

# Energy Track and Trace

Partner Meeting – June 15th, 2023

European partnership on next generation energy tracking.

June 15th , 2023

# June 15th, 2023 - Agenda

## Intro

1. Welcome

## Product Development

1. Status
2. Roadmap 2023

## Pilot test

1. Welcome to Lichtblick and Granular Energy
2. Pilot test intro and presentation
3. Questions and dialogue

## Closing and goodbye



# Product Development

1. Status
2. Roadmap 2023

# Elia Group – Energy Track & Trace service

## > Recap

### API-first approach

- First priority to API developer platform, enabling service providers to build services using granular certificates
- Alignment with EnergyTag on API standard

The screenshot shows the traXes website interface for the Granular Certification Registry service. The main heading is "Granular Certification Registry service" with a date of 2023-03-10. Below the heading, there is a description: "New design of the API for the Energy Track & Trace Granular Certification Registry, after further alignment of concepts with towards a RESTful API which aligns to the business domain resources." A "Schemes" dropdown menu is set to "HTTPS".

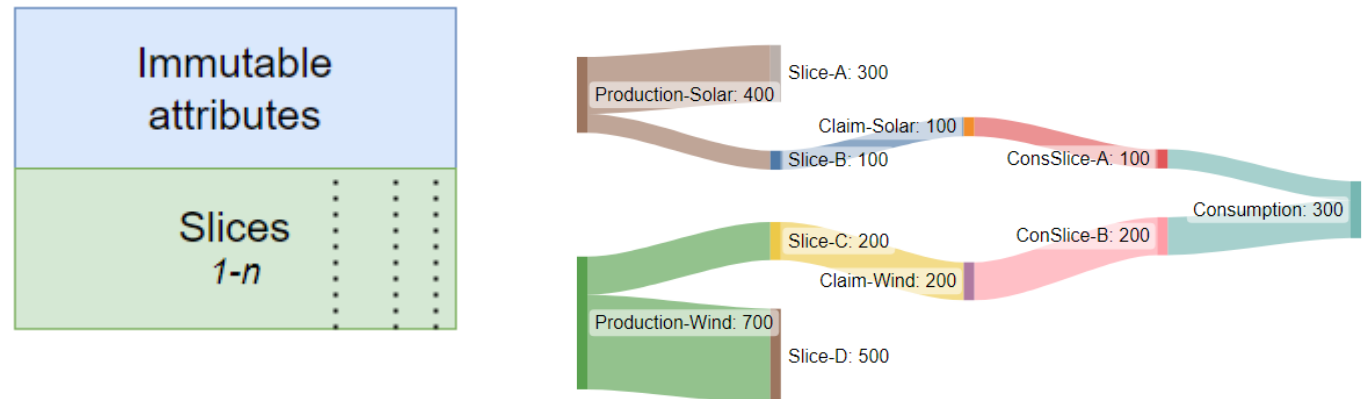
The API endpoints are listed as follows:

- certificates**: Granular Certificates are immutable objects that represent the produced or consumed energy by an Asset in a given timeperiod.
  - GET /certificates: Get Granular Certificates in the registry
  - POST /certificates: [Issuing Body only] Create Granular Certificate in the registry
  - GET /certificates/{certificateID}: Get Granular Certificate with specified ID
  - DELETE /certificates/{certificateID}: [Issuing Body only] Withdraw Granular Certificate with specified ID
  - GET /certificates/{certificateID}/slices: Get Slices linked to a specific Granular Certificate
- slices**: A Granular Certificate has a collection of Slices linked to it. When a Granular Certificate is issued, it has one initial Slice, representing the complete volume of the Certificate. This Slice can be further split, and Slices can be transferred from one Certificate Account to another.
  - GET /slices: Get Slices in the registry

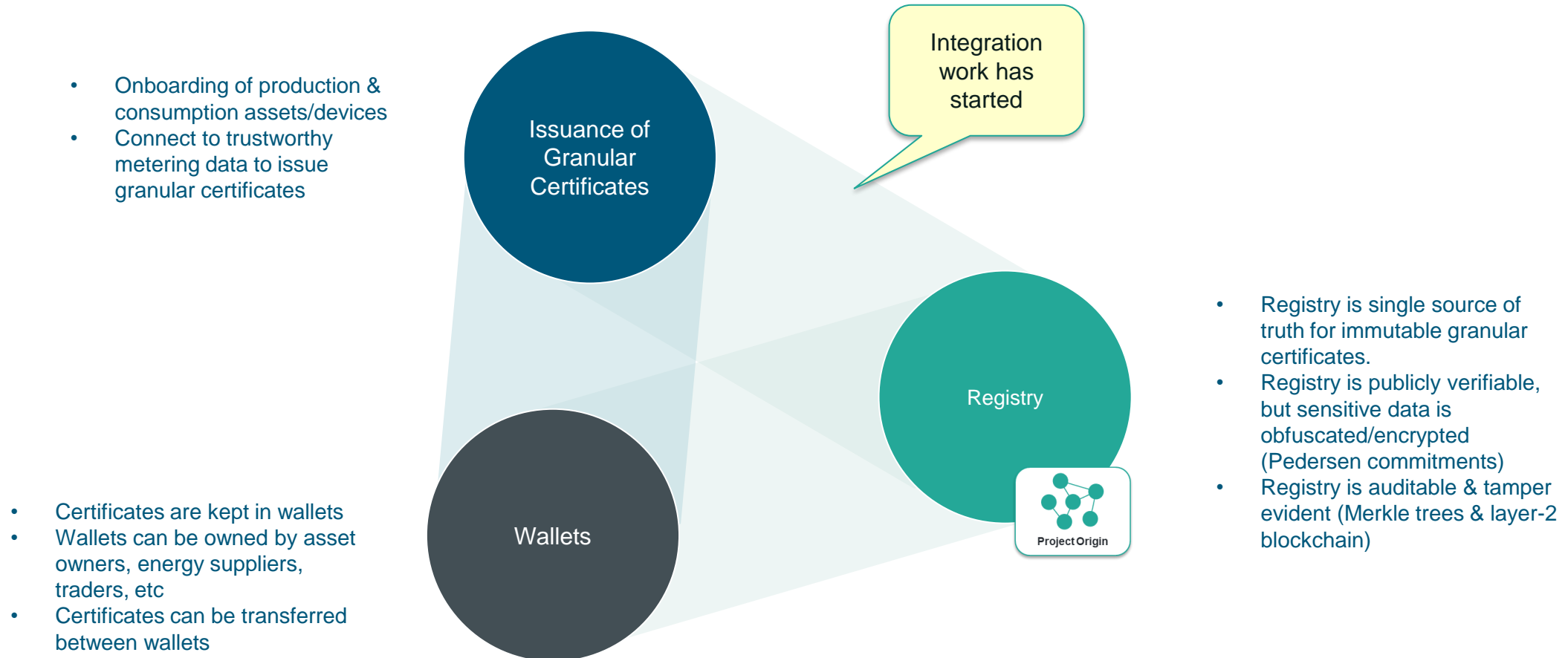
To the right, there is a document titled "GC Registry API Specification" published on 29 September 2022. It mentions collaboration with EnergyTag and Future Energy Associates. A "Download" button is visible.

### Alignment with Project Origin

- We further aligned on nomenclature and business concepts with Project Origin.
- We adopted the concept of Slices under immutable Granular Certificates



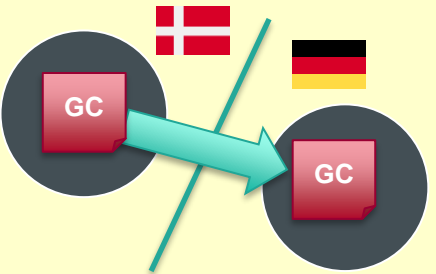
# Energy Track & Trace has three main capabilities



Prerequisite: "Granular Certificates can never leave a registry".

Issuance of Granular Certificates

How can we allow users to freely transfer certificates (across borders)?

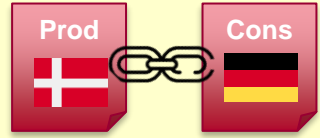


How can we allow users to keep certificates from different registries in one place?



Registry

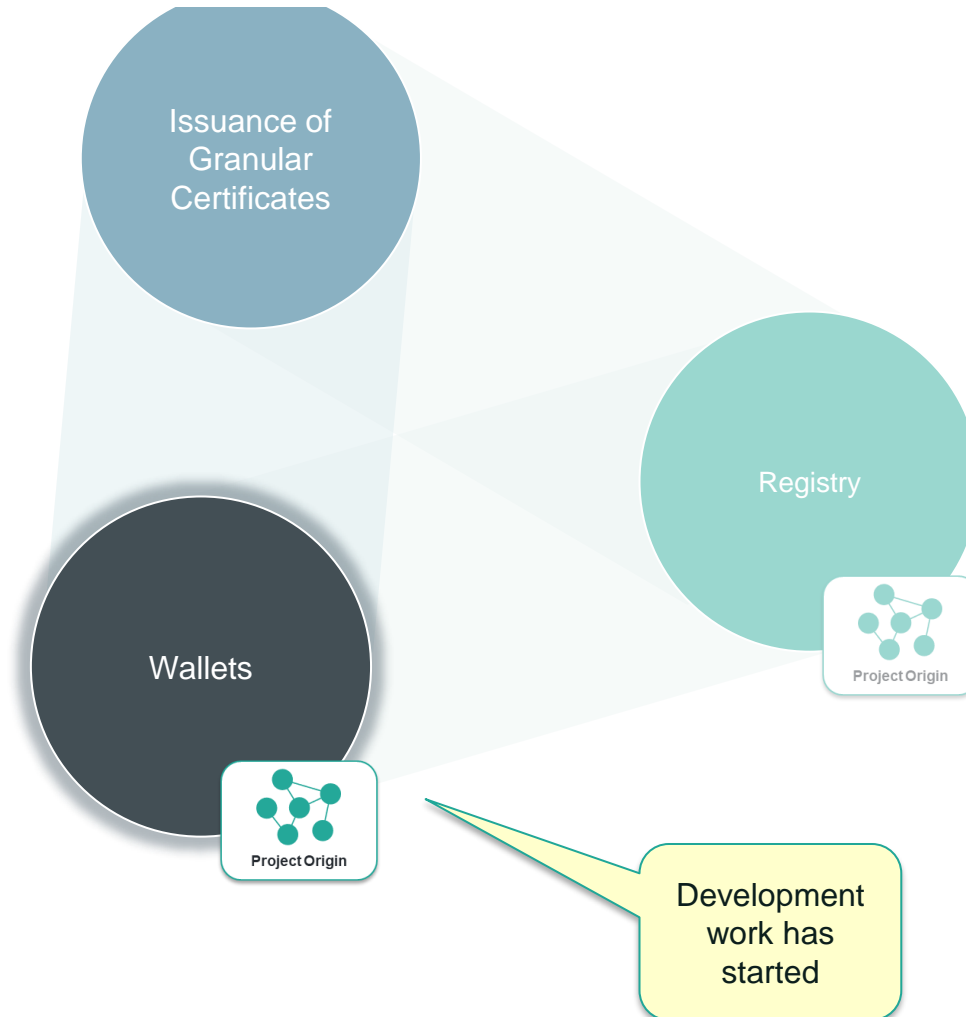
How can a user claim production against consumption located in different registries (& countries)?



# Unlocking cross-border cases

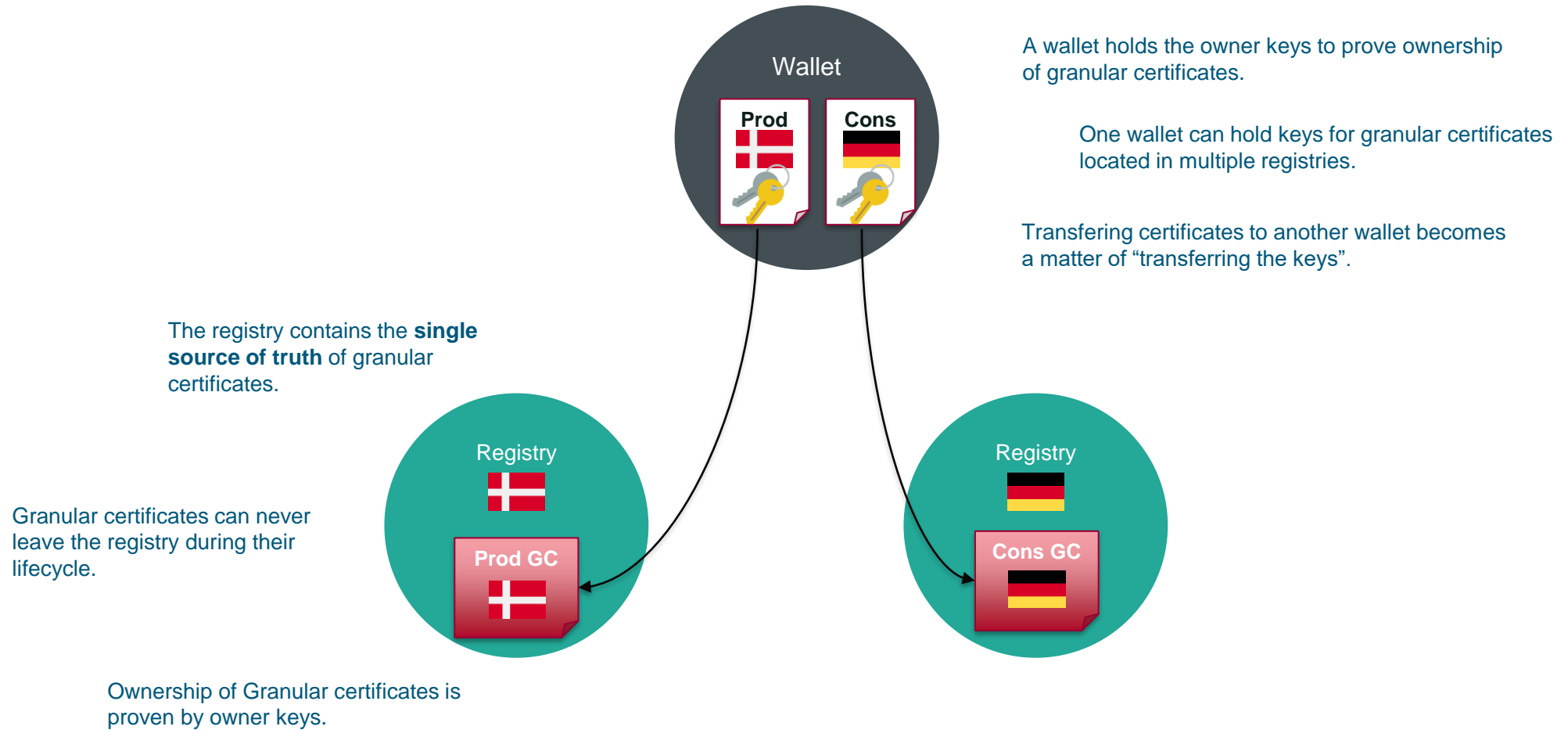
Clear need for a **common wallet concept**.

Project Origin will not only deliver an Open Source registry service, but as well an Open Source wallet service.



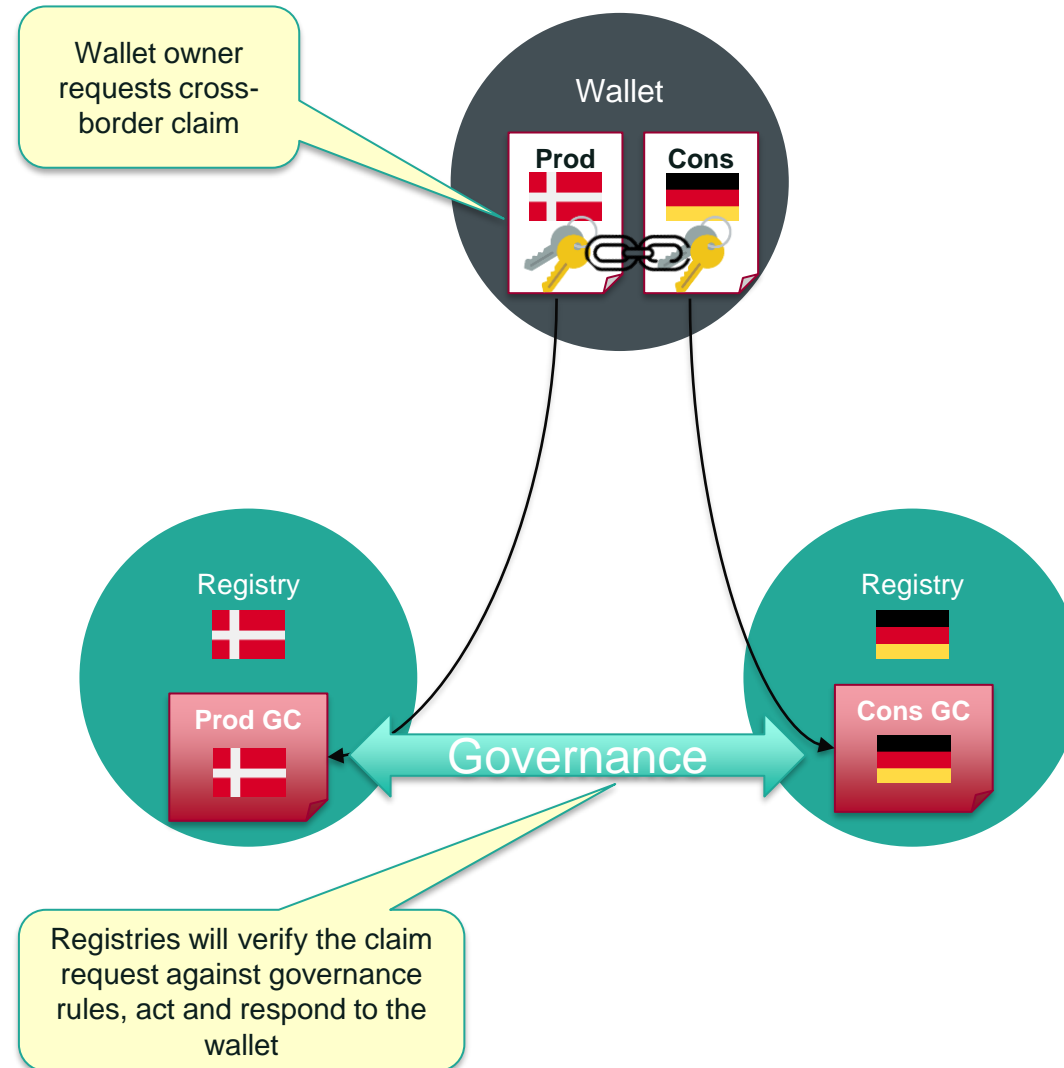
- Certificates are kept in wallets
- Wallets can be owned by asset owners, energy suppliers, traders, etc
- Certificates can be transferred between wallets
- **Wallets can contain certificates from multiple registries**

# Unlocking cross-border cases

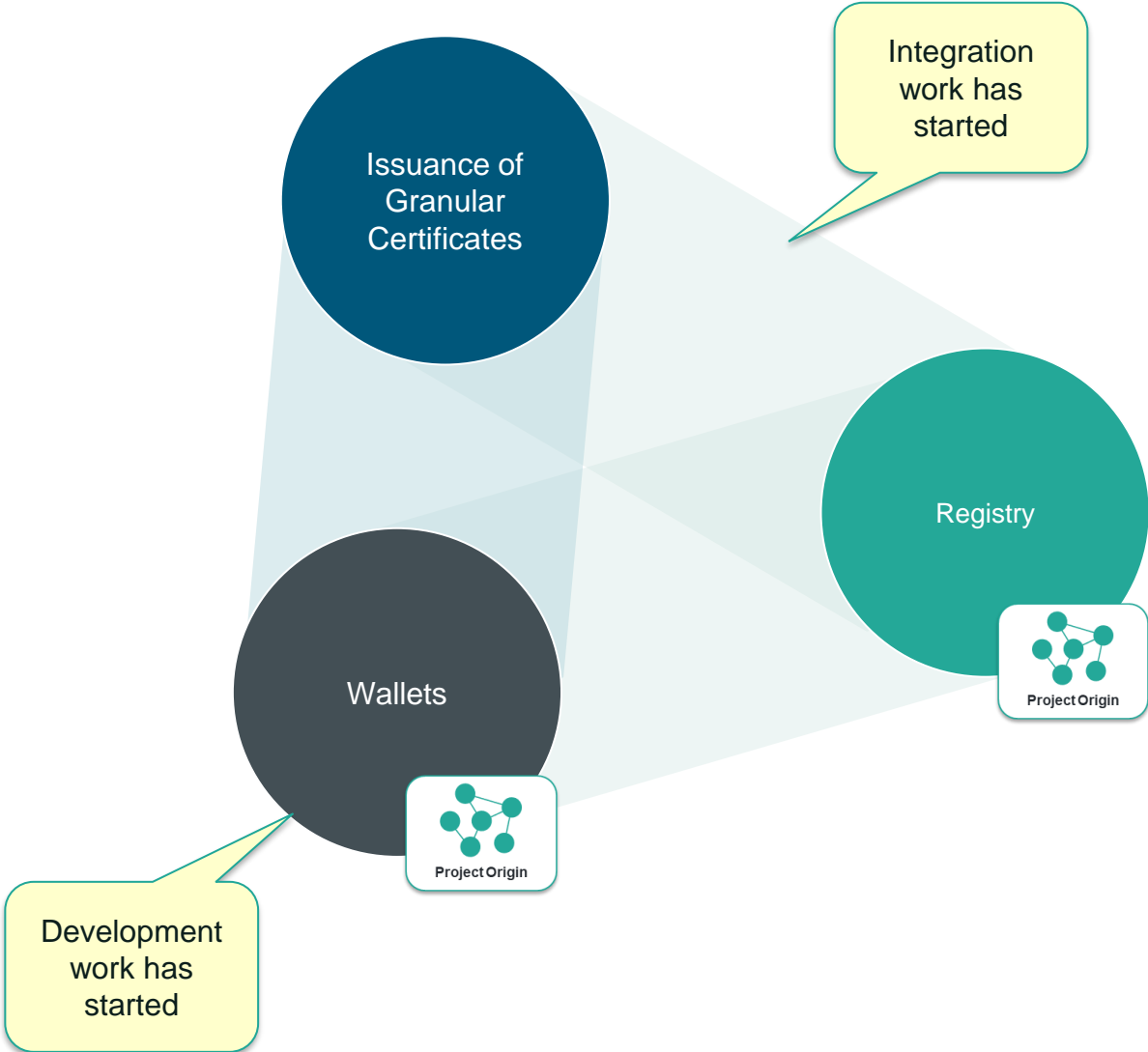




# Unlocking cross-border cases

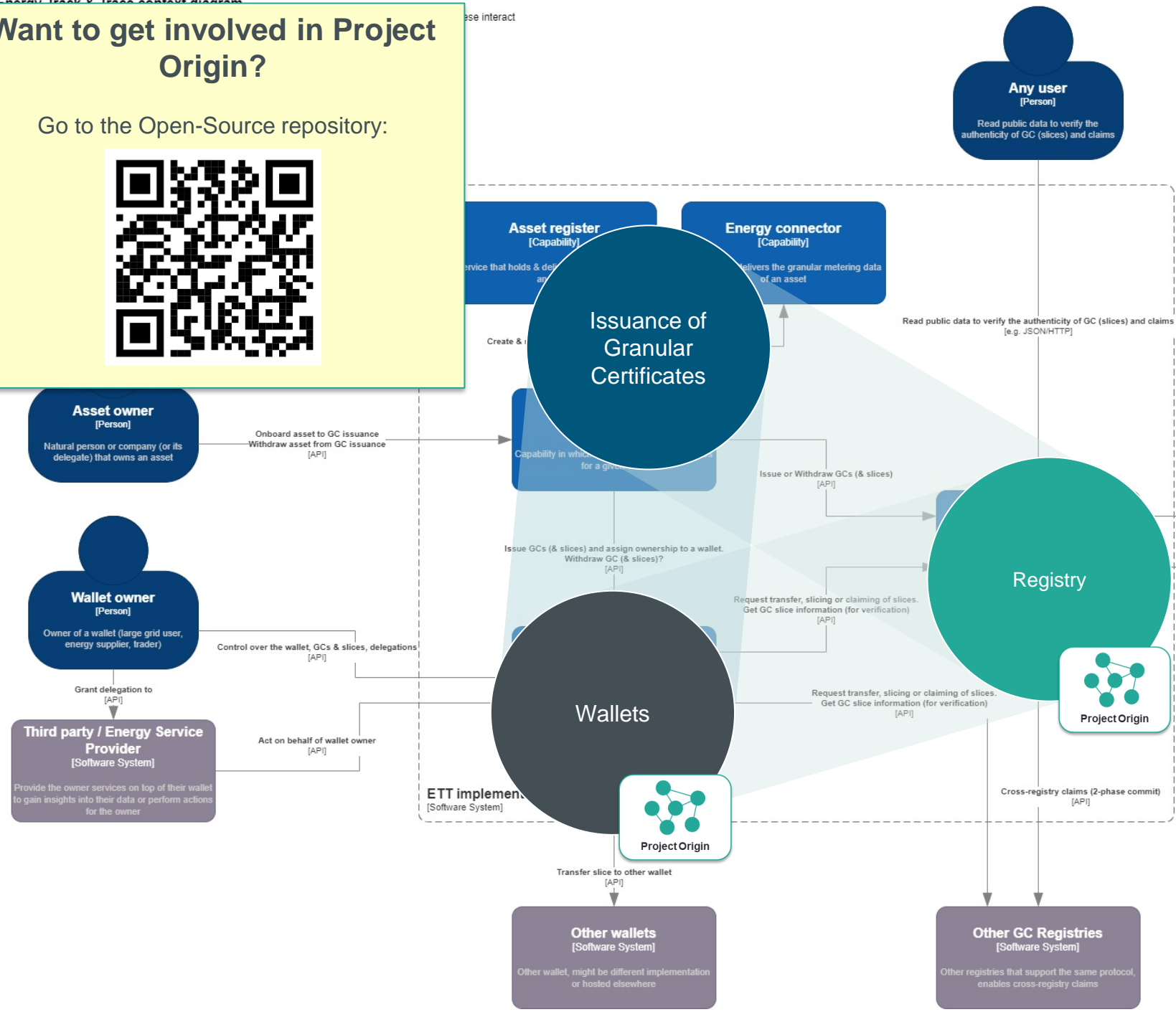


# Work in progress!



# Want to get involved in Project Origin?

Go to the Open-Source repository:



# Elia Group – Energy Track & Trace service

## > Roadmap 2023



**Storage assets in  
Energy track &  
trace**

**GO-GC  
integration in  
Germany**

**GO-GC  
integration in  
Belgium**

Current focus

**Integration with the  
proof layer offered  
by Project Origin**

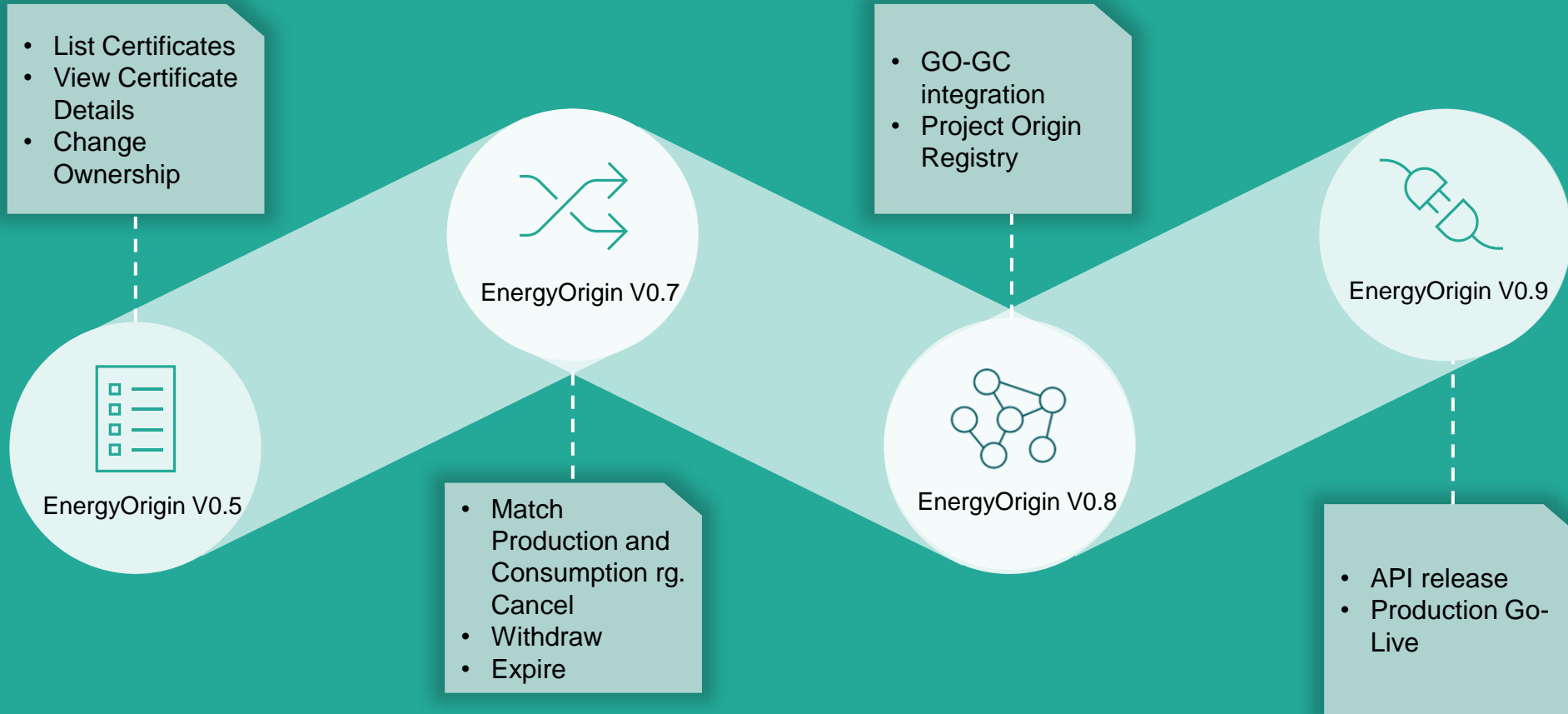
**Cross-border  
claiming**

*Multiple scenarios to be  
tested, as stated in our  
concept note in 2022*

**“Market-based” CO2  
intensity calculations  
based on Granular  
Certificates**

*Under consideration*

# Development roadmap Energinet



Simple Match and Claim

Access to test of 3rd party API's for development

Project Origin Integration	GO GC	Cross border
Q2 2023	Q3 2023	Q4 2023

The screenshot displays a web browser window with the URL <https://demo.energioprindelse.dk>. The page title is "ENERGY ORIGIN" and the main heading is "Dashboard". A navigation menu on the left includes "Producti", "Metering", "Certifical", "Transfer", "Metering Points", "Certificates BETA", "Transfers BETA", "Help", and "Log out". The "Certificates BETA" menu item is highlighted.

The main content area is titled "Certificates" and contains a message: "This is the beginning. This page is based on real data and is working towards the coming solution regarding certificates. So it is not just a test, though these data cannot yet be used in a legal sense. It will when it is out of beta and can be used legally. So you can try this without any consequences."

Below the message is a table of certificates. The table has columns for "TIME", "METERING POINT", "AMOUNT", and "View certificate". The results are paginated to 10 items per page, showing 1 to 10 of 1168 total records.

TIME	METERING POINT	AMOUNT	View certificate
13-Jun-2023 07:00-08:00	571313000000000200	14.527.990 Wh	<a href="#">View certificate</a>
13-Jun-2023 06:00-07:00	571313000000000200	13.916.430 Wh	<a href="#">View certificate</a>
13-Jun-2023 05:00-06:00	571313000000000200	13.585.280 Wh	<a href="#">View certificate</a>
13-Jun-2023 04:00-05:00	571313000000000200	12.436.500 Wh	<a href="#">View certificate</a>
13-Jun-2023 03:00-04:00	571313000000000200	11.449.080 Wh	<a href="#">View certificate</a>
13-Jun-2023 02:00-03:00	571313000000000200	10.071.740 Wh	<a href="#">View certificate</a>
13-Jun-2023 01:00-02:00	571313000000000200	9.654.770 Wh	<a href="#">View certificate</a>
13-Jun-2023 00:00-01:00	571313000000000200	11.062.210 Wh	<a href="#">View certificate</a>
12-Jun-2023 23:00-00:00	571313000000000200	18.064.810 Wh	<a href="#">View certificate</a>
12-Jun-2023 22:00-23:00	571313000000000200	14.744.250 Wh	<a href="#">View certificate</a>

## 1-to-1 demo environment of current development level

Demo site with personas, where it is possible to explore simple use cases

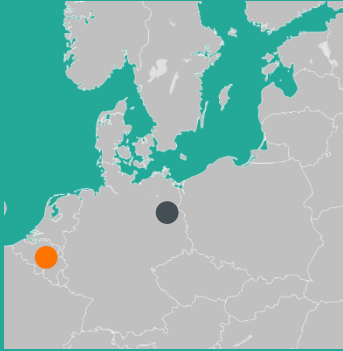
Built on top of the coming EnergyOrigin Platform under development by Energinet

Accessible in "production" with Danish MitID Erhverv accounts

### Features

- Issuance of example Granular Certificates
- Certificate overview
- Transfer Agreements

# If you want to test or setup a pilot project



**Belgium/Germany:**  
Michaël Piron  
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**Denmark:**  
Søren Pedersen  
Product Owner  
[datahub@energinet.dk](mailto:datahub@energinet.dk)



# Pilot test

1. Welcome to Lichtblick and Granular Energy
2. Pilot test presentation



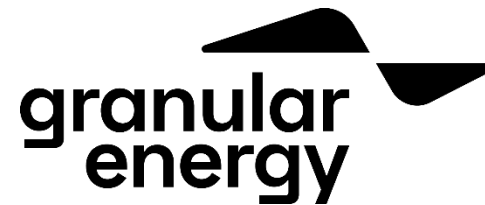
***We expect that detailed guarantees of origin for green electricity can contribute to the market-driven expansion of renewable energy.***

***In a pilot project, we want to enable hourly transparency about the origin of green electricity.***

## Elia Group, Granular Energy and Lichtblick have launched a pilot project on granular certificates together



- Transmission system operators in Belgium and parts of Germany
- Member of the Energy Track & Trace consortium
- Providing granular register into the pilot project

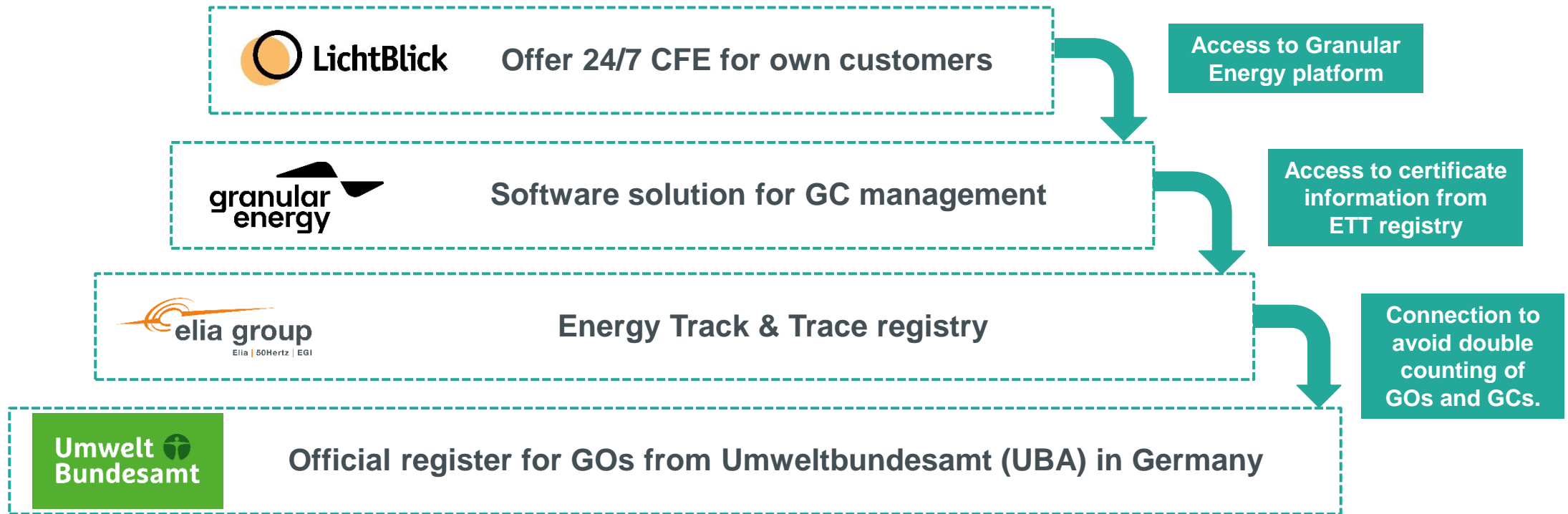


- Energy Startup located in Paris (France)
- Offering solutions for managing and trading clean energy with tools to support 24/7 energy certificates
- Operates as competitive service provider on Energy Track & Trace register
- Providing own platform including interested customers in the pilot.



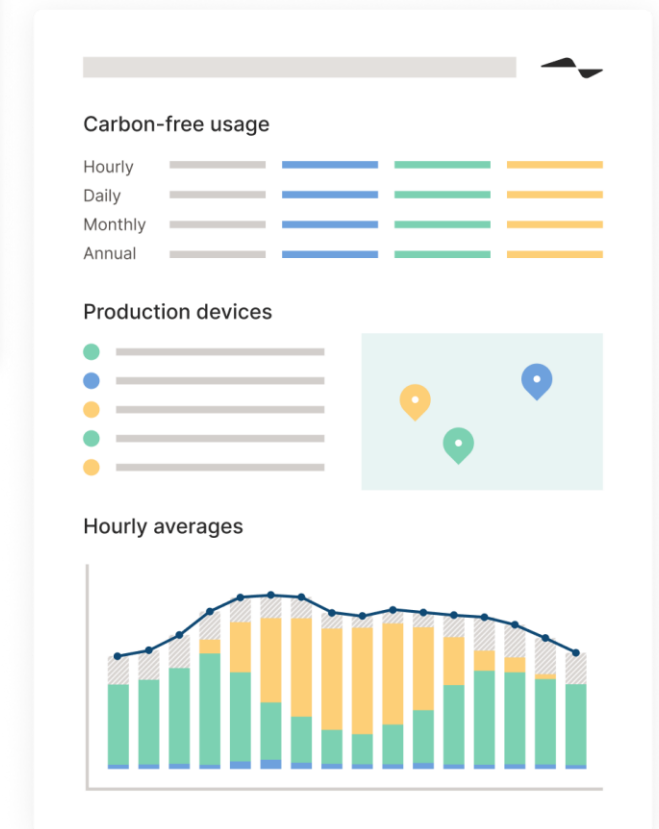
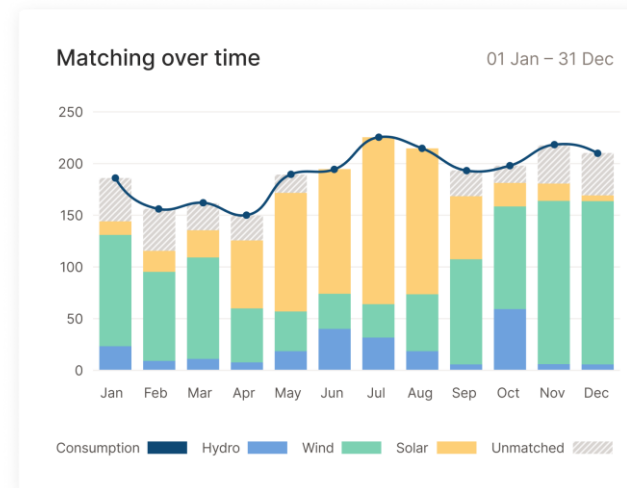
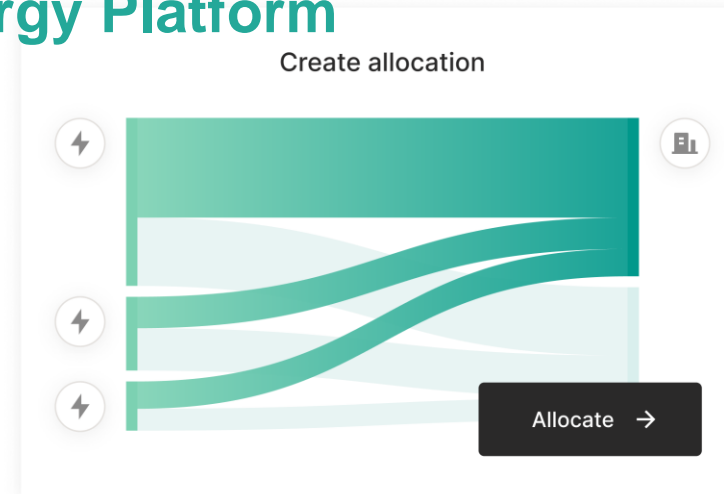
- One of the largest electricity providers on the German market
- Contracts always include 100% green electricity, according to its own statement completely from Germany
- Would like to pilot test and offer 24/7 tracking for first customers

In our pilot project, we want to test 24/7 CFEs in Germany over their entire route with the official GO registry as basis



## Insight into the Granular Energy Platform

- *Granular Energy* is providing a platform to energy suppliers to match generation to consumption with hourly granularity
- We are working with a few energy suppliers in Germany, including *Lichtblick*
- We have been working with *Elia Group* to bring an additional assurance layer on the matching by using the ETT registry

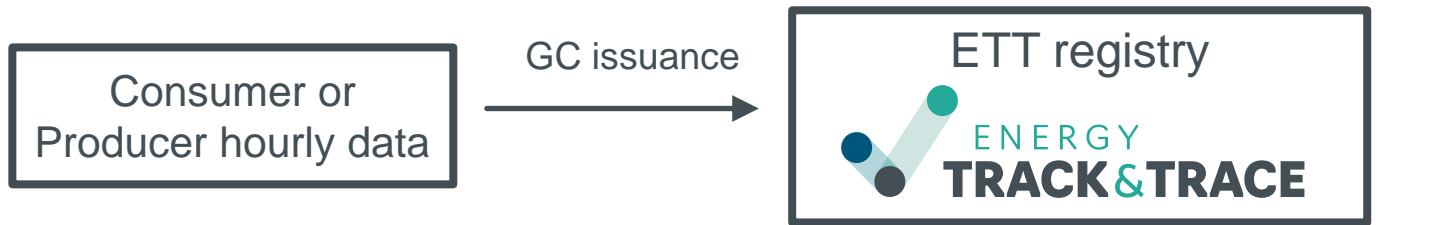


## Set up before the integration with ETT registry



## Set up after integration with ETT registry

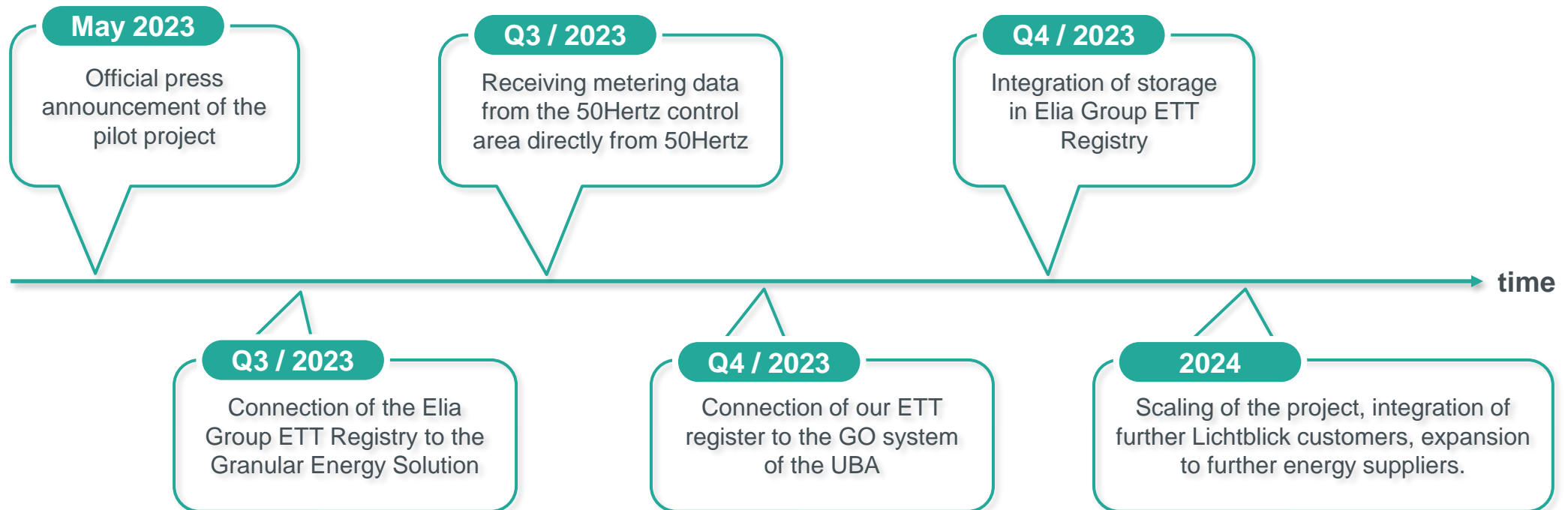
If site in 50hz area



If site not in 50hz area



## In the course of the pilot project, we want to further develop various things towards productive use





# Questions and Discussion



**THANK YOU FOR PARTICIPATING TODAY!**

We look forward to see you all again next time

Find us online  
at [www.energytrackandtrace.com](http://www.energytrackandtrace.com)

