

ANNEX A

[Country X] Cross-Border REC Framework

Section 1: Overview and Introduction

1.1. Introduction

[Placeholder for context and welcome remarks from national authority]

1.2. Purpose and scope

The [Country X] Cross Border REC Framework (“Framework”) defines national rules, responsibilities, and guiding principles to facilitate credible disclosure of cross-border electricity trade (CBET) transactions denominated in energy attribute certificates (EACs) and/or renewable energy certificates (RECs) between [Country X] and trade partner economies that have implemented counterpart national Cross-Border REC Frameworks. The present Framework is designed to facilitate the recognition of CBET and linked EAC transactions into/from [Country X] by disclosure and accounting programmes, provided that such transactions meet the normative requirements defined in this document.

To facilitate recognition of CBET REC transactions, the Framework provides implementation guidance and establishes the enabling conditions under which [Country X] stakeholders may participate in CBET REC disclosure. The Framework is aligned with internationally recognised best practices such as those under *the International CBET Standard and Best Practices* (hereafter, *the CBET Standard*), and does not supersede existing legislation, bilateral power-trade agreements, or other regulatory instruments.¹ Disclosure and/or accounting programmes that presently recognise the principles outlined in this document include:

Table 1: Disclosure and Accounting Programmes that Recognise CBET REC Transactions Under the [Country X] Cross-Border REC Framework.

This section is indicative only and does not suggest the endorsement or approval from any of the following actors in any way. This table will be populated with relevant actors only pending their review and approval to do so.

Disclosure Programme	Recognition Structure	Link to Programme Acknowledgement	Limitations/Conditions
Greenhouse Gas Protocol	TBC	TBC	TBC
ISO ##	TBC	TBC	TBC
RE100	TBC	TBC	TBC
Science Based Targets (SBTi)	TBC	TBC	TBC
The 24/7 Carbon-Free Electricity (24/7 CFE) Programme	TBC	TBC	Time granularity of CBET EAC transactions shall be hourly or more granular. See X.
Singapore Standard (SS673)	TBC	TBC	TBC
OTHER TO BE ADDED HERE	TBC	TBC	TBC

¹ I-TRACK Standard Foundation. *International CBET Standard and Best Practices* [FOOTNOTE TO BE FINALIZED ONCE PUBLISHED, including version control number and publication/effective date].

ANNEX A

This Framework covers CBET REC transactions only between **[Country X]** and trade partners that export physical electricity to, or which import electricity from **[Country X]**. Countries that do not export/import physical electricity into/from **[Country X]** shall not be covered by this Framework. Further, countries that meet this criterion of physical delivery may have additional requirements, defined under counterpart Cross-Border REC Frameworks. This document covers only such EAC transactions that meet the normative requirements set out in *both* this document and counterpart Cross-Border REC Frameworks relevant to the given CBET transaction.²

1.3. Recognition of EACs Aligned with the **[Country X]** Cross-Border REC Framework

The entities defined in Table 1 have explicitly referenced the *CBET Standard* as a benchmark set of rules for determining whether corporate disclosing entities may claim EACs transacted between markets. While the *CBET Standard* defines transactional and data requirements for corporate disclosure, it does not prescribe how such requirements are to be facilitated between countries, recognising that such decisions are for sovereign actors.

Accordingly, this Framework operationalises **[Country X]**'s principles for credible CBET RECs, which are fully aligned with *CBET Standard* and its associated appendices: (i) Electron Deliverability; (ii) EAC Alignment; and, (iii) Residual Mix Harmonisation. To accomplish this, the present **[Country X]** Framework defines implementation parameters within **[Country X]**'s national context, with reference to corresponding implementation parameters in trade partner countries, defined under their respective Cross-Border REC Frameworks.

On **[DATE]**, the present framework was **[OPTION A:]** "accredited by the I-TRACK Standard Foundation as aligned with the *CBET Standard*" **[OR, OPTION B]** "designated compliant with the *CBET Standard* through a Reasonable Assurance Statement prepared by **Y**" for the period covering **[DATE to DATE]**.³ Accordingly, entities participating in CBET and capable of demonstrating that their respective EAC transactions are aligned with all requirements set forth in this document may submit such EAC redemption statements to disclosure programmes listed in Table 1, provided that the EACs meet all other criteria of the disclosure programmes to which they intend to submit their EAC redemptions.⁴

1.4. Use Cases and Stakeholder Categories

This document may be used by public and private sector entities both within and outside of Country X's jurisdiction, as reference points for (i) identifying particular datasets, (ii) harmonising methodologies for collecting and representing relevant data, and (iii) as the basis for harmonising implementation practices such as disclosure. Stakeholders include:

- Government ministries, regulators, and other public bodies administering cross-border power trade;
- Grid operators and data custodians responsible for metering, system operations, and data exchange;
- Project developers, generators, and electricity sellers seeking to import/export renewable power and associated EACs;
- Buyers and other reporting entities intending to make EAC claims linked to qualified CBET REC transactions; and
- Third-party verification bodies and reporting frameworks assessing compliance with the Framework and the International CBET Standard.

1.5. How to use this document

The remainder of this document operationalises CBET Standards in **[Country X]** through a combination of normative ("shall/must") statements and informative guidance ("can/may").

² Recognised counterpart Cross-Border REC Frameworks are listed in Annex #.

³ OPTION A or OPTION B are in Annex #.

⁴ Demonstration options are explained in Annex 1.

ANNEX A

Boxed requirements are quoted directly from the relevant CBET Standard appendices, while accompanying text provides [Country X]'s implementation guidance.⁵ Commercial users should consult **Annex 1: “User Guide”** for step-by-step instructions on using the Framework. Normative and informative references are subsequently categorised by chapters that correspond to the three guiding principles for credible CBET REC transactions captured in the *CBET Standard*.

Section 2: Electron Deliverability

2.1. Overview

Without robust metering data linking specific renewable generation to cross-border electricity flows, importing countries risk making unsubstantiated green energy claims while exporting countries may inadvertently allow double counting of their renewable resources.

The following section describes core requirements for demonstrating electron deliverability, and how these requirements are implemented in [Country X].

2.2. Transmission Pathways Eligible in [Country X]⁶

[Country X] recognises the following transmission pathways for CBET electricity flows:

Table 2: Recognized Transmission Pathways

Transmission Pathway	Import Status	Export Status	Limitations/ Conditions
Plant-to-Grid	Accepted/Not accepted	Accepted/Not accepted	[insert conditions]
Grid-to-Grid	Accepted/Not accepted	Accepted/Not accepted	[insert conditions]
Grid-to-Grid-to-Grid	Accepted/Not accepted	Accepted/Not accepted	[insert conditions]

2.3. Requirements and Implementation

2.3.1. Generation Data

CBET Standard Requirement 1: Identify production volumes and corresponding generating assets on the EAC

Issuance of EACs must identify the generation asset and production volumes of electricity that will be used to facilitate the cross-border transactions. Registrants shall submit to the respective issuer all standard documents required for asset registration and issuance in the given power production market, which must be sufficient to identify the generation asset and the volume of generation for which EACs are to be issued in the given time period. This data may be shared by the Issuer with entities identified by the Registrant to satisfy identification requirements of the asset and power production volumes.⁷

Disclosing entities shall ensure that the following data be captured by the EACs used to support CBET claims. Compliance with these data requirements is automatically met through the use of approved EAC systems defined in section 3.2.

⁵ Boxed requirements represented in the present Framework will be updated annually on DATE to preserve alignment with the International CBET Standard and Best Practices.

⁶ Detailed definitions for each transmission pathway are provided in the I-TRACK International CBET Standard, *Appendix 1: Electron Flows*.

⁷ CBET Standard, “*Appendix 1: Electron Flows, 2. Requirements for Demonstrating Deliverability*”

ANNEX A

Table 3: Generation Data

Transmission Pathway	Core Data Points	Required evidence	Responsible Entity
Plant-to-Grid	Volume of RE power generation (monthly or hourly) from individual projects, based on revenue meters and financial settlement of PPAs. ⁸	- EAC issued by accepted system (Section 3.2) or - PPA settlement data	- EAC issuer - Parties to the PPA
Grid-to-Grid	Volume of RE power generation (monthly or hourly) from individual projects, based on revenue meters and financial settlement of PPAs between the project operator and off-taker. ⁹	- EAC issued by accepted system (Section 3.2) or - PPA settlement data	- EAC issuer - Parties to the PPA
Grid-to-Grid-to-Grid	As in Grid-to-Grid	As in Grid-to-Grid	As in Grid-to-Grid

2.3.2. Cross-border Flows

CBET Standard Requirement 2: Demonstrate exported/imported electricity volumes linked to the specific asset

Entities managing the delivery of imported EACs—most often the end user or Participant on their behalf—shall identify and capture relevant data for demonstrating that the electricity produced by a given generator is exported to a foreign grid, using metered data at the interconnector(s), substation(s), or other relevant nodes along the transmission network. This data shall, at a minimum, book export and import volumes of electricity on a monthly basis.¹⁰

Disclosing entities shall capture the following datapoints to demonstrate the physical movement of electrons across borders (associated with the defined EAC transaction). The delivered volume (received by the importing grid) shall define the claimable volume of imported electricity into **[Country X]**. Entities may request the required data from those actors identified as Data Custodians in **Table #**:

Table 4: Cross-Border Flows

Transmission Pathway	Core Data Points	Required evidence	Data Custodian(s)
Plant-to-Grid	(1) Metered power flow, measured at injection point, step-up substation or cross-border transmission point. (2) Proxy for final consumption of delivered		- Offtaker, transmission asset owner, or cross-border grid operator. - Parties to the PPA. - Proxy for final consumption will vary

⁸ CBET Standard, “Appendix 1: Electron Flows, Table 1: Data Requirements and questions/issues/complications for point-to-grid RE cross-border trade”

⁹ CBET Standard, “Appendix 1: Electron Flows, Table 2: Data Requirements for grid-to-grid RE cross-border trade”

¹⁰ CBET Standard, “Appendix 1: Electron Flows, 2. Requirements for Demonstrating Deliverability”

ANNEX A

	RE power. ¹¹ [Note: Proxy data requirement may be removed in future versions]		according to the off-takers arrangements.
Grid-to-Grid	(1) Metered power flow on a monthly/hourly basis at substation low-voltage and high-voltage busbars. (2) Metered power flow on a monthly/hourly basis on each side of cross-border interconnectors, based on revenue meters and financial settlement of PPAs between the two grid operators. (3) Proxy for final consumption of delivered RE power.¹²		- Exporting grid operator (substation data) - Both grid operators (Interconnector data) - Parties to the interconnector power exchange PPA - Proxy for final consumption will vary according to the off-takers arrangements.
Grid-to-Grid-to-Grid	Requirements not currently defined in the CBET Standard, to be established in future Standard revisions.	Requirements not currently defined in the CBET Standard, to be established in future Standard revisions.	Requirements not currently defined in the CBET Standard, to be established in future Standard revisions.

2.3.3. Volume reconciliation

CBET Standard Requirement 3: Demonstrate that EAC consumption volume is less than or equal to imported power

Entities claiming use of EACs produced in a foreign market (Country A) shall demonstrate that the volume of EACs to be claimed by the end user in its domestic market (Country B) are less than or equal to the volume of electricity (MWhs) produced by the specified generator and then delivered to the grid in Country B. Comparison of MWh and EAC volumes will most commonly take place outside of the EAC registry, and can be managed through third party manual MRV or through digital labelling systems as defined in the corresponding Data Coordination protocol. Such evidence should factor in the specific point of generation, point of export, and point of import to account for capacity constraints at the interconnector as well as transmission losses.¹³

Disclosing entities shall conduct volumetric reconciliation to demonstrate that claimed EAC

¹¹ CBET Standard, "Appendix 1: Electron Flows, Table 1: Data Requirements and questions/issues/complications for point-to-grid RE cross-border trade"

¹² CBET Standard, "Appendix 1: Electron Flows, Table 2: Data Requirements for grid-to-grid RE cross-border trade"

¹³ CBET Standard, "Appendix 1: Electron Flows, 2. Requirements for Demonstrating Deliverability"

ANNEX A

volumes do not exceed delivered electricity volumes defined under 2.3.2. This reconciliation must account for transmission losses and capacity constraints, such that the volume of claimed EACs is equal to or less than the X [where X is the volume of MWhs marked delivered under 2.3.2]. This reconciliation may be conducted by the disclosing entity or a third party on its behalf, and shall include a comparison of the imported electricity volumes identified under 2.3.2 and the redeemed volume of EACs associated with the generation asset identified under 2.3.1. The reconciliation may be demonstrated using a simple table or document that shows (i) imported electricity as per 2.3.2, (ii) its association with a specific asset as per 2.3.1, and (iii) the redemption certificate delivered to the end consumer by the registry provider.

Section 3: EAC Alignment

3.1. Overview

Alignment between clean energy trading partners is essential to ensure claims are unique, exclusive, and mutually recognised. Without harmonised EAC instruments, registry interoperability, and mutual government recognition, the same renewable generation risks being claimed twice—once by the producing country and again by the importing nation. The following section describes core requirements for demonstrating EAC alignment, and how these requirements are implemented in **[Country X]**.

3.2. Requirements and Implementation

3.2.1. Instrument Commonality

CBET Standard Requirement 1: Commonality of EAC Instruments

<i>Instruments shall be identical or substantially common between markets. Ownership and exclusivity rights to attributes; as well as issuance, transfer, and redemption rules for the EAC system(s) used in Country A shall be the same as those in Country B, or otherwise substantially similar. At a minimum, the EAC instrument in country A and Country B shall:</i>

- | |
|---|
| <ul style="list-style-type: none">• <i>Meet all core quality principles for EAC tracking instruments, defined in GHGP2,</i>• <i>Share a common (or materially similar) definition of the physical and environmental attributes captured by the EAC system to ensure comparability,</i>• <i>Ensure contractually that all environmental attributes associated with the electricity generation unit (MWh) are captured exclusively by the EAC, with provisions that prohibit multiple issuances of EACs for any given MWh of generated electricity, and</i>• <i>Share uniform rules for the issuance, transfer, and retirement of EACs.¹⁴</i> |
|---|

[Country X] recognises the following EAC Instrument(s), and their associated certificates, as permissible for CBET transactions. Reporting entities shall demonstrate compliance with this requirement through the use of any of the instruments and Standards reflected in **table X** below, whereby the associated redemption/cancellation statement is issued against the appropriate Standard.

¹⁴ CBET Standard, “Appendix 2: EAC Alignment, 2.1 Commonality of EAC instruments”

ANNEX A

Table 5: Primary Standard(s).

#	Document Title	Version	Release Date	Instrument	Author	Link
1	I-REC Code for Electricity	1.13	12 June 2025	I-REC(E)	Evident	https://cdn.sanity.io/files/29poz2t7/production/a8cc341c45d963aacd95663988865a1aaf197330.pdf
2	TIGRs User's Guide	?	?	TIGR	APX	https://apx.com/wp-content/uploads/2020/08/TIGRs-User-Guide.pdf

Other Systems.

Other Standards may be added incrementally, provided they align with the requirements defined in the International CBET Standard.¹⁵ Standards not explicitly listed may only be considered equivalent if they are subsequently added to table X.

3.2.2. Registry Uniformity or Interoperability

CBET Standard Requirement 2: Registry Uniformity or Interoperability

The registry used to issue, transfer, and redeem the EAC instrument under CBET scenarios shall either be a single registry serving both markets or; if two or more different registries are used, they must provide for seamless interoperability. At a minimum, registries must:

- *Comply with all requirements of the EAC instrument they are used to issue and transact (e.g. the Evident Registry must comply with requirements of the I-TRACK Standard) as well as any applicable requirements established by GHGP2;*
- *Provide a record of facts that represents a complete and auditable chain of custody from point of issuance through retirement;*
- *Provide uniform access and use rights for all stakeholders qualified to hold applicable accounts in the relevant jurisdictions in which they operate;*
- *Be technologically and legally capable of disclosing issuance data to national authorities, on request, for onward use in the calculation of residual mix; and*
- *Host application programme interface (API) functionality that allows for, at a minimum, integration with external platforms to facilitate protections against double counting.*

In addition, the registry or registries may develop processes that enable the direct identification of “import/export-ready EACs” to facilitate disclosure processes. Such systems may be self-contained within the registry as tags, or facilitated through interaction with third party labelling systems that review and ascribe novel data to the redemption statement. However, tags and labels are not an explicit requirement for complying with the EAC alignment principles in the present document, and are instead optional tools to facilitate uniform disclosure to reporting frameworks.¹⁶

¹⁵ CBET Standard, “Appendix 2: EAC Alignment, 2.1 Commonality of Instruments, Requirements”

¹⁶ CBET Standard, “Appendix 2: EAC Alignment, 2.2 Registry Uniformity or Interoperability”

ANNEX A

[Country X] recognises the following EAC registry system(s) as permissible for CBET transactions, provided that they are used for the settlement of accepted Instruments defined under 3.2.1:

Table 6: Recognised Registries.

#	Registry System	Associated Instrument(s)	Conditions	Access Link
1	Evident	I-REC(E)	(<i>optional</i> – e.g., specific trade partners, fuel types, transaction sizes)	https://evident.app/
2	APX TIGRs	TIGR	(<i>optional</i> – e.g., specific trade partners, fuel types, transaction sizes)	https://tigrsregistry.apx.com/

Other Systems.

The currently accepted registry systems are considered “single source of truth” systems, given that they cover the full lifecycle of an EAC, from issuance through end consumption. Both systems operate across national borders, meaning that issuance can take place in one trade partner economy, and that the same registry shall be used to manage redemption in the recipient country. Additional single source of truth systems may be added to Table 6. In contexts where individual national registries are to be integrated into CBET REC transactions, they shall first be added to Table X. To accomplish this, the new registry system shall define and agree on API protocols and interconnection agreements, either with a national registry used in [Country X] or with one of the single source of truth registries defined above. API and interconnection agreements shall ensure that the issuance of a single EAC in the power production country can be transferred digitally to that of the recipient country’s registry, or to one of the defined single source of truth registries. Systems not explicitly listed may only be considered equivalent if they are subsequently added to Table 6 above.

3.2.3. Mutual Recognition

CBET Standard Requirement 3: Mutual Recognition of EAC Systems

Country A and Country B shall both explicitly recognise that the selected EAC system(s) are valid instruments for transferring all environmental attributes associated with physical electrons moving between countries or markets. At a minimum, mutual recognition must:

- *Be issued by a government appointed or otherwise recognised authority, such as a Ministry, grid operator, or regulator (or by a Local Issuer, if empowered to do so by a national authority);*
- *Express permissions of the national actors for its jurisdiction to participate in CBET (optionally defining any restrictions that may apply);*
- *Explicitly name the EAC system(s) (comprising instrument(s) and registry) that may be used for tracking CBET;*
- *Assert that the EAC is considered a valid instrument for tracking and claiming the movement of environmental attributes associated with electricity generation and consumption in the CBET context; and*
- *Be made as part of either a mutual/shared statement with a trade partner; or be accompanied by an identical unilateral statement of a trade partner.¹⁷*

The Country X national actor hereby explicitly recognises the Instruments and Registries defined in sections 3.2.1 and 3.2.2 above as valid mechanisms for transferring all

¹⁷ CBET Standard, “Appendix 2: EAC Alignment, 2.3 Mutual Recognition of EAC Systems”

ANNEX A

environmental attributes associated with physical electrons moving between countries or markets. Mutual recognition by counterpart national actors may be validly expressed through one of the following mechanism(s)—at least one of which shall be applied by any trade partner governments that wish to engage in CBET REC facilitation with **[Country X]**:

Table 7: Mechanisms for Mutual Recognition Recognized by Country X.

Recognition Mechanism	Permissions	Requirements
Shared Regulation	Accepted / Not Accepted	Must be legally binding. Must directly reference EAC instruments to be used in CBET. Must be embedded in national law with reference to regional regulation.
Existing Energy Trade Agreements	Accepted / Not Accepted	Must identify specific valid EAC instruments that can be used in line with the trade agreement(s).
Bilateral/Multilateral MOU	Accepted / Not Accepted	Must define the EAC instrument, reference/indicate permissions and prohibitions on CBET, specify EAC implementation features, and provide mutual recognition of cross-border EAC claims.
Harmonised Unilateral Statements	Accepted / Not Accepted	Must come from competent national authorities, naming valid EACs and permissions for CBET, and intent to recognise cross-border claims when the defined instruments are used.

A full list of active recognition arrangements is detailed below:

Table 8: Current Recognition Arrangements.

#	Trading Partner(s)	Arrangement Type	Date Effective	Limitations / Conditions
1	X	[MOU / Energy Trade Agreement / Unilateral Statement]	[DATE]	e.g., Accepted: Solar & Wind Prohibited: Hydro & Geothermal
2	Y	[MOU / Energy Trade Agreement / Unilateral Statement]	[DATE]	
3	Z	[MOU / Energy Trade Agreement / Unilateral Statement]	[DATE]	

Establishing New Recognition Arrangements.

For countries without existing recognition arrangements, interested national counterparts may contact X to initiate the process. **Country X** and interested national counterparts may establish mutual recognition through: (**specify approaches**)

Section 4: Residual Mix Harmonisation

4.1. Overview

Residual mix harmonisation is essential for avoidance of double counting between national accounts. It helps ensure that the methodologies used for calculating and disclosing the residual mix are consistent between trade partners, and that such methodologies adequately account for the transfer of environmental attributes associated with CBET. Without this coordination, the same clean electricity attributes may appear in more than one country's accounting, undermining the integrity of market-based emissions reporting overall.

The following section describes how **[Country X]** calculates its residual mix, is able to align it with trade partners, and discloses such information—thereby forming the basis of residual mix alignment.

4.2. Requirements and Implementation

4.2.1. Establishing a methodology

CBET Standard Requirement 1: Establish calculation methodology and implementation parameters

Note: There are different methods and formulas for determining the grid and residual mix figures, and the same is true for their associated emission factors. Section # considers different approaches for calculating grid and residual mix, and Appendix # provides simple calculation formula for reference. The present guidance document recognises that there are multiple valid approaches for calculating a residual mix, such that it can adequately account for CBET and protects against double counting. As a result, normative references in this section focus on the selection of a methodology, and its consistent application. Countries (or distinct markets, should they be established within national boundaries) engaged in CBET shall designate a stakeholder and method for calculating the Grid Mix and Residual Mix (and associated emission factors), and do so at least once per year. At a minimum, this shall include:

- **Selection and appointment of a national designee for residual mix:** *This may be a grid operator, regulatory body, or other actor appointed by a national authority. It may be appointed informally, via a guideline or non-regulated appointment by a national actor; or formally via decree, policy, or other regulation. Whether appointed formally or informally, the designee shall be referenced in EAC Alignment document, such that a single entity is recognised nationally and by trade partners engaged in CBET. In cases where a designee is not appointed by a national actor, but where a Local Issuer manages EAC issuance, the Local Issuer may act as the designated actor (until one is appointed), provided that it is referenced in bilateral CBET documentation (see Appendix 2).*
- **Selection of a methodology:** *The designee (or a national actor) shall identify and uniformly implement calculation methodologies for (i) the grid mix, (ii) GEF, (iii) residual mix, and (iv) REF that account for imports and exports of electricity with CBET partners. Different methodologies may be selected or adapted to meet domestic needs and those aligned with trade partners—and approaches are described in the Implementation sections below. However, the selected method must provide for all data requirements listed in Table # below, and must be implemented uniformly with respect to RMD and data retrieval requirements in the present section.*

ANNEX A

- **Establishment of a residual mix deadline.** *The designee (or a national actor) shall define an RMD. The deadline must occur at least once per year, on a defined date.¹⁸ This should be coordinated with Issuers active in both the exporting and importing markets. Where national actors do not have a preferred RMD, it is recommended that they discuss prevailing deadlines with EAC system operators (namely issuers), which often implement RMDs voluntarily. Conversely, where importing and exporting countries mutually agree on an RMD that is different from one facilitated by an EAC tracking system, they are advised to communicate preferences to the EAC system operators and request alignment.*
- **Retrieve EAC and other ‘claimed use’ data.** *The designee shall request EAC issuance and/or redemption data from relevant EAC system(s) operators. Relevant EAC systems operators are those which manage EAC systems identified as valid instruments of trade between the CBET trade partners, and most often comprise Issuers, Standards, and/or Registry Operators. In most cases, such data is made publicly available by Registry Operators, and where not publicly available, should be shareable with permissions granted by the relevant EAC standard(s) or when requested directly of the registry by a national actor. Depending on the residual mix calculation methodology selected, it may also be necessary to collect and include volumetric data associated with generation or consumption not tracked by EACs—for instance, where the attributes of generation under a PPA are not captured by an EAC but are counted against consumption claims of an individual organisation.¹⁹*

[Country X] establishes the following framework for residual mix calculation and disclosure:

National Designee and Data Access.

[Country X] designates [ENTITY] as responsible for both calculating and publishing residual mix data. This data can be accessed at [website/publication] and is accessible via [free access/registration required/fee-based access].

The deadline for calculating residual mix (the residual mix deadline / RMD) shall be [specify date] and will be calculated [annually/other (specify)] and subsequently published on [date].

Table 9: Calculation Methodologies and Disclosure Schedule.

Calculation Type	Methodology	How CBET imports/exports adjustments are made	Update Frequency
Grid Mix	[Specify methodology]	[specify methodology] adjustment	
Grid Emissions Factor (GEF)	[Specify methodology]	[specify methodology] adjustment	
Residual Mix	[Specify methodology]	[specify methodology] adjustment	
Residual Emissions Mix Factor (REF)	[Specify methodology]	[specify methodology] adjustment	

¹⁸ The RMD may be more granular, to allow for more accurate reporting; however, implementors are advised to consult market actors closely before establishing highly granular deadlines, as these may affect EAC issuance rules and could restrict market growth and supply.

¹⁹ CBET Standard, “Appendix 3: Residual Mix, 2.1 Establish Calculation Methodology and Implementation Parameters”

ANNEX A

Table 10: EAC and Claimed Use Data Collection.

Data Type	Data Source	Collection [OPTIONAL]	Method	Responsible Entity
EAC Issuance Data	EAC registries accepted under Section 3.2.2	Direct API / Manual Reporting / Public Data Retrieval		Registry and National Designee
EAC Redemption Data	EAC registries accepted under Section 3.2.2	Direct API / Manual Reporting / Public Data Retrieval		Registry and National Designee
Non-EAC Tracked Generation	[specify sources]	[specify method]	collection	
Non-EAC Tracked Consumption	[specify sources]	[specify method]	collection	

4.2.2. Aligning with trade partners

CBET Standard Requirement 2: Alignment of Cross-border Residual Mix Calculation Between Trade Partners

Trade partners shall agree on a common residual mix methodology that reflects cross-border flows and avoids double counting. At a minimum, the selected methodology shall:

- *Harmonise RMDs such that they are the same for exporting and importing markets.*
- *Use substantially harmonised datasets (see table below) such that designees are able to compare figures and identify/resolve discrepancies.*
- *Ensure that in exporting countries, the residual mix shall exclude any EACs that have been sold or transferred abroad.*
- *In importing countries, the residual mix must account for imported EACs, ensuring that certificates claimed in the market are reflected in Scope 2 emissions disclosures.*
- *[To define here how to address non-certified flows²⁰]*

The following trade partners have harmonised residual mix calculation methodologies with [Country X] such that imports and exports of CBET transactions are counted only once between countries on aligned timelines for calculation and disclosure.

Table 11: Current Residual Mix Harmonisations with [Country X]

#	Trading Partner(s)	Methodology	Disclosure Date	Residual Mix Disclosure Venue
1	X	[Specify methodology]	[DATE]	[Website]
2	Y	[Specify methodology]	[DATE]	[Website]
3	Z	[Specify methodology]	[DATE]	[Website]

²⁰ CBET Standard, "Appendix 3: Residual Mix, 2.2 Alignment of Cross-border Residual Mix Calculation between Trade Partners"

4.2.3. Disclosure in [Country X]

CBET Standard Requirement 3: Disclosure Requirements

For trade partners under a CBET transaction:

- *Each country must identify the national body responsible for publishing official electricity emissions factors and state clearly where this information can be accessed.*
- *Core Data Disclosure: the grid mix, residual mix, GEF, and REF (adjusted for CBET as required by the selected methodology) shall be published at least annually.*
- *Additional Data disclosures must include:*
 - *the methodology used to determine each datapoint;*
 - *the RMD used in the exporting and importing countries (which shall be identical);*
- *and any market boundary assumptions (e.g. subnational grid boundaries are considered [not required in the present document]).²¹*

The present Cross-Border REC Framework hereby explicitly defines **Y** as the National Designee for calculating and disclosing the residual mix. Further, 4.2.1 has defined the core disclosures to be made by [Country X], which are fully compliant with the disclosure requirements identified in the CBET Standard. Entities seeking to disclose CBET REC transactions in line with the programmes listed in Table 1 may use this present chapter as confirmation that the residual mix disclosure requirements are in place for those countries defined in Table 11.

Section 5: Appendices

NOTE: Appendix 2 and Appendix 3 are placeholders intended for national stakeholders to complete at a later stage. As such, these appendices have intentionally been excluded from this circulation draft.

1. Appendix 1: User Guide
2. Appendix 2: Recognised Counterparties to [Country X] Cross-Border REC Framework
3. Appendix 3: Accreditation of **[Country X]** Cross-Border REC Framework [OR] Reasonable Assurance Statement for Alignment of **[Country X]** Cross-Border REC Framework with International CBET Standard and Best Practices

²¹ CBET Standard, "Appendix 3: Residual Mix, 2.3 Disclosure Requirements"

Appendix 1: Cross-Border REC Framework Implementation Guide

1. Introduction and Purpose

Document Objective. This guide provides a high-level, step-by-step reference for implementing Cross-Border Electricity Trade (CBET) REC transactions involving Country X as an importing/exporting country. The document serves as a practical appendix to the Cross-Border REC Framework, showing the sequence of checks, data requests, and evidence needed to demonstrate compliance with the International CBET Standard.

Scope and Use. This guide applies to all entities implementing CBET REC transactions into Country X, including project developers, REC brokers/traders, corporate energy buyers, and power retailers – hereafter collectively referred to as ‘**the entity**’. While roles and data access rights may differ, the overall sequence of actions remains the same: confirm eligibility, gather required data, align and reconcile volumes, and prepare evidence for verification and disclosure.

This guidance assumes the entity has, or can obtain, the necessary permissions to access the relevant national and project-level data. It also assumes that the electricity and EACs being imported into Country X are from a recognised trade economy (as defined in Country X’s Cross-Border REC Framework, Appendix #).

2. Stakeholder Roles

Stakeholders in CBET REC implementation fall into three primary categories, based on their functions within the CBET REC process:

National Actors are typically government bodies that provide the official frameworks, approvals, and data, that provide the basis for CBET REC transactions. Such actors can also be non-government entities or private sector actors empowered to perform specific functions by government.

- **Local Issuers** issue recognised EAC certificates within their jurisdiction and validate generation devices and data in accordance with the accepted Standard. They also often serve as national representatives in the EAC market in regional and international discussions related to global rules and national implementation.
- **Energy Sector Ministry/Regulatory Actors and Grid Operators** oversee sector management, regulation, and implementation. Core roles in CBET involve developing national Cross-Border REC frameworks and managing their implementation, including by facilitating data provision and harmonisation with trade partners.
- **Third-party National Actors** (such as, ministries of environment) often have indirect vested interest in how EAC markets and power trade are rolled out nationally—through national interest in global agreements (such as the Paris Accord) and/or domestic policy implementation like carbon tax policies.

Operational Stakeholders include entities responsible for managing transactions, collecting data, and ensuring transactions meet all requirements under the Cross-Border REC Framework. In this guide, all operational stakeholders are referred to collectively as ‘the entity’ as while data access routes may differ, the implementation steps remain the same.

- **Project Developers** manage renewable energy assets and typically have direct access to generation data, asset registration details, and power purchase agreements.
- **Brokers and Traders** facilitate transactions between generators and end-users, requiring permission from asset owners or buyers to access certain data.
- **Corporate Buyers** purchase renewable electricity for own consumption; may request data directly if permitted under their contracts.
- **Power Retailers** manage renewable portfolios, often coordinating across multiple assets on behalf of customers.

Verification Actors are responsible for reviewing collected data, confirming its accuracy, and validating compliance with the Country X Cross-Border REC Framework and the International

ANNEX A

CBET Standard and Best Practices. Both verification actor types may interact where necessary with Standards and registry providers to confirm and qualify data.

- **Label Authorities compile CBET data and evidence** and issue formal “CBET-approved” labels onto recognised EACs, using standardised data collection formats.
- **Major Consultancies and Assurance Providers** review documentation and issue independent assurance statements for the authenticity and accuracy of data.

3. Data Categories

Credible CBET draws on information at both the national and project level, and includes data that is either static (unchanging) or dynamic (time-bound):

Category	Description	Examples	Source
Static National	Framework-level information that changes infrequently and applies at the country level.	Recognised EAC instruments and registries, bilateral recognition arrangements, published methodology for calculating residual mix.	Defined in national Cross-Border REC frameworks, government or regulator websites.
Dynamic National	Time-bound, country-level data that must be updated or shared periodically with commercial parties.	Import/export volumes at interconnectors, national grid flow data, published residual mix for the reporting period.	National grid operators, market authorities).
Static Project	Asset-specific details that rarely change once established. Often held by private parties to PPAs or registry systems.	Asset registration confirmation in the approved EAC registry, registry and instrument type, PPA or grid connection documentation.	End buyers of electricity, EAC registries and issuers, redemption certificates, asset owners.
Dynamic Project	Time-bound, asset-specific data tied to the reporting period. Often confidential in nature.	Generation meter readings for the asset, EAC issuance records, EAC redemption statements reconciled against import volumes.	EAC registries, redemption certificates, grid operators.

Data Access Requirements.

Entities with **direct access rights** (e.g., asset owners or those with contractual permissions) may request required data directly from the source.

Entities **without direct access rights** must first secure authorisation from the relevant source before proceeding. EAC standards and registry operators may have or provide standard forms to facilitate disclosure, though new structures may be required at the national level to facilitate permissioned data sharing with entities.

4. Pre-Implementation Risk Assessment

Before starting detailed data collection, the entity should confirm that the basic conditions for a CBET REC transaction are in place. The following sequence helps determine whether to proceed, and identifies core issues that must be addressed or disclosed later in the process.

4.1. Step 1: Confirm both countries have a Cross-Border REC Framework or comparable bilateral agreements in place

Locate and review the official National Cross-Border REC Framework for both the exporting and importing countries. If either country does not have a National Cross-Border REC Framework, transactions can still proceed; however, they are unlikely to be recognised as credible for purpose of disclosure to international accounting or disclosure programmes.

ANNEX A

- If both countries have not published their National Cross-Border REC Frameworks, CBET REC claims to global reporting and disclosure programmes are unlikely to be recognised.

4.2. Step 2: Check that both Frameworks cover all core elements.

Review each National Cross-Border REC Framework to confirm it addresses the core elements of the CBET Standard. At a minimum, the framework should: **(i)** specify which cross-border transmission pathways are eligible for CBET RECs and how import/export volumes are measured and reported; **(ii)** identify which EAC instruments, Standards, and registries are accepted for CBET purposes; **(iii)** define the mechanisms the country accepts as constituting mutual recognition of instruments; and, **(iv)** define how the residual mix will be calculated and disclosed.

- Note any gaps, omissions, or misalignment for later disclosure and risk assessment.

4.3. Step 3: Identify validation status

Determine whether either Framework has been validated as aligned with the International CBET Standard. Validation structures may be implemented by standards or third-party consultancies, and may be directly attached to National Cross-Border REC Frameworks.

- Note the validation status for each National Framework, and any implications for recognition or reporting if they have not been validated.

4.4. Step 4: Confirm EAC instrument and registry eligibility

From each country's National Cross-Border REC Framework, determine which EAC instruments and registries are acceptable for CBET claims.

- Identify whether there is an accepted instrument and registry that can be used in both the exporting and importing markets, and (during implementation) select and use a single instrument and registry consistently for issuance, redemption and reporting.

4.5. Step 5: Confirm existence of a mutual recognition arrangement

Determine whether a formal mutual recognition arrangement exists between the exporting and importing countries for the chosen instrument and registry, and identify how this arrangement is evidenced. These may be present directly within National Frameworks, or executed bilaterally in trade agreements or other bilateral documentation.

- If no arrangement exists, note recognition risk.

4.6. Step 6: Confirm Residual Mix Publication

Check whether the importing and exporting countries have published residual mix methodologies that account for CBET imports/exports.

- Record the source (URL or publication reference) for each country. If either country: **(i)** does not publish a residual mix; **(ii)** does not explicitly account for CBET within their residual mix; or **(iii)** calculates residual mix using a different methodology from their trading partner, note this as a recognition risk.

4.7. Step 7: Assess the impact of potential risks on CBET REC recognition

Document any Framework gaps, absence of mutual recognition arrangements, residual mix misalignment, or other credibility challenges identified in the preceding steps. These may not necessarily prevent implementation; however, they should be assessed for impact on implementation and disclosed to verification actors should transactions proceed. Discuss existing gaps with national actors to identify blockers or forthcoming solutions.

5. Implementation Guide

This section assumes both the exporting and importing countries have published National Cross-Border REC Frameworks and that any risks or gaps have been identified in the pre-implementation stage. It outlines the sequence an entity should follow to implement a credible

ANNEX A

CBET REC transaction into Country X, from defining the reporting period to preparing evidence for verification.

5.1. Step 1: Define the reporting period

The entity should define the period across which the CBET REC claim will be made. This period must be used consistently across all collected generation, transaction, and EACs issuance/redemption data.

5.2. Step 2: Confirm EAC instrument and registry eligibility

The entity should confirm that the EAC instrument and registry identified in pre-implementation are recognised under these transactions.

5.3. Step 3: Register the asset

The entity should register (or ensure with counterparts) that the generation asset has been registered in a registry mutually recognised for CBET RECs by both trading partners. If the asset is not registered, the entity may complete the registration before proceeding by contacting the relevant issuer in the country of electricity generation.

- If the asset is ineligible for registration in a recognised registry, CBET REC claims cannot proceed.

5.4. Step 4: Request issuance of EACs from issuer, for the reporting period

The entity should proceed to request issuance, following applicable procedures of the selected EAC instrument and registry. The entity should confirm that EACs have been issued for the defined reporting period, and in a sufficiently granular time format to meet the requirements of the National Cross-Border REC Frameworks and the end user.

- If EACs cannot be issued for the reporting period, CBET claims for that period may not be feasible.

5.5. Step 5: Request import volume data from the national authority

The entity shall request from the national actor the total imported electricity volume attributable to the asset during the reporting period.²² If the entity is not the asset owner or rights-holder, it shall include a signed authorisation letter when making the request. The method for defining imported electricity volumes from the asset shall be consistent with the delivery approach used by Country X.

- If the entity cannot identify the required data, CBET REC claims cannot proceed.

5.6. Step 6: Reconcile REC with import volumes prior to redemption

The entity should compare the imported volume of electricity confirmed by the national actor with end-user of EACs so that the redemption volume of EACs is equal to or less than the volume of imported MWhs that can be associated with the generation asset. The redeemed volume must not exceed imported volume, and the reconciliation should be documented.

5.7. Step 7: Compile the CBET REC evidence package

The entity should compile a CBET REC evidence package, documenting all required datapoints for credibly demonstrating the transfer of electricity across national borders, in alignment with the requirements of the International CBET Standard.

- This package must include evidence for how the core requirements for demonstrating electron deliverability, EAC alignment, and residual mix harmonisation have been met. If relevant documentation defined above and in the National Frameworks cannot be collected, CBET REC claims are unlikely to be recognised.

²² NOTE: requests have been made by multiple actors to review methods for defining the total delivered volumes and their correlation to exporting assets. The authors anticipate adjusting this section in subsequent drafts.

ANNEX A

5.8. Step 8: Verification and disclosure

The entity may submit the evidence package to its chosen verification actor (assurance or label) for verification and review. If the verification actor agrees that the evidence submitted meets all requirements to demonstrate alignment, they will provide the entity with the subsequent confirmation, to be used by end users for reporting and disclosure purposes.