WHITEPAPER · NOVEMBER 2026

India's carbon credit supply and the case for *Indian removals*

What the Verra registry says about India's remaining credits, why buyers are moving to carbon removal, and how India can supply it with evidence buyers can check.

Yashvardhan Joshi & Kirtivardhan Joshi · Co-founders, ICN

99.96M
unretired Indian Verra credits

86%
of them renewable energy

228.5M t
surplus biomass residue a year in India

Infinite Carbon Private Limited · CIN U66190MH2025PTC463011

SUMMARY

India has plenty of carbon credits. It has very few of the kind buyers now want.

We analysed registry records for 2,023 Indian carbon projects and the Verra issuance and retirement history of the 600 that have issued credits. India's remaining supply is large, but almost all of it is renewable energy, the credit type buyers are moving away from. The supply buyers are moving towards, durable carbon removal, barely exists on the registry. India has the raw material to change that faster than most countries.

99.96M
Verra credits from Indian projects still unretired, out of 316.43M issued to 600 projects

86%
of those unretired credits come from renewable energy projects

0.0008%
of unretired Indian Verra credits are engineered carbon removal: 795 credits from one project

228.5M t
of surplus biomass residue generated in India every year (National Biomass Atlas, MNRE)

Key findings

1. **Indian supply is large and lopsided.** Of 99.96 million unretired Indian Verra credits, 86.15 million are renewable energy. Every other type together is 13.81 million.[1]
2. **The scarce types are being used up fastest.** 84% of Indian agriculture and soil credits ever issued on Verra are already retired, against 70% for renewable energy. Only 263,890 remain.[1]
3. **A pipeline is waiting behind the registry.** 349 Indian forestry and land use projects and 133 agriculture projects are listed across registries, but only 17 and 9 have Verra issuance.[1,10]
4. **Demand is moving to removals, and supply is late.** Microsoft alone has bought over 34.6 million tonnes of removal.[2] Biochar suppliers delivered 54% fewer tonnes than forecast in 2025.[4]
5. **India can supply removals at scale, and Maharashtra is the place to start.** It has more listed carbon projects than any other Indian state, the cotton-stalk feedstock behind Microsoft's first durable removal deal in Asia,[6] and state programmes that already include biochar.[7,8]

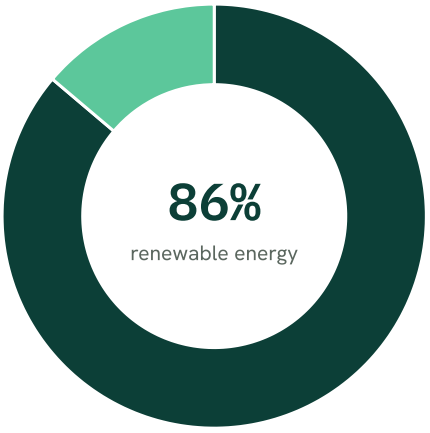
01 · THE REGISTRY

What is left of India's Verra supply

Verra is the largest voluntary carbon registry. It has issued 316.43 million credits to 600 projects located in India. 216.47 million (68%) have already been retired, meaning they were used for a claim and cannot be sold again. That leaves 99.96 million unretired.[1] Unretired is not the same as for sale: the figure includes credits held by developers, traders and companies that have bought but not yet used them. It is the upper limit of what can still come to market from existing issuances.

FIGURE 1

Unretired Indian Verra credits: renewable energy against everything else



Renewable energy **86,150,516**

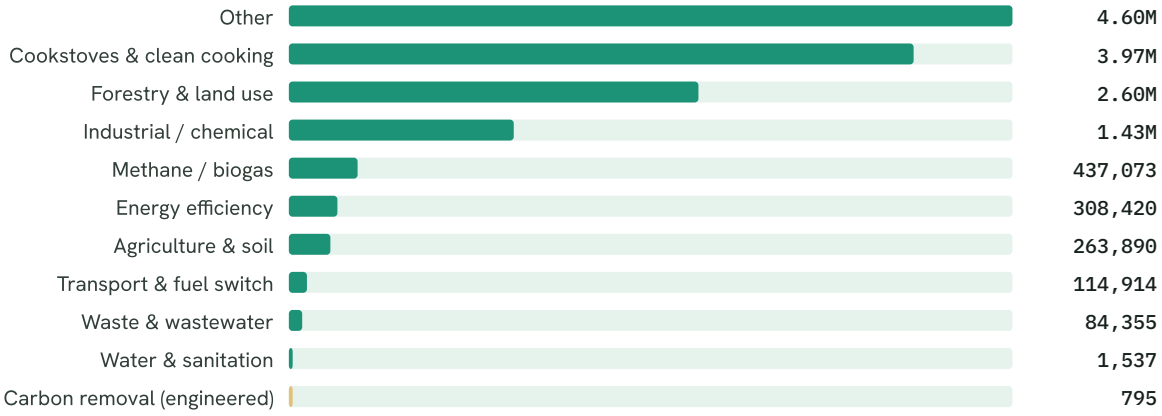
All other types **13,807,766**

For every unretired Indian credit from any other project type, there are more than six from wind, solar and hydro.

Source: ICN analysis of Verra registry records, data as of 31 August 2026.[1]

FIGURE 2

Everything that is not renewable energy, by type (unretired credits)



Engineered carbon removal, in gold, is one project with 795 unretired credits. Source: as Figure 1.

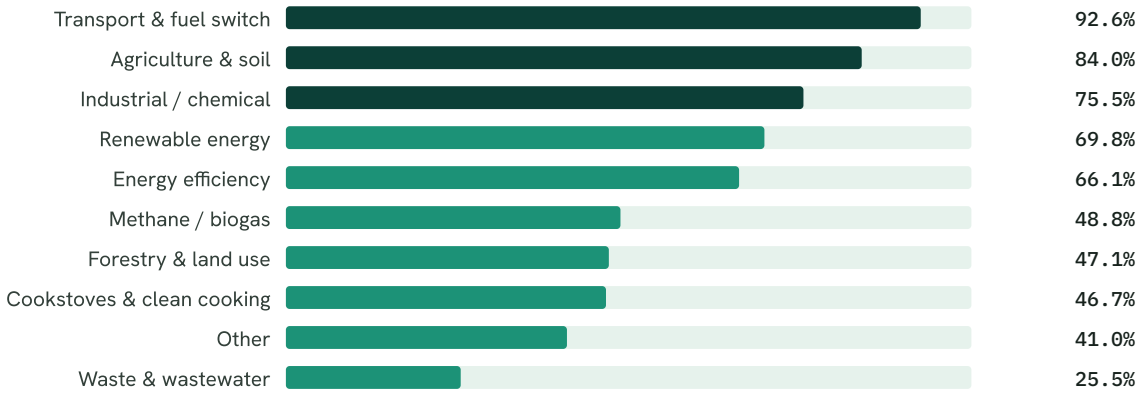
01 · THE REGISTRY

Which credits buyers have already used up

The share of each type that has already been retired shows what buyers have been taking. Renewable energy dominates the volume, but it is not the type with the highest retirement rate. Credits tied to farming, industry and transport have been absorbed faster.

FIGURE 3

Share of all Indian Verra credits ever issued that are already retired, by type



Types with at least three issuing projects. Retired divided by issued, Verra data as of 31 August 2026.[1]

A **Agriculture and soil is close to sold out.** 84% of the 1.64 million credits issued have been retired. Only 263,890 remain, spread across nine projects, about 29,000 per project on average.

B **Clean cooking and forestry still have stock, but in small lots.** Both are under half retired. The average Indian forestry project with Verra issuance holds about 153,000 unretired credits, and the average clean cooking project about 81,000. A large buyer would need several projects to fill one order.

C **Renewable energy is plentiful but ageing.** Most voluntary schemes and buyers now prefer recent vintages and removal, so a large stock of renewable credits does not meet what many buyers ask for.

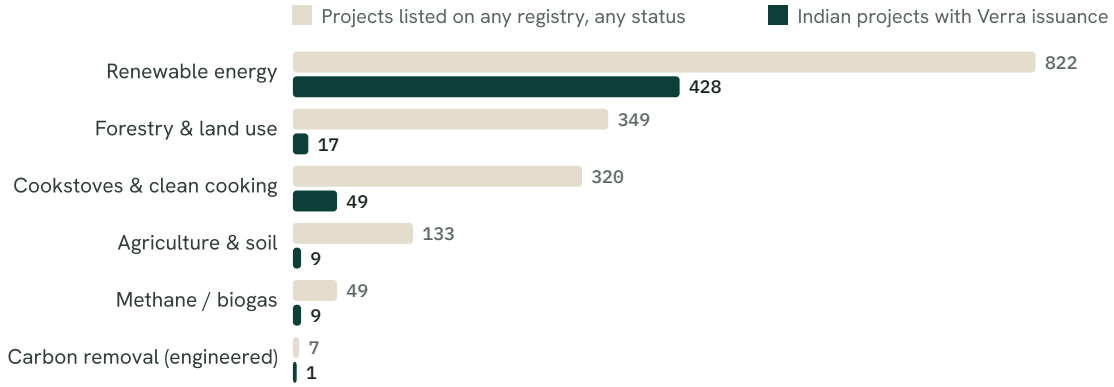
01 · THE REGISTRY

A pipeline waiting behind the registry

ICN tracks 2,023 Indian projects across Verra, Gold Standard, UCR and ICR, at every stage from pipeline to issuing.[10] Comparing how many projects of each type are listed with how many have actually issued on Verra shows where future supply may come from, and where it is stuck.

FIGURE 4

Indian projects listed, against those with Verra issuance, by type

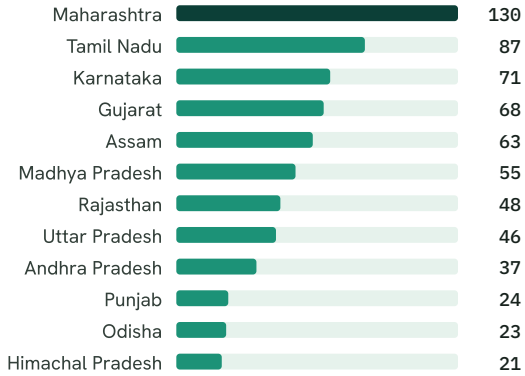


"Listed" counts projects on any of the four registries at any status, including Gold Standard projects, so the two bars are not a conversion rate. They show the size of the pipeline next to the projects already issuing on Verra. Sources: ICN registry snapshot, 16 Nov 2026;[10] Verra data as of 31 Aug 2026.[1]

The gap is widest for the types buyers want most. Forestry and land use has 349 listed projects and 17 issuing on Verra. Agriculture has 133 and 9. Engineered removal has 7 and 1. Moving even part of this pipeline to issuance needs what small developers usually lack: methodology work, monitoring evidence, verification funding and a committed buyer.

FIGURE 5

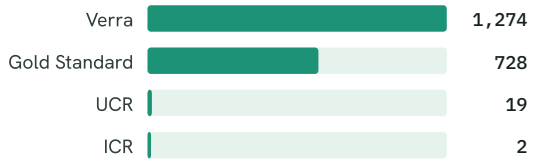
Indian projects by state (top 12)



824 projects have no state recorded and are not shown.[10]

FIGURE 6

Indian projects by registry



All statuses. Source: ICN registry snapshot, 16 Nov 2026.[10]

Maharashtra has more listed carbon projects than any other Indian state, 130, ahead of Tamil Nadu with 87.

02 · DEMAND

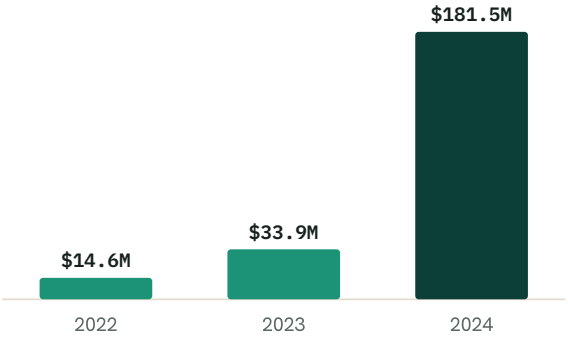
Why buyers are moving from avoidance to removal

Most carbon credits *avoid* emissions, for example by replacing coal power with wind or solar. A removal credit records carbon dioxide *taken out* of the atmosphere and stored. The two are different products and should never be sold as each other. Many corporate net-zero frameworks expect companies to use removals for the emissions they cannot cut, and that has changed what large buyers purchase.

Biochar is charcoal made by heating crop residue or other biomass with little oxygen. Much of the carbon the plants absorbed stays locked in the char, which is then added to soil or materials. Among durable removal methods it is the one delivering tonnes today: it made up 86% of durable removal credits delivered, and 92% of those retired, from 2022 to mid-2025.[3]

FIGURE 7

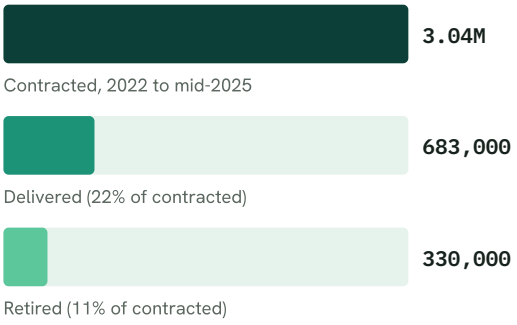
Value of biochar removal credits sold worldwide, by year



US$ million. Source: CDR.fyi.[3]

FIGURE 8

Biochar removal tonnes: contracted, delivered, retired



Worldwide, 2022 to end of Q2 2025. Source: CDR.fyi.[3]

The problem is delivery

Only about 22% of contracted biochar tonnes had been delivered by mid-2025.[3] A 2026 study by Supercritical found that in 2025 biochar suppliers delivered 54% fewer tonnes than forecast, and 73% of biochar projects revised their capacity down.[4]

FIGURE 9

How biochar projects performed against their 2025 delivery forecasts



Share of biochar projects. "Delivered no credits" (55%) and "on target" (27%) are reported by Supercritical; the middle band is the remainder.[4]

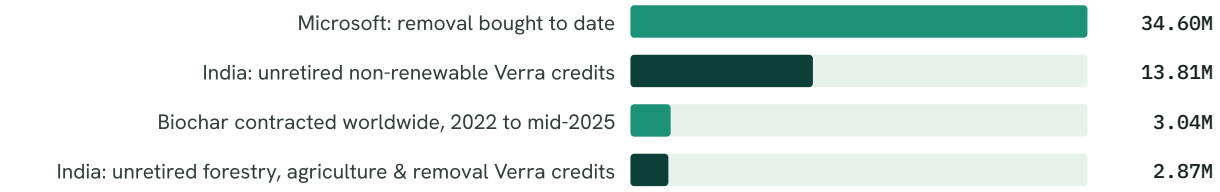
03 · THE GAP

The removal gap, in one chart

Putting demand and Indian supply on the same scale shows the size of the opportunity. All figures below are tonnes of CO2e.

FIGURE 10

Removal demand next to India's unretired non-renewable supply



Microsoft's figure is removal bought to date, mostly for future delivery (CDR.fyi via ESG Today, Jan 2026).[2] Biochar contracted is worldwide (CDR.fyi).[3] Indian figures are unretired Verra credits as of 31 Aug 2026, which are mostly avoidance credits, not removals.[1]

1 **One buyer outweighs the country.** Microsoft has bought about 2.5 times as many tonnes of removal as all of India's unretired non-renewable Verra credits put together.

2 **India's nature and farm stock is smaller than one niche.** India's entire unretired Verra stock of forestry, agriculture and engineered removal credits, 2.87 million, is smaller than the 3.04 million tonnes of biochar removal contracted worldwide in two and a half years.

The scarce input in this market is not buyers. It is removal tonnes that arrive on time, with evidence a buyer can check.

---

3 **So new supply has to be built, not found.** Buyers who want Indian removals will not find them on the shelf. They will be contracted ahead of issuance, from projects that can show their evidence from the first batch.

04 · SUPPLY

The case for Indian removals

The raw material is already there

India generates around 228.5 million tonnes of surplus biomass residue every year, according to the National Biomass Atlas of India prepared under the Ministry of New and Renewable Energy.[5] Much of it, such as rice straw and cotton stalks, is burned in the field or left to rot. Turning it into biochar locks the carbon away and gives farmers a soil input instead of smoke.

Big buyers have started buying here

In January 2026, Microsoft agreed to buy over 100,000 tonnes of carbon removal over three years from Varaha, made from cotton stalks from smallholder farms in Maharashtra. Varaha plans 18 biochar reactors across India's cotton belt, expected to run for 15 years and remove over 2 million tonnes of CO2 in that time.[6] It was described as Microsoft's first durable carbon removal offtake in Asia.

Maharashtra's programmes point the same way

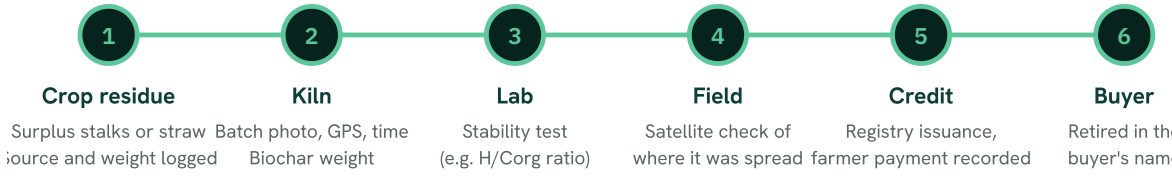
- **MITRA's climate investment pipeline.** Maharashtra's transformation body, MITRA, launched a $1 billion climate investment pipeline with the investor network AVPN in August 2026. "Biochar economy" is one of its five tracks.[7]
- **PoCRA Phase II.** The state Agriculture Department's World Bank-supported programme covers about $490 million, 21 districts and 2.3 million farmers. One component pilots carbon trading for smallholders with digital monitoring, and names biochar as a way to cut stubble burning.[8]

What every Indian removal tonne has to prove

Scale alone will not win buyers. The criticisms of removal projects are about evidence and fairness, so Indian supply has to carry proof at every step, from the first batch.

FIGURE 11

From field to credit: the evidence a buyer should see at each step



Each of these steps answers a known criticism of removal projects: feedstock that was not really waste, char that was never spread, emissions left out of the accounting, and farmers who were not fairly paid.

05 · CLAIMS

Article 6: what Indian credits can and cannot be used for

Under Article 6 of the Paris Agreement, a country can authorise carbon credits for use outside its own climate target. It then makes a *corresponding adjustment*: it adds the tonnes back to its own emissions account, so the same reduction is not counted by two countries.

India has set up a national authority for Article 6, the National Designated Authority for the Implementation of the Paris Agreement (NDAIAPA), under the Ministry of Environment, Forest and Climate Change. India has said it will authorise credits for international transfer only for a short list of advanced technologies, such as green hydrogen, offshore wind, energy storage and carbon capture, mainly through bilateral agreements. India and Japan finalised a Joint Crediting Mechanism under Article 6.2 in August 2025.[9]

Most Indian projects on Verra, Gold Standard and similar registries are not authorised and carry no corresponding adjustment. For most corporate buyers that is fine. It matters for a few specific uses:

YOUR USE	CREDIT WITHOUT ADJUSTMENT	AUTHORISED CREDIT WITH ADJUSTMENT
Voluntary contribution or "beyond value chain" claim	Suitable	Suitable
Offsetting claim under a voluntary scheme	Accepted by many schemes; check yours	Suitable
Airline obligations under CORSIA	Not eligible for the first phase	Needed
Another country's national target	Not usable	Needed

Rules are still changing. A project's authorisation status should be confirmed at the time of purchase. India's compliance credits under the Carbon Credit Trading Scheme (CCTS) are a separate system and are not covered here.

Questions to ask before you buy Indian removals

1. Is the credit issued, or is this a forward purchase? If forward, what is the delivery schedule and what happens if it slips?
2. Which standard and methodology? For biochar, Puro.earth's biochar methodology or Verra's VM0044, among others.
3. What is the feedstock, and what records prove it was surplus?
4. What are the lab stability results, and where does the biochar end up?
5. What monitoring evidence comes with each tonne: production logs, photos, GPS, satellite imagery?
6. How are farmers and communities paid, and can you see the record?
7. Is there a letter of authorisation from India, and does your claim need one?
8. Will the credits be retired on the registry in your name, or your customers' names?

06 · ABOUT ICN

How ICN works with buyers

ICN is a buyer-first carbon credit marketplace based in Thane, Maharashtra. Buyers tell us what they need, and we source it straight from the Indian projects that make it, with a shorter chain between the buyer and the project.

YOU
Credit or removal type, volume per year, price range, evidence your buyers expect

→

ICN
Finds matching Indian projects, checks registry status, monitoring evidence and documents

→

SUPPLY SHEET
Projects, methodology, registry status, vintage, available tonnes

→

RETIREMENT
On the registry, in your name or your customers' names

For removals, ICN works with Indian biochar operators, starting with our partner KriSHE, and is building the evidence buyers ask for: a satellite check of the land where biochar is applied is already live on icn.earth, and a batch-by-batch production log is in development. Our biochar work is at an early stage, and we will publish what we deliver as it is certified, not before.

> **Sourcing removals or credits from India?** Describe what you need at **icn.earth/source** or write to **info@icn.earth**. We reply within one working day. Asking is free.

Method

Registry figures are summed from Verra registry records for projects located in India with at least one issuance, as held in ICN's registry database, synced from the registries. Data is as of 31 August 2026. Project types are grouped by ICN from each project's methodology and description. Unretired means issued minus retired and includes credits held by any party. The full breakdown by registry and state is at icn.earth/data/india-carbon-credit-projects.html. Project counts by type, state and registry come from ICN's snapshot of public registry exports (Verra, Gold Standard, UCR, ICR) on 16 November 2026, counting each project once at any status. Retirement rates and averages in Section 01 are ICN's calculations from the Verra totals. Third-party figures are quoted from the sources listed below, with their dates.

Citing this paper

Joshi, Yashvardhan and Joshi, Kirtivardhan. ICN (Infinite Carbon Private Limited). *India's carbon credit supply and the case for Indian removals.* November 2026. ICN, icn.earth. https://doi.org/10.5281/zenodo.24298338. Free to use with credit under CC BY 4.0.

Sources

1. ICN, "India has 99.96 million unretired Verra carbon credits; 86% are renewable energy", 16 Nov 2026, from Verra registry data as of 31 Aug 2026. icn.earth/data/india-unretired-verra-credits-2026.html
2. ESG Today, "Microsoft kicks off 2026 with flurry of large-scale carbon removal purchase deals", 15 Jan 2026, citing CDR.fyi. esgtoday.com/microsoft-kicks-off-2026-with-flurry-of-large-scale-carbon-removal-purchase-deals/
3. CDR.fyi, "Biochar carbon removal market snapshot 2025", 9 Sep 2025, data to end of Q2 2025. cdr.fyi/blog/biochar-carbon-removal-market-snapshot-2025
4. ESG Post, "Biochar carbon removal falls 54% short of forecasts: report", 12 Feb 2026, on Supercritical's report "Delivered or Delayed?". esgpost.com/biochar-carbon-removal-falls-54-short-of-forecasts-report/

5. Down To Earth, "From stubble to power: how India can tap the 28.45 GW potential of its surplus biomass residue", 5 Nov 2026, citing the National Biomass Atlas of India (SSS-NIBE, MNRE). downtoearth.org.in
6. YourStory, "Varaha signs offtake agreement with Microsoft to remove over 100,000 tonnes of carbon dioxide", Jan 2026; also ESG Today (source 2). yourstory.com/2026/01/varaha-offtake-agreement-microsoft-remove-carbon-dioxide
7. ThePrint, on Maharashtra's climate investment pipeline with AVPN, 26 Aug 2026. theprint.in/feature/maharashtra-climate-investment-pipeline-avpn/3025445/
8. World Bank, PoCRA Phase II (P510429) project document, May 2025. documents1.worldbank.org/curated/en/099051625050513670/
9. ICN, "Article 6 and Indian carbon credits: corresponding adjustments explained", Nov 2026. icn.earth/guides/article-6-india-carbon-credits.html
10. ICN, "Indian carbon credit projects: registry data", snapshot 16 Nov 2026, from Verra, Gold Standard, UCR and ICR registry exports. icn.earth/data/india-carbon-credit-projects.html

This paper is general information, not investment, legal, tax or financial advice. Figures from third parties are as reported by those sources on the dates shown. Carbon credit outcomes depend on registry issuance, methodology approval and market conditions, and are not guaranteed.

APPENDIX

Indian Verra credits by project type

Source: ICN analysis of Verra registry records, data as of 31 August 2026.

TYPE	PROJECTS	ISSUED	RETIRED	UNRETIRED
Renewable energy	428	285,378,149	199,227,633	86,150,516
Other	41	7,790,067	3,192,866	4,597,201
Cookstoves & clean cooking	49	7,445,969	3,477,111	3,968,858
Forestry & land use	17	4,919,864	2,317,833	2,602,031
Industrial / chemical	24	5,826,701	4,398,009	1,428,692
Methane / biogas	9	853,568	416,495	437,073
Energy efficiency	12	909,412	600,992	308,420
Agriculture & soil	9	1,644,306	1,380,416	263,890
Transport & fuel switch	6	1,544,922	1,430,008	114,914
Waste & wastewater	3	113,202	28,847	84,355
Water & sanitation	1	1,537	0	1,537
Carbon removal (engineered)	1	795	0	795
Total	600	316,428,492	216,470,210	99,958,282

Project types are grouped by ICN from each project's methodology and description. Totals may differ from the sum of rows by rounding of the published summary figures.