THE INTERNATIONAL REC STANDARD
Empowering Electricity Purchasers

MEMO

To:	Interested API Users
From:	International REC Standard Foundation Secretariat
Date:	June 2023
Subject:	Guidance for API users and Platform Operators

Background

The I-REC Standard Foundation (Foundation) holds a tracking standard, The International Attribute Tracking Standard (Standard), that is used as the basis for Accrediting entities that work to implement various tracking products, such as Electricity, Hydrogen, Carbon Removals and others. Three mandatory roles need to be fulfilled for the implementation of a tracking product, 1. The Code Manager, 2. The Issuer and 3. The Registry. Code Managers are responsible for becoming the central contracting and organizing body and must operate or appoint a Registry Operator to maintain the primary records (Core Records) of the full cycle of ownership (issuance, trade, redemption) of the Product Certificates within that Code. However, the services provided by the Registry Operator might not be sufficient for its users. This is the goal of Platforms and Platform Operators, to allow for the provision of additional third-party services within the requirements of the Standard and other governance requirements.

Any organization can provide additional services by connecting its IT solution with the Registry through the Automated Programme Interface (API). It is important to recognize that the Registry Operator will remain responsible for maintaining the Core Records. This means that all changes in the life cycle of a Product Certificate (issuance, transfer to other users, redemption) must be immediately recorded, without delay, on the Registry.

This document aims to explain more about the types of services that can be integrated and how to do that for the Electricity Code which means that integration with the Registry Operator refers to integration with the Evident Registry for Electricity I-RECs, also known as I-REC(E).

Maintaining the integrity of the I-REC environment as a whole

When services for I-REC(E) are provided by many parties and various Accredited entities, it is key to maintain the overall quality of the whole 'I-REC ecosystem'. As such, it is important to notice that during the lifecycle of an I-REC, the robustness of the market is maintained by controlling what enters the start of life of a certificate (i.e., issuance) and the end-of-life of a certificate (redemption). What happens between the issuance and the redemption is the transfer or trading phase and whilst ownership of the certificate can change in this phase, no information can get lost and no new information can be added to the certificate.

Issuance	Trade	Redemption
All certificate issuances are verified and approved by the responsible and Accredited Issuer.	Facilitated by registered Participants or on trading platforms. The transfer of ownership is recorded in the registry. No details or clearing is offered through the registry. Market entrance is controlled by Issuers (see left) and market exit (redemption) to be controlled through the use of standardized redemption statements (see right).	The end-of-life with a Beneficiary being listed as the owner of the associated attributes.

It is also important to notice that accredited Platforms or other Registry Users integrated through API are at all times responsible for their own services and despite checks being done by the Foundation and Evident, there are no guarantees that the additional services provided function as expected.

1. What can an integrated Platform do?

Any action that can be organized by a user can be facilitated by a Platform. Services can be automated, visualized or created for a specific audience. The variety and types of services are only limited by national legislation and any relevant rules or limitations set in place by the Code Manager and the Foundation. As long as the record-keeping of the certificate ownership is immediately communicated with the Registry, and other more specific rules detailed in contracts (here) are maintained, the Platform will remain in compliance.

Some examples of services being offered are visualization tools for 24/7 matching, facilitating marketplaces, exchanges or bulletin boards, support in requesting certificate issuance, facilitating transfers, and ensuring easy certificate redemptions.

2. API Integration and User Functions

Any organisation that wants to provide services within a specific Product market must have one or more user functions in the Registry. The possible user functions are (i) Registrant, (ii) Participant, (iii) Platform Operator, and will be explained in more detail below.

API integration is done within the rights defined by that user function. If a single entity has multiple user functions (for example they are a Registrant and a Participant) they will receive different API keys for each function. The user function affects the type of services that can be offered, the contracts that have to be signed, and the fee structure.

	Registrant	Participant	Platform Operator	Issuer
Account Mgmt	No	Yes	Yes	Yes
Beneficiary creation	No	Yes	Yes	No
Device Mgmt	Yes (requesting)	No	No	Yes (verifying)
Issuance	Yes (requesting)	No	No	Yes (verifying)
Transfer Mgmt	No	Yes	Yes	No
Redemption	No	Yes	Yes	No
Mgmt 3rd party account	No	No	Yes	No

Figure 1 – Functions per User type

2.1 Registrant API integration

As seen in Figure 1, the primary functionalities of a Registrant are requesting device registrations and issuance of I-REC(E)s. API integration for Registrants cannot add functionalities but can change the interface through which requests are made. For example, a Registrant might want to use its own

software to make requests to the Issuer and have their software communicate with the Registry. This is then facilitated with the API while maintaining the robustness of the system as a whole.

The ability to retain API access for a Registrant is contingent upon the organization retaining a Registrant account on the Registry. As a result, any removal of the Registrant function will result in the removal of the associated API.

2.2 Participant API integration

As seen in Figure 1, a Participant's functionality is focused on the trade and redemption of I-REC(E) for themselves or on behalf of their clients. As many Participants do not solely trade I-RECs but also trade in other EACs (such as GOs and US-RECs) they could benefit from integrating their I-REC activities into their internal systems. In this way, they can serve clients a variety of products from one account rather than having to login into multiple (EAC) registries.

Another use case for Participants, such as utilities, is to set up green tariff programs or have mass-redemption requests, for large groups of end-users, who are requesting a specific product. In this way, individual redemptions for hundreds or even thousands of beneficiaries would be automated and displayed in the Registry.

The ability to retain API access for a Participant is contingent upon the organization retaining a Participant account on the Registry. As a result, any removal of the Participant function will result in the removal of the associated API.

2.3 Platform Operator API integration

The role of the Platform Operator can best be compared to a Participant account with a few key differences. Similar to a Participant account, the Platform Operator has a trade and redemption account. Key differences with a Participant account are:

- The Platform Operator has no legal ownership of the I-RECs in its Custodial Trade account
- The Platform Operator can but is not required, to have the ability to view and modify I-RECs located in a Participant account from a different organisation upon approval of that Participant.
- A Platform Operator must sign the Platform Operator contract rather than the Participant contract
- A Platform Operator has a different fee structure than the Participant

A Platform Operator can have regular trade accounts (same as the Participant user) that are called Custodial Trade Accounts. In addition, the Platform Operator could have access to I-RECs from other Participants' Trade accounts through Encumbrance Trade Accounts. This Encumbrance Account refers to the ability to allow for 3rd party account management as is shown above in Figure 1. This applies to Platform Operators who want to have that functionality.

2.3.1 Custodial Account Platform Operator

The Platform Operator can use its custodial account (similar to Participant's trade account) to hold I-RECs for its clients who may or may not have their own Participant account. Legally, the owner of the I-REC in the Platform Operator custodial account is the Registrant or Participant who transferred the I-REC into the custodial account of the Platform Operator.

Getting I-RECs in the Custodial Trade account of the Platform Operator
1. (via issuance) A Registrant can fill in the Custodial Trade account of a Platform Operator as the destination account when requesting issuance.

2. (via transfer) A Participant can transfer an I-REC into the Custodial Trade account of the Platform Operator (action D3 in Figure 2).
3. Alternatively, and only if the Platform Operator allows for this functionality, the Participant could use the Encumbrance model as explained below (action T1).

Redemption / Getting I-RECs out of a Custodial Trade Account of a Platform Operator
1. When an entity without participant account purchases and redeems an I-REC on the Platform, the I-REC will be redeemed on the Custodial Redemption Account of the Platform Operator. The Platform Operator is free to choose the fee they charge the End-user for this redemption, but the fee paid by the Platform Operator to the Code Manager is fixed at €0.08/MWh (action R3).

2. When an entity with a Participant account purchases an I-REC on the platform, the buyer can, assuming this is possible on the Platform, choose to redeem directly on the Platform (Platform Operator will be charged €0.08/MWh; action R3) or to let the purchase trigger a transfer between the Custodial Trade Account of the Platform Operator into the Trade Account of the Participant (the buyer; action T1). This Participant would then be the legal owner of the I-REC and could choose to further trade the certificate or redeem it against the normal tariff of €0.06/MWh in their own Participant redemption account.

The Custodial Trade account of a Platform Operator allows Participants to transfer an I-REC(E) into the Platform to make use of the services of the Platform. Legally, the Participant is still the owner of the I-REC(E) but users should be aware of any terms and conditions that are maintained by the Platform Operator prior to making use of the service. For this, among other reasons, it was the preference of many participants to enable the possibility to make use of additional services of Platforms without having to transfer the I-REC(E) out of their account. This is the purpose of the Encumbrance Account.

2.3.2 Encumbrance account
The Encumbrance trade account was created to allow the Participant to grant access to a sub-account to a Platform Operator but also with the ability to revoke that authorization at any time. An Encumbrance trade account is, for all intents and purposes, similar to any other trade account, with one important difference – the Participant authorizes a single Platform (owned by an accredited Platform Operator) to be the sole interface through which modifications to the account can be made. By giving this permission, the I-RECs in the encumbrance trade account can be directly visible on the Platform through the interface of the Platform Operator. Depending on the functionality of that specific Platform, the I-RECs can be modified by the Participant through the interface of the Platform Operator or the I-RECs can be purchased by any entity with an account on the Platform. Redemptions through an encumbrance account will take place with the Participant as the listed Redeeming Entity and as such take place through the action R2 shown below. It is also possible for the I-REC to be redeemed by the Platform Operator directly, if desired, through the actions T1 and then R3 below.

The below figure shows all the possible interactions of a Participant with a Platform Operator
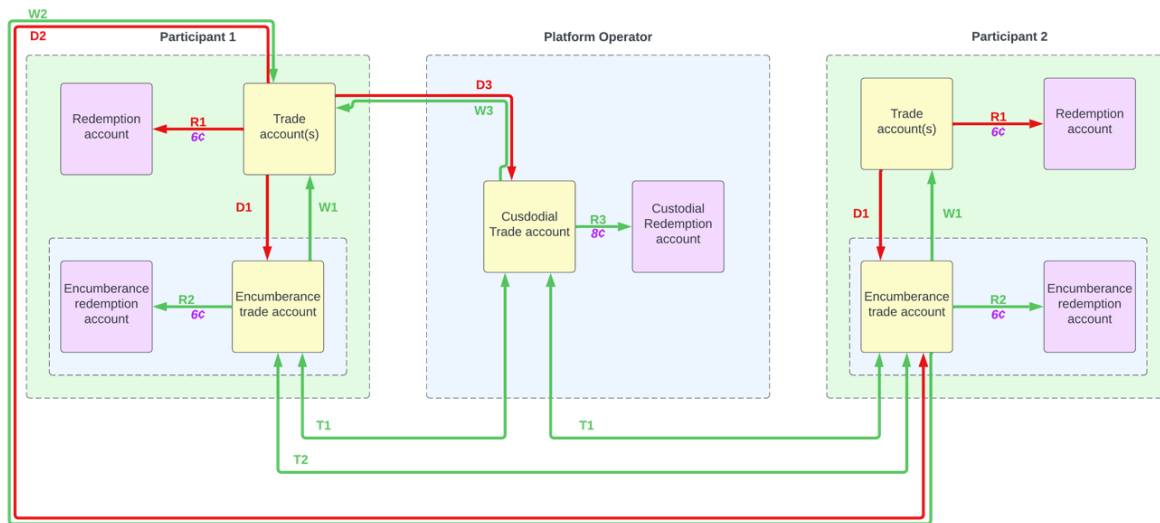
Figure 2 – Possible Interactions with Platform

Red actions   *– to be available to the Participant only.*
Green actions   *– to be available to the (user of a) Platform Operator (PO) only.*

Depositing certificates into a PO's system.
D1   A participant can deposit certificates into their own Encumbered trade account
D2   A participant can deposit certificates into another participant's Encumbered trade account
D3   A participant can deposit certificates into a Custodial trade account, owned directly by the Platform Operator.

Withdrawing certificates from a PO's system.
W1   A participant can withdraw certificates (through the PO's system) from their own Encumbered trade account, into a normal trade account owned by themselves.
W2   A participant can withdraw certificates (through the PO's system) from their own Encumbered trade account into a normal trade account owned by another participant organisation *(in the above graphic, this must be initiated by Participant 2)*
W3   A participant can withdraw certificates (through the PO's system) from the PO's Custodial trade account, into a normal trade account owned by themselves.

Transferring certificates within the PO's system.
T1   A transfer may take place between 2 parties within the PO's system; where 1 of those parties does not have a participant account within the Evident registry, the PO will take custodianship of these certificates on behalf of the party without an Evident account.
T2   A transfer may take place between 2 parties within the PO's system; where both parties have participant accounts on the Evident registry.
**   Transfers between 2 parties that both do not have a participant account within the Evident registry do not need to be recorded directly in the Evident registry. Providing that the certificates being transferred are held within the PO's Custodial trade account *(this applies only to transfers and **not** to redemptions)*

Redeeming certificates within the PO's system.
R1   A participant may redeem any certificates held in a normal trade account into a normal redemption account held within the same organisation *(these will be charged at **6¢** per redemption)*

R2   A participant may redeem certificates held in their Encumbered trade account into an Encumbered redemption account held within the same organisation *(these will be charged at **6¢** per redemption)*

R3   A PO may redeem certificates held in their Custodial trade account into a Custodial redemption account held within the same PO organisation. These are to represent a user of the PO's system, who does not have a participant account on the Evident registry *(these will be charged at **8¢** per redemption)*

**   Any redemption must only be made from a trade account (of any type) owned by the same organisation. To redeem cross-organisationally, a participant must first initiate a transfer and then a redemption (**T2 -> R2**, or **W2 -> R1**)

3. How to integrate

As the Registry for I-REC(E) is operated by Evident Services, any organisation that wants to integrate its services with the Registry must go through them. The requirements for integration differ depending on the type of organisation and the type of services that will be offered.

3.1 Registrant and Participant

Registrants and Participants that want to integrate must sign the standardized contract below.

Standard Terms
I-REC NonCircumvent

Following the signing of this, the Registrant or Participant can be provided access to a sandbox environment to test the API and can be provided access to the live environment upon request. Evident can provide information documents about the API.

Please note the API user is responsible for the consequences of their actions. In other words, if actions result in requests, transfers, redemptions, or any other actions on the registry that may or may not result in fees being incurred, there is no opportunity to undo these actions.

3.2. Platform Operator

Platform Operator integration requires a more extensive process as Platform Operators do not only integrate services for their own use but also for third parties to use. Platforms will be an extension of the Registry and will therefore, similar to the Registry, require accreditation of the Foundation. The advantage for Platform Operators is that once accredited, they will be listed on our website as an officially accredited Platform with associated benefits. For example, Accredited Platform Operators will be allowed to use the name and logo of the I-REC Standard Foundation. It is the vision of the Foundation and Code Manager to create an 'Application store' with the Registry. Only accredited Platform Operators will be allowed to create such available applications.

3.2.1 Achieving Accreditation

The requirements explained in paragraphs 3.2.1.1 until 3.2.1.3 must be approved by the Foundation to achieve accreditation.

The Platform Operator is requested to sign the contracts (see below) and fill in the preliminary report before access to the sandbox environment can be received. Following testing in the sandbox environment and adherence to the further requirements listed below, access to the live environment and accreditation can be achieved. Accreditation will be provided through an official letter.

3.2.1.1 Documentation
The Platform Operator must prepare a variety of documents to achieve accreditation.

Contracts

The following standardized contracts must be signed.

Standard Terms
I-REC NonCircumvent

Standard Terms
Platform Operator

Preliminary report

The preliminary report serves as a tool to inform the Foundation, Code Manager, and also future users of the Platform on how the Platform works, what types of services will be available, what the fee structure is, and any other important information about the Platform. This document will be publicly listed on the Foundation's website so that any interested party can look up more information about all accredited Platforms. The preliminary report must be approved by the Foundation as part of the accreditation process.

Preliminary
Report_Platform Oper

Screenshots of the interface and language

As the Platform can be used in some cases as an extension of the Evident Registry, the Foundation will verify that the language used in public communications is in line with the International Attribute Tracking Standard and the associated Product Code.

3.2.1.2 Walkthrough of the Platform
As part of the accreditation process, the Platform Operator must organize a call with the Foundation to walk them through the purpose of the Platform and its interactions with the Registry. The goal of this call is to make sure the Platform Operator has a good understanding of the I-REC(E) market and is therefore able to provide its services in line with the requirements of the Product Code.

3.2.1.3 Integration readiness
Once the Platform Operator has fulfilled all the above requirements, the Foundation will check with the Registry Operator (Evident Services) that the abilities of the Platform listed in the preliminary report and screenshots of the Platform have been thoroughly tested in the sandbox environment.

The Foundation nor the Code Manager can be held responsible for the actions on the Platform and the possible actions triggered on the Registry. Accreditation is a recognition of the Platform's adherence to the rules but does in no way guarantee its proper functionality.

3.3. Interactions between Issuers and Platforms
Issuers have the opportunity to become Platform Operators, just like any other entity. They may choose to implement platforms for various reasons, such as creating localized portals or enabling procurement options within their markets. However, it is crucial for issuers to ensure that their facilitation of options for the procurement of EACs does not compromise their neutrality in the market.

If an Issuer decides to implement a commercial tool to streamline the trading and procurement of EACs, a few key aspects will have to be adhered to. For instance

1. Registrants must always have the freedom to not use the Platform of the Issuer and the Issuer cannot force them or prioritize issuance requests coming through their Platform.
2. An Issuer may provide the infrastructure to streamline trades and procurement but cannot actively serve clients or benefit financially by taking a portion of the trade value. For the avoidance of doubt, an Issuer may charge a fixed fee per trade or redemption that takes place via their platform since Market Players can easily choose not to make use of these services.