Annex

A: CDR POLICY FRAMEWORK

This framework provides a structured methodology for evaluating carbon-dioxide-removal (CDR) policies across multiple criteria, ensuring balanced consideration of climate impact, feasibility, environmental integrity, socio-political viability and long-term strategic value. Each criterion is weighted to reflect its relative importance in achieving an effective and credible national CDR portfolio.

Dimension	Criteria (Weight)	Key Questions
1. Climate impact (25%)	Net GHG mitigation (10%)	What is the realistic annual and cumulative CO_2 removal potential? How permanent is storage? What are scale limits and reversal risks?
	Timeline of effectiveness (10%)	How quickly can this be implemented at scale? What are major bottlenecks?
	MRV of removals (5%)	Can CO_2 removals be accurately measured and verified?
2. Financial feasibility (15%)	Cost effectiveness (10%)	What is the cost per tonne vs. alternatives?
	Economic opportunities (5%)	What are the co-benefits or disruptions (e.g. jobs, regional impacts)?
3. Environmental integrity (20%)	Ecosystem co-benefits (5%)	Does this enhance biodiversity, water or soil health?
	Diversity and resilience (15%)	Does it diversify the CDR mix and remain robust under stress?
4. Social and political acceptability (10%)	Political and regulatory feasibility (5%)	Is it aligned with current policy frameworks and stakeholder interests?

	Public acceptance (5%)	Is there public or community support?
5. Future value (15%)	Innovation potential (10%)	Does it drive tech learning, cost reduction or private investment?
	Leadership and market creation (5%)	Could it position the country as a CDR leader or export hub?

Each criterion is scored quantitatively (1–10 scale), with specific criteria for each rating defined, weighted according to its criterion's percentage, and aggregated into a composite score.

B: CDR BUNDLING MODEL METHODOLOGY

This model simulates the evolution of a bundled CDR portfolio between 2025 and 2050. It follows five main steps:

1) Set the pathway of group shares: nature-based CDR starts with a high share and transitions linearly to a lower share by 2050, while engineered CDR fills the balance.

$$s_n(y) = s_n^{start} + \frac{(y - Start)}{(End - Start)} \left(s_n^{end} - s_n^{start}\right)$$

2) Evolve prices: each CDR type's nominal price follows a compound learning or drift rate from its start-year baseline.

$$P_i(y) = P_{i,0}\,(1 + r_i)^{(y - \mathrm{Start})}$$

3) Adjust for delivery risk: effective prices are calculated by dividing nominal price by the probability of delivery.

$$\mathrm{Eff}_i(y) = \frac{P_i(y)}{p_i}$$

4) Allocate weights within nature and tech: inside each group, weights are proportional to the inverse of the effective price, scaled to the group share.

$$w_i(y) = s_g(y)\,\frac{1/\mathrm{Eff}_i(y)}{\sum_{j \in g} 1/\mathrm{Eff}_j(y)}$$

5) Calculate bundle price: the weighted average of effective prices across all methods each year.

$$\mathrm{Bundle}(y) = \sum_i w_i(y)\,\mathrm{Eff}_i(y)$$

Figure 16: CDR type weighting 2025–2050 in indicative model

Year	*ARR*	*Blue Carbon*	*SCS*	*Peatland Restoration*	*DACCS*	*BECCS*	*ERW*	*Biochar*
2025	33.1%	17.3%	7.0%	22.7%	1.7%	7.0%	3.3%	8.0%
2035	23.1%	12.1%	4.9 %	15.9%	4.3%	15.9%	7.5%	16.3%
2045	13.2%	6.9%	2.8%	9.1%	7.5%	25.3%	11.9%	23.3%
2050	8.3%	4.3%	1.7%	5.7%	9.5%	30.1%	14.2%	26.3%

Source: TBI

Figure 17: CDR type delivery probability, and nominal/effective prices in 2025 and 2050 ($)

Type	*Group*	*Delivery probability*	*Nominal Price 2025*	*Nominal Price 2050*	*Effective Price 2025*	*Effective Price 2050*
ARR	Nature	70%	16.0	20.5	22.9	29.3
Blue Carbon	Nature	80%	35.0	44.9	43.8	56.1
SCS	Nature	60%	65.0	83.4	108.3	138.9
Peatland Restoration	Nature	75%	25.0	32.1	33.3	42.7
DACCS	Tech	95%	741.0	205.5	780.0	216.4
BECCS	Tech	90%	170.0	61.3	188.9	68.1
ERW	Tech	85%	340.0	122.5	400.0	144.2
Biochar	Tech	90%	150.0	70.0	166.7	77.8

Source: CDR.fyi, TBI

Note: 2025 nominal prices based on October 2025 market prices. Model assumes that nature-based removal prices increase 1 per cent per annum while durable removals decrease 3 per cent per annum.