

Energy Track & Trace

European cooperation on real-time tracking of sustainable energy.

September 2021

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Energy Track and Trace is your
real-time digital proof that
sustainable energy choice actually
makes a difference

Who is Energy Track & Trace?



East Germany and Belgium



Estonia



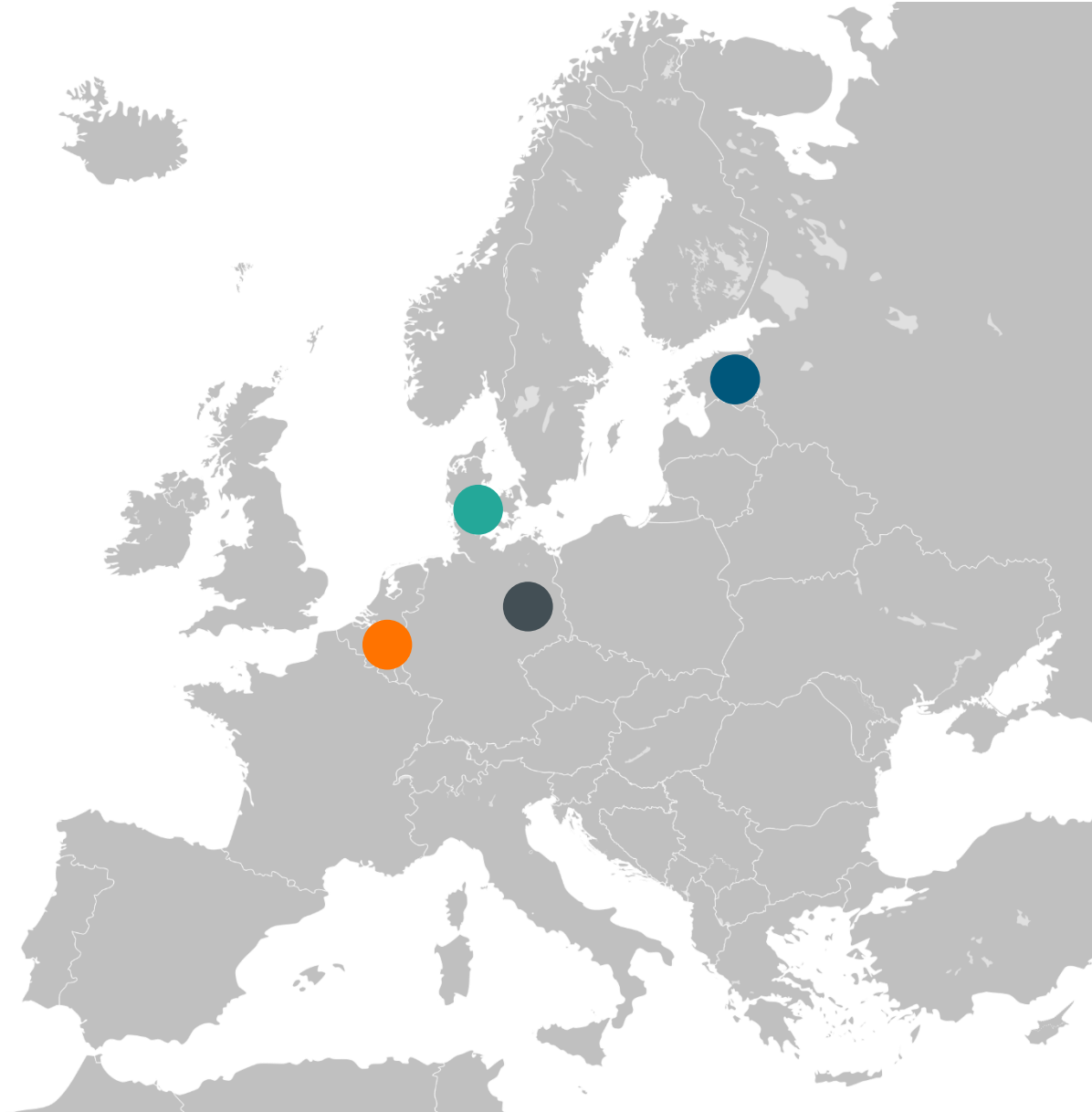
Denmark

Warm Welcome to

Corporate Consumers who want to be meaningfully sustainable.

Energy Producers and Suppliers who are providing the clean energy.

TSOs who are facilitating the green energy transition.



Agenda

1. Purpose and ambitions
2. Keynote speaker – Google
3. Challenges
4. Hands-on part
5. Round-table



Our goal of today:

- Establish understanding of the project
- Do you want to join?



The Essence

European Co-creation to set new standards

- Create a strong core group of corporate partners and large group of followers
- Test and prototype cross-border mechanism – for real
- Contribute to a regulated, standardized system, that works across Europe towards a common standard for granular certificates (GC)
- Develop a stronger European perspective on granular certification and provide insights for policy makers

How to make a difference?

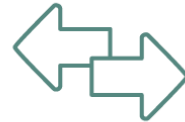
Corporates are becoming the **Energy Transition leaders** and we see increasing **competition for renewable sources**. Making a **credible proof to be sustainable** is a competitive advantage towards customers and capital markets.

The consumption of **high quality renewable electricity** is essential and this is based on two pillars:



Simultaneous

Consume energy when renewables are actually available.



Locational

Ensure that the energy can be delivered.



The challenge to get there is huge. **So let's get started!**

How will we achieve this?

As consumers and suppliers, you will...

- Give input on expectations, needs and current hurdles.
- Use the tools provided in the pilot to test energy tracking based on your real metering data in order to better understand the situation of today and set ambitious 24/7 green targets – sourcing renewables internationally.

As TSOs, we will...

- Pilot a harmonized real-time tracking solution, in accordance with the EnergyTag guidelines.
- Demonstrate cross-border tracking in order to reflect the needs of our international customers.

Find a common approach to promoting the results of the pilot in our countries as well as international media, in order to highlight that we make a difference.



STEP 1
Design



STEP 2
Test



STEP 3
Launch

Communication

Keynote Speech

Google Keynote Speech

Challenges to solve

Harmonization is key to unleash the full potential of granular tracking.



Energy Track & Trace is an ambitious European cooperation to co-create and harmonize digital solutions that allow all grid users to track the origin of renewable energy from source to consumption – in near real-time and across borders.

We want to enable **fully carbon-neutral processes and products** and support the ambitious **decarbonization efforts of consumers** – by providing a transparent and widely accepted system, tailored to their needs.

Production (Issuance)



Transaction and Transport



Consumption (Matching)

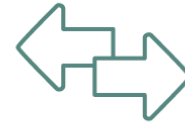
Temporal and locational matching are first big challenges to solve

Moving forward towards a common standard.



Temporal matching

Consume energy when renewables are actually available.



Locational matching

Ensure that the energy can be delivered.

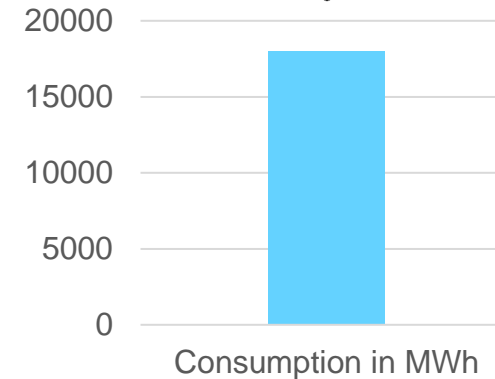
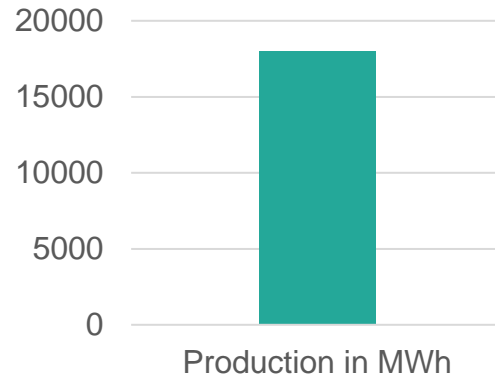
Many others are about to follow...

Why temporal matching?

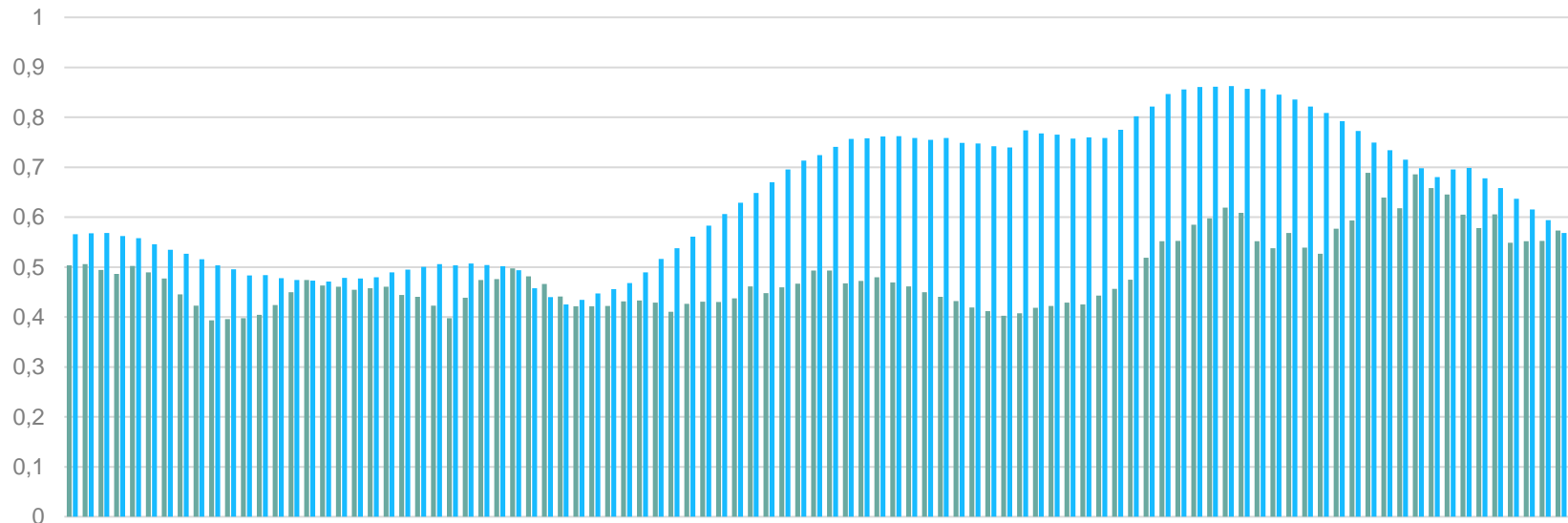


Temporal matching

Consume energy when renewables are actually available.



100% green on annual basis (based on Guarantees of Origins)

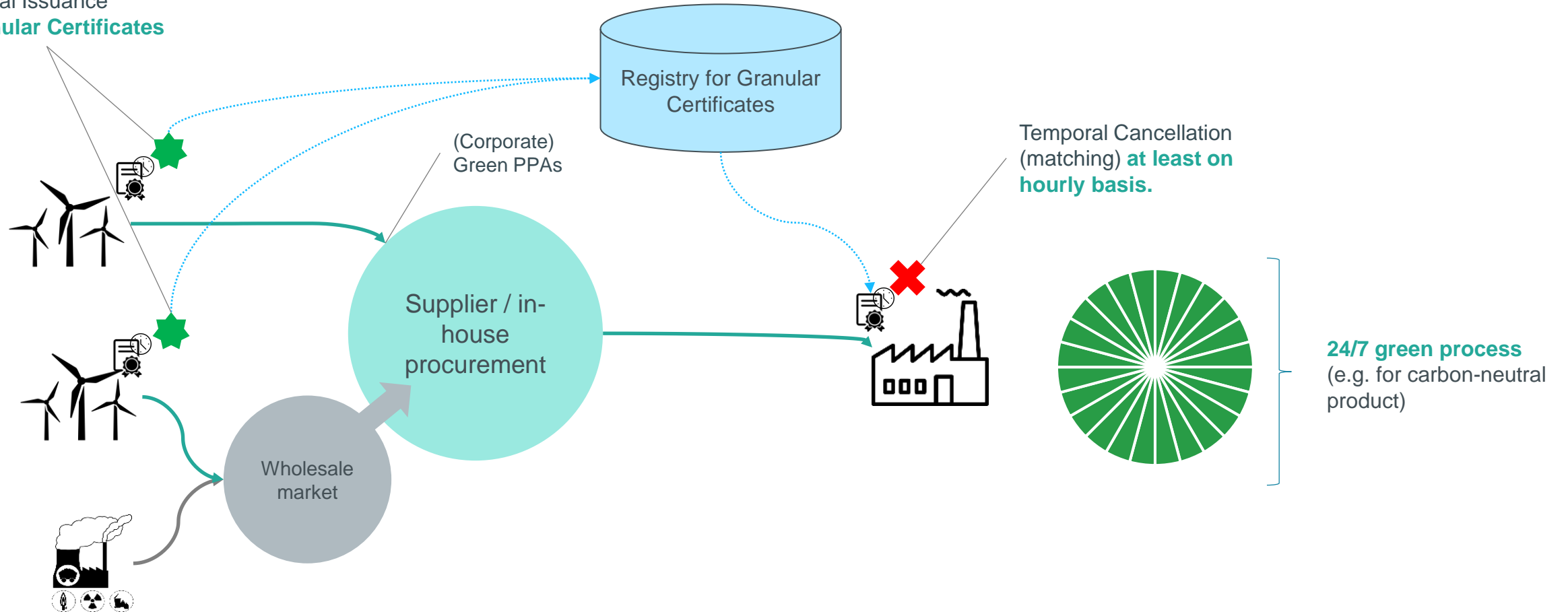


One exemplary day on 15min. basis.

How will temporal matching be realized?

A system wide approach that includes all renewable assets (portfolios/PPAs + wholesale trades).

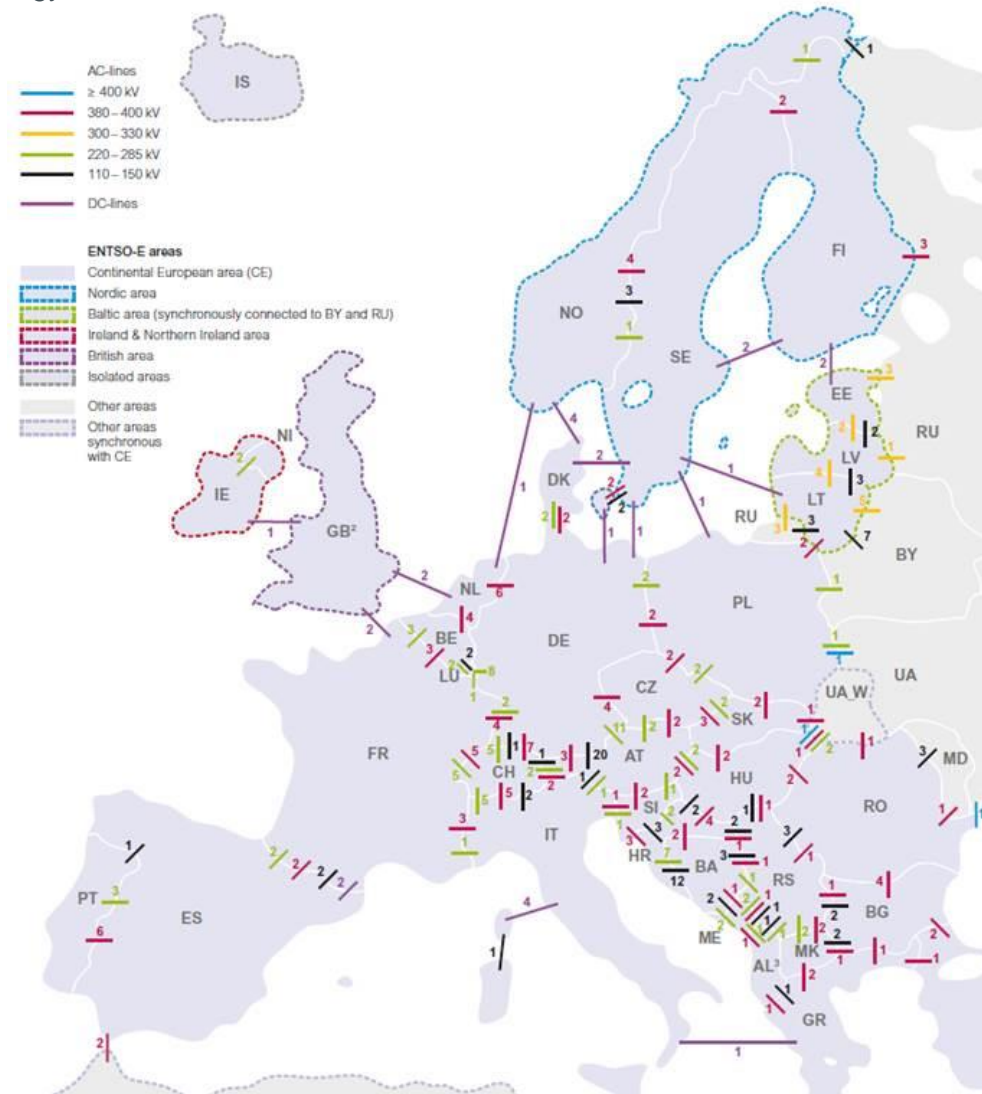
Temporal Issuance of **Granular Certificates**



Why Locational matching?

Locational matching

Ensure that the energy can be delivered.



- **Interconnected** European electricity network: **electricity markets are not limited** to their bidding zones, BUT
- **Transfer capacity** not infinite.
- In order to effectively **reduce carbon emissions**, **deliverability** of electricity must be ensured.

Assumptions:

- **Within a bidding zone** deliverability is given (nature of a bidding zone).
- Across **bidding zones**, deliverability needs to be determined.

How will locational matching be realized?

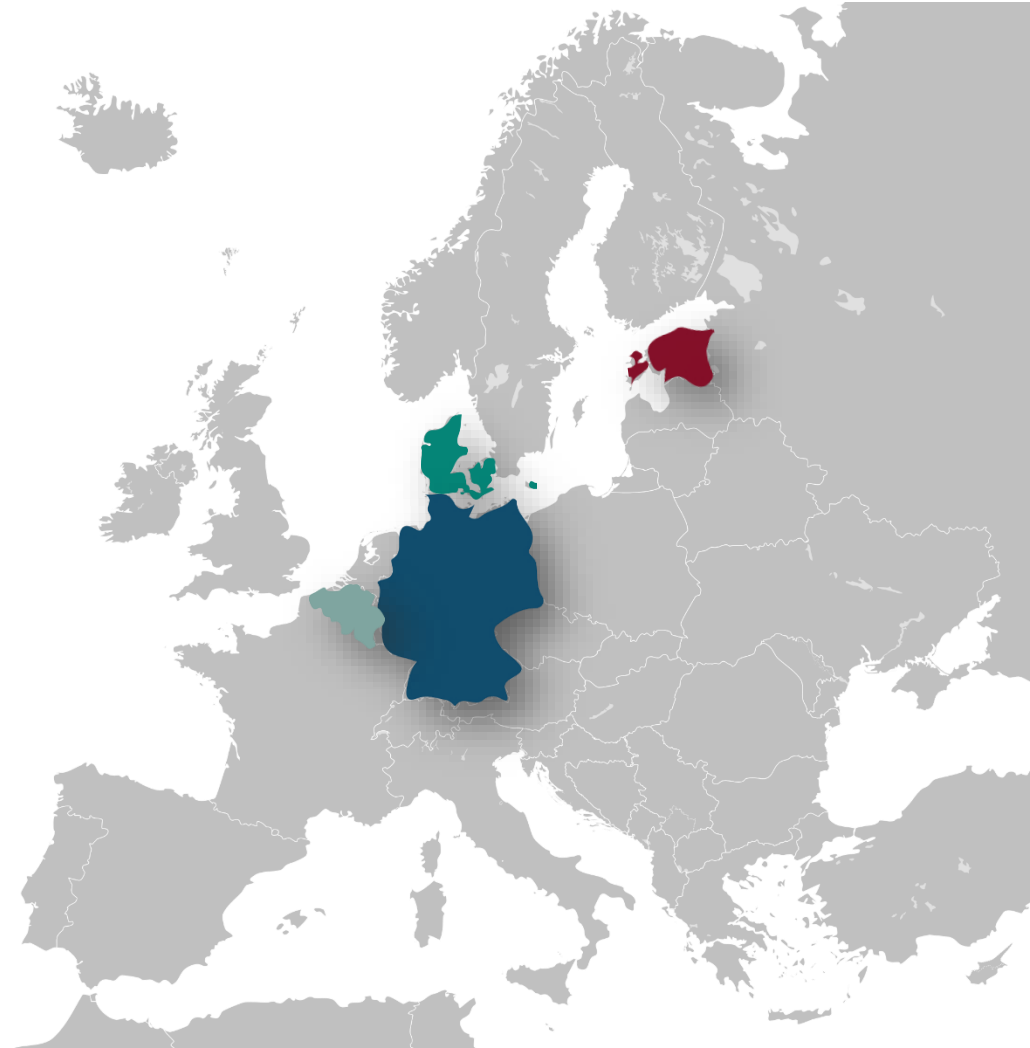
A step-wise approach will have to be taken – much in line with the evolution of the wholesale electricity market.

1

- Introduction of **standardized markets** for Granular Certificates in a **higher number of bidding zones**.
- Increasing number of corporates and suppliers concluding **Green Cross-Border PPAs**.
- Emerging **wholesale markets** for Granular Certificates.



Need for **first introduction of a cross border mechanism**.

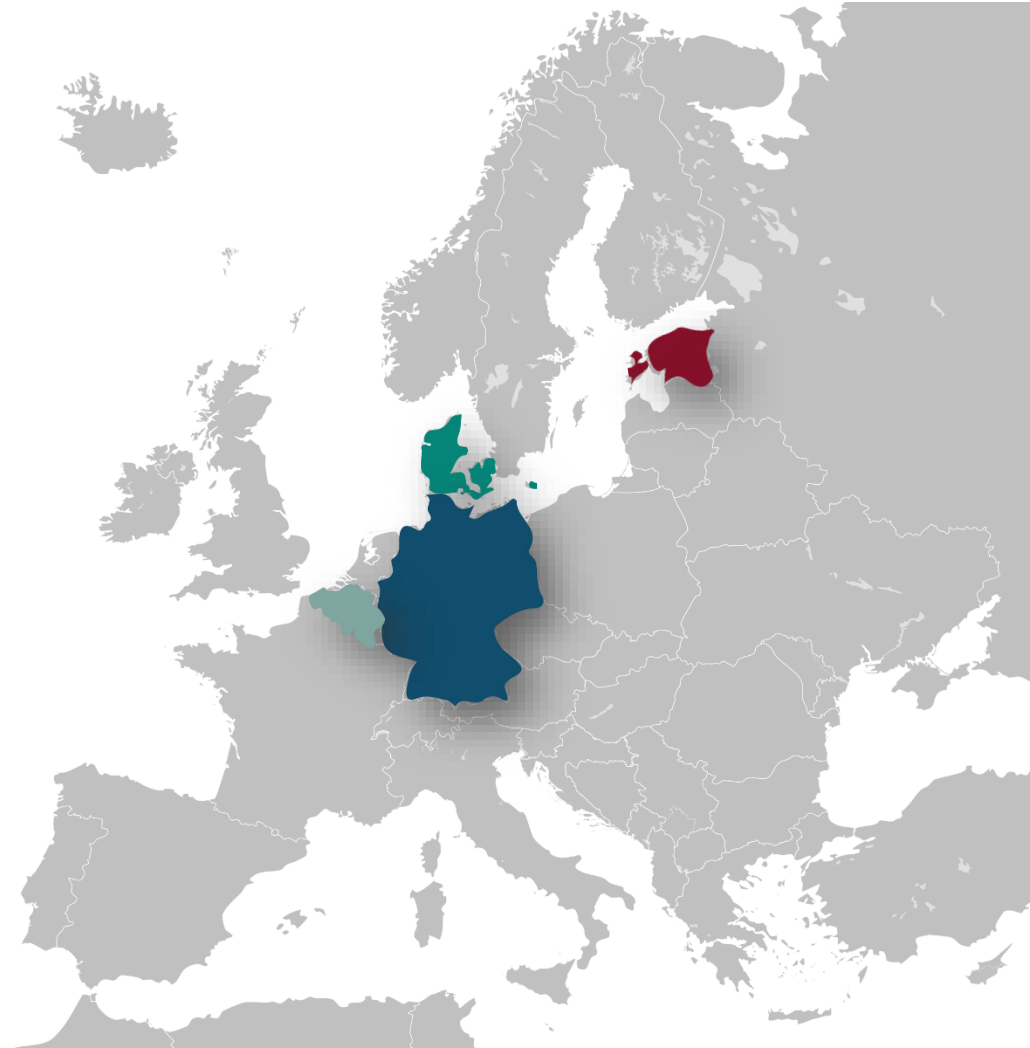


How will locational matching be realized?

A step-wise approach will have to be taken – much in line with the evolution of the wholesale electricity market.

2

- TSOs introduce a **reservation system (auctioning system)** for cross border capacity, where users can **request transfer capacity**.
- The transfer capacity is based on **fixed values**, between **pairs of bidding zones** (price is zero, until demand exceeds the available volume).
- Capacity can be used **either for cross border PPAs** (bilateral) **or for arbitrage** between wholesale markets for Granular Certificates.



How will locational matching be realized?

A step-wise approach will have to be taken – much in line with the evolution of the wholesale electricity market.

3

At a much later stage...

- The volume traded on the wholesale markets is increasing and leads to a **well formed price of Granular Certificates per bidding zone**. Next step would be the **implicit coupling of markets**.
- To ensure **compatibility with cross-border PPAs**, a **new capacity product** will have to be introduced.



Are we all on board?

What are your questions?

Hands-on part

Let's get things done.

Timeline



Sep 2021 – March 2022

Design
Phase 1

TSOs build the system

Partners provide feedback

The TSOs need feedback to make sure it is moving into the right direction. Feedback during three workshops.

April 2022 – December 2022

Test
Phase 2

TSOs do system testing

Partners test in safe environment and prepare 24/7 strategy

No cost, based on actual data. Preparations for go-to-market. Developing communication and branding.

2023

Launch
Phase 3

TSOs launch the system

Partners buy and sell GCs

Go-to-market, launch as voluntary system that will be potentially regulated. Pave the path as we go.



Commitments from partners

Sep 2021 – March 2022

Design

Step 1

Partners commit to:

Providing feedback

One workshop every 2 months workshops on concrete challenges.

make sure it is moving into the right direction. Feedback during three workshops.

June 2022 – December 2022

Test

Step 2

Partners commit to:

Share data
Invest time for testing
Develop a 24/7 strategy
 (including communication strategy)

System on actual data. Risk-free testing in a safe environment. Partners develop strategies.

2023

Launch

Step 3

Partners commit to:

Buying and selling GC
 as much or as little as fits your strategy

Go-to-market voluntary system that will be potentially regulated. Pave the path as we go.

A novel approach to co-creation. What do we need?

- What do you think?
- What do you expect to get out of the initiative?
- What are the obstacles for this initiative?
- At what level do you want to commit?
- What will you need?

Thank you for attending

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