously planning to apply to SDTC should now look to the NRC-administered successor programs and to NRC IRAP itself.

Korean side & a worked example.

KOREAN SIDE — WHAT YOUR KOREAN PARTNER CAN CLAIM

KIAT International Joint R&D	Korea-side funding for Korean partners co-developing with international SMEs. Counterparty to NRC IRAP.
MOTIE Carbon Innovation Strongholds	Industrial-cluster decarbonization (Ulsan, Yeosu, Seosan). Korean operators; Canadian licensee structures possible.
KIER / KIST / TLO consortia	Tech-transfer and joint R&D arrangements. License and option structures available.
Korea Eximbank / K-Sure	Export credit and political risk insurance for Korean equipment exported to Canada. Project-finance scale.

WORKED EXAMPLE

Stacking Canadian + Korean public capital on a 50,000 t CO_2/yr pilot.

1. Korean partner receives KIAT international R&D funding for the Korean engineering scope.
2. Canadian operator files NRC IRAP × KIAT co-innovation call — covers ~CAD 600K Canadian-side R&D.
3. Canadian operator claims CCUS ITC — 50 % on capture equipment, 37.5 % on transport / storage.
4. Canadian operator applies to Net Zero Accelerator / SIF for deployment-scale top-up.
5. Provincial program covers MMV (monitoring, measurement, verification) and offtake feasibility.

Net effect: Canadian + Korean public capital can cover well over 50 % of the project envelope before any private financing.

CHAPTER 4

The execution gap.

A great technology and a great funding stack are not the deal. Three execution gaps reliably kill Korea–Canada CCUS deals at the diligence stage.

01 IP and government-strings traps

Korean publicly funded technologies carry carry-over rights, march-in clauses, and export controls unfamiliar to Canadian counsel. The Industrial Technology Protection Act, the Foreign Exchange Transactions Act, and KIPO's IP framework need to be navigated before the term sheet is signed — not after.

02 Engineering & decision-making culture mismatch

Korean industrial decision-making is consensus-heavy, vertically structured, and document-driven. Canadian commercial-first instincts often read as a lack of technical seriousness to Korean counterparties. Slow Korean responses often read as disinterest to Canadians. Deals stall in the middle.

03 Unverified counterparty risk

Hundreds of self-styled "international cooperation" agents work the Korean side; "Asian business development" consultancies work the Canadian side. Few have closed a CCUS-specific cross-border deal. Time invested in unqualified counterparties is the largest hidden cost of a Korea sourcing strategy.

The team that closes a Korea–Canada CCUS deal is bilingual, bicultural, connected to Korean GRIs and Canadian agencies, backed by domain advisors, and works on a success-fee basis. That is the function Studio TRA fills.

CHAPTER 5

How Studio TRA closes the gap.

Studio TRA is a Korea–Canada landing agent specialized in biotech and clean energy. We are not a generalist brokerage. We are not a technical due-diligence firm. We are the front office that brings the right Korean institutions, the right Canadian operators, the right advisors, and the right funding stack into one conversation — and stays in that conversation until the deal closes.

WHAT WE DO FOR A CANADIAN CCUS OPERATOR

1. **Discovery (4–6 weeks · fixed fee).** Map your CCUS technical brief onto KIPRIS, NTB, and the named-portfolio offerings of KIER, KIST, KEPCO E&C, KIGAM and tier-1 university TLOs. Output: scored shortlist of 3–5 Korean candidates with redacted technical summaries.

2. **Sourcing & qualification (3–6 months · retainer).** Bilingual diligence on the shortlist: patent strength, FTO, TRL, government-strings, export-control posture. Coordinated with our CCUS-credentialed advisor bench. Output: qualified pipeline.

3. **Negotiation & funding stack design.** Term-sheet drafting and licence negotiation in Korean and English. In parallel: NRC IRAP × KIAT co-innovation call, CCUS ITC eligibility, SIF / Net Zero Accelerator pathway, KIAT international R&D for the Korean side.

4. **Closing & stewardship.** Bilingual contract execution, escrow logistics, 12-month post-close stewardship — milestone management, royalty audits, Korean-inventor site visits.

COMMERCIAL STRUCTURE

Discovery sprint CAD 15–35K fixed · **Sourcing retainer** CAD 8–15K / month · **Success fee** Lehman 10/8/6/4/2 % · **Grant navigation** 5–8 % of secured non-dilutive capital

CHAPTER 6

Your next step.

If your firm is evaluating CCUS technology procurement, partnership, or scale-up funding in the next 12 months, the highest-leverage next move is a 20-minute Discovery Call with our principals.

IN 20 MINUTES, WE WILL

1. **Clarify your CCUS technical brief**

   Capture chemistry, scale target, site geography, storage pathway.

2. **Brief you on relevant Korean archetypes**

   The two or three Korean technology or partner archetypes most aligned with your brief.

3. **Map your funding sequence**

   The Canadian + Korean public funding programs your project is likely to qualify for, sequenced by application timeline.

You leave with a one-page summary of the opportunity. We sign an NDA before the call if you prefer. If, after the call, the opportunity does not warrant a paid Discovery Sprint, we say so — no follow-up bombardment.

BOOK A DISCOVERY CALL

narulanding.com info@narulanding.com

20-minute call · No-pressure · NDA available on request

APPENDIX

References & sources.

All claims in this booklet are drawn from primary sources, current as of publication.

CANADIAN CCUS FRAMEWORK & FUNDING

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KOREAN CCUS FRAMEWORK

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- Hyundai E&C × Korea National Oil Corp., Donghae Gas Field CCS (2025–2030). hdec.kr

BILATERAL PROGRAMS

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- NRC IRAP × KIAT Canada–South Korea Co-Innovation Calls 2020–2025. nrc.canada.ca
- Joint Leaders' Statement: Stronger Together (Sept 2022). pm.gc.ca