

The German System of Guarantees of Origin

Recommendations for the further development
Severin Sylla



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Guarantees of Origin (GoOs)

Guarantees of Origin are the main tool to prove the origin of electricity from renewable sources.



A GoO certifies that **1 MWh** of electricity has been produced from renewable sources



GoOs are **traded internationally** (independent of electricity trading)



A GoO can be used to label electricity as „green“ during **12 months** after issuance



How green is green electricity?

Guarantees of Origin in Germany

The facts



Germany is the largest net importer¹ of GoOs in the EU

~140 TWh (2022)



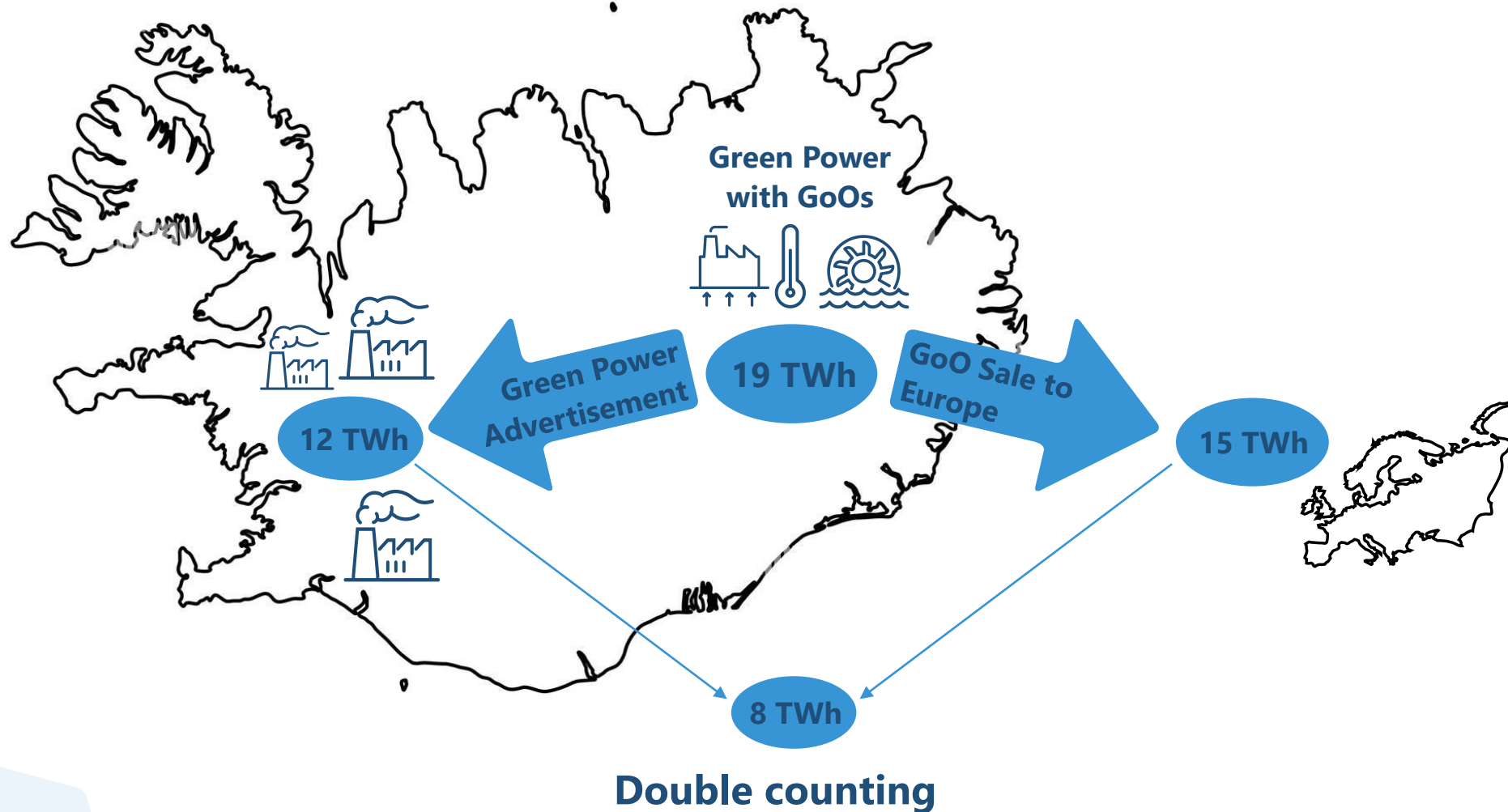
Around 90% of GoOs in Germany come from hydropower (mainly from scandinavia)



80% of German suppliers offer at least one green electricity product

Problems of International GoO Trading

Example: Double counting green electricity



Guarantees of Origin in Europe

The status quo does not reflect the current and future demands of a renewable energy system.

- The majority of GoOs in Germany come from **Scandinavian hydropower**.
- There is **evidence for double counting** of large quantities of green electricity.
- From the corporate side, there is **great international demand** for a more transparent market of GoOs which accurately reflects production and consumption of renewable energy.

- In the InDEED project, we developed a data-driven platform which enables **transparent and tamper-resistant high-resolution electricity labeling**.

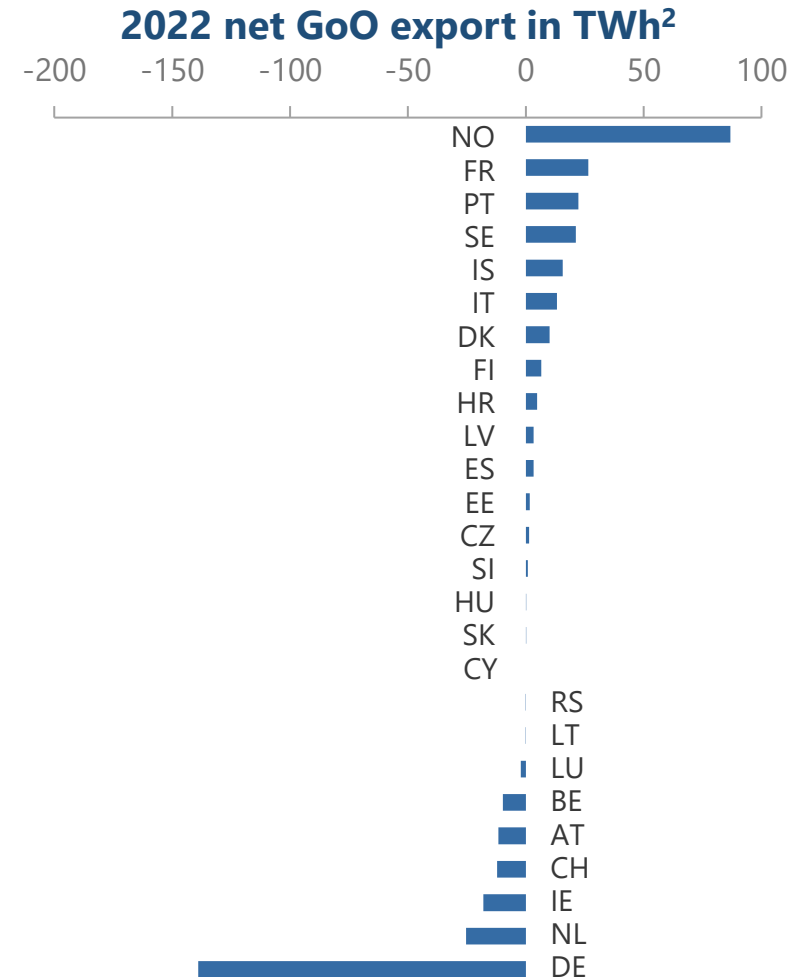


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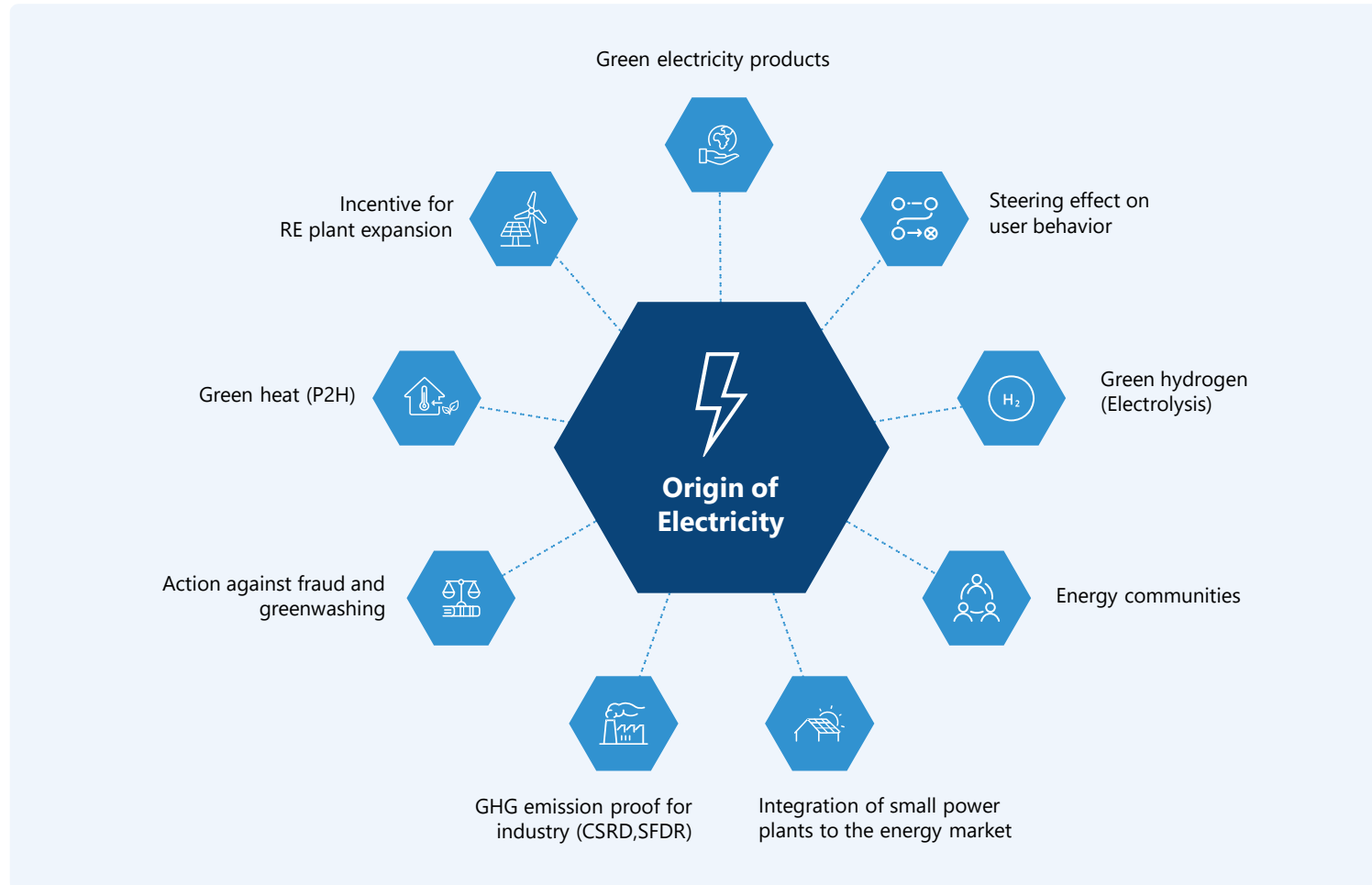
Federal Ministry
for Economic Affairs
and Climate Action

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Applications of electricity labeling

Numerous current and future applications require more detailed information about the origin of electricity.



Status Quo

The guarantee of origin system in its current design has very little impact on the energy transition.



Added value through green electricity labels



Investment incentives through increasing demand for CSR



Transparency



Support of energy communities



Temporal coupling of generation and consumption



Spatial coupling of generation and consumption



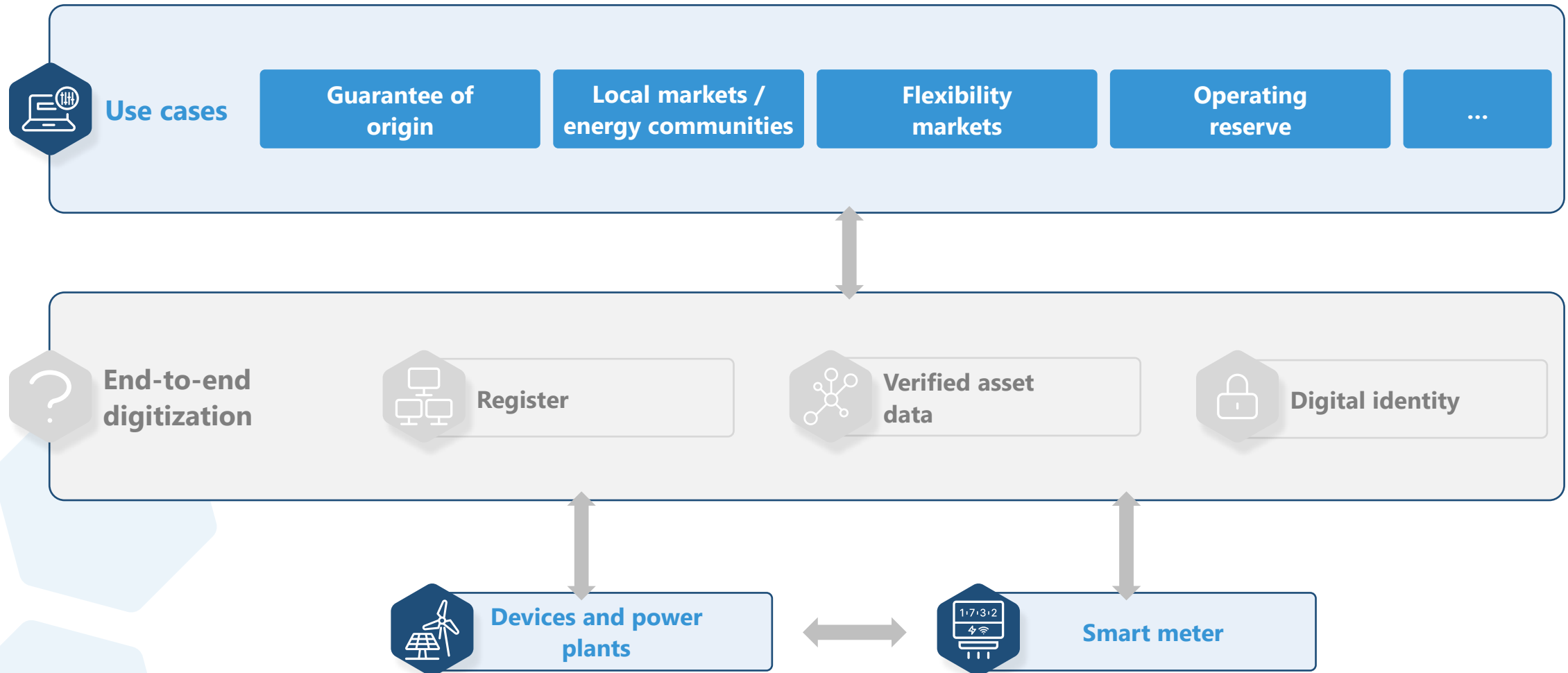
Investment incentive with increased supply in case of double marketing deregulation



Incentive for new RE-plants

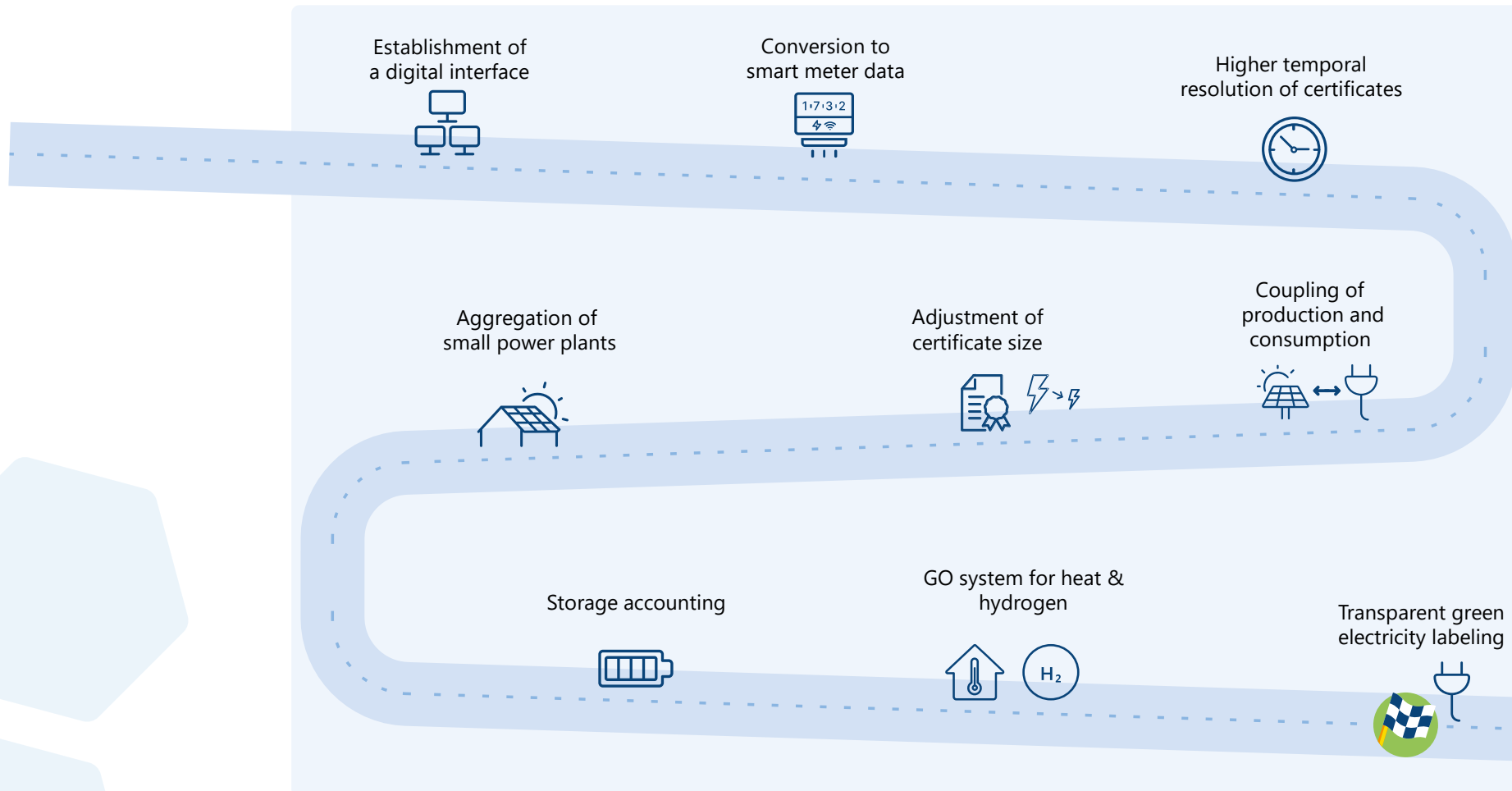
Target

The energy transition requires end-to-end digitization.



Recommendations for the GoO System

The guarantee of origin register can be adjusted gradually.



Guarantees of origin and green electricity products have very little impact on the energy transition.

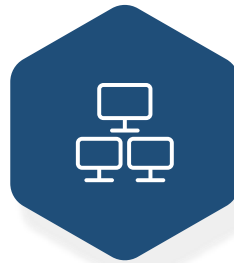
Today's green electricity products are no longer sufficient for many applications in the energy industry.

End-to-end digitization forms the basis for future-proof electricity labeling.

Outlook



We are in **dialogue with the German Environment Agency** about the further development of the GoO register.



In the **DIVE project**, we implement and test high-resolution GoOs and other use cases in an ecosystem around digital machine identities.



We are gathering a consortium to implement a **CO₂ emission monitoring solution** for industrial applications.

Contact



SEVERIN SYLLA

Research Associate
Forschungsstelle für Energiewirtschaft e.V.

+49(0)89 15 81 21- 85

SSYLLA@FFE.DE



ALEXANDER BOGENSPERGER

Head of Digital Innovation and Data Analytics
Forschungsstelle für Energiewirtschaft e.V.

+49(0)89 15 81 21-38

ABOGENSPERGER@FFE.DE

FfE
Am Blütenanger 71
80995 Munich
Germany

