For Our Environment

Umwelt Bundesamt

HKNR
Herkunftsnachweisregister

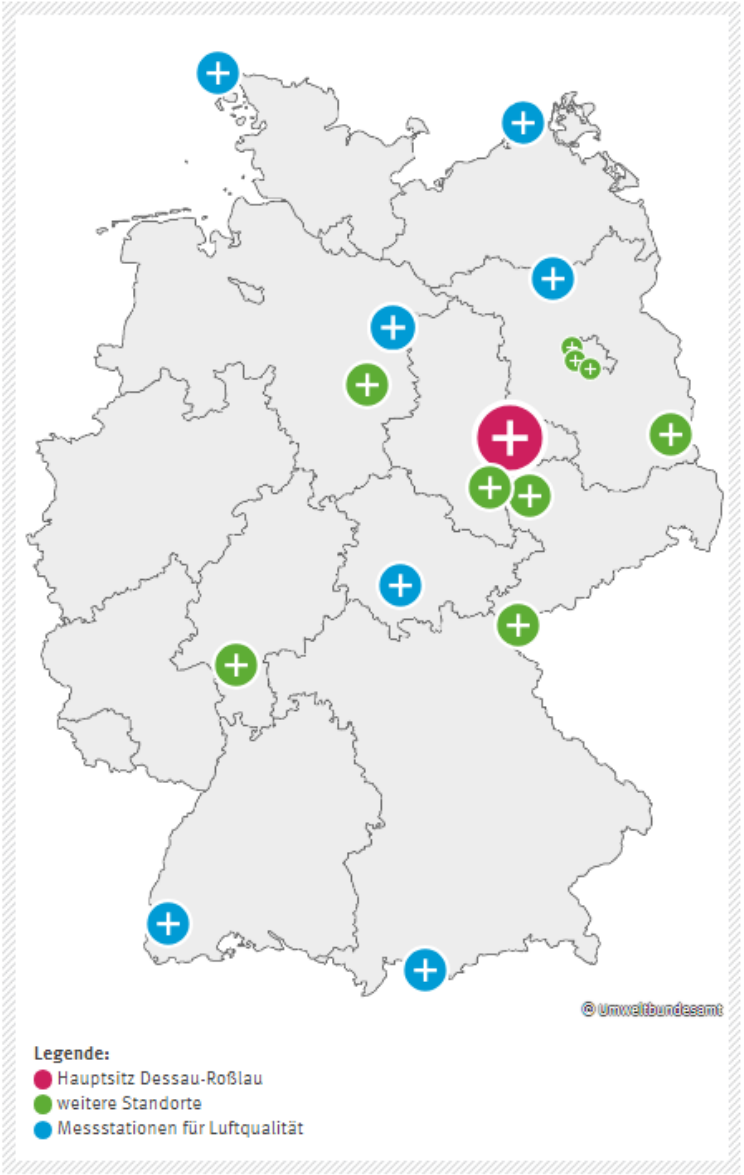
29.6.2026: Exchange TIER and UBA/HKNR

HKNR – The German GO Register

German Environment Agency | Umweltbundesamt
Elke Mohrbach, Kerstin Peter, Elisabeth Schöley, Anton Stolle
Sections V 1.7 / V 1.9

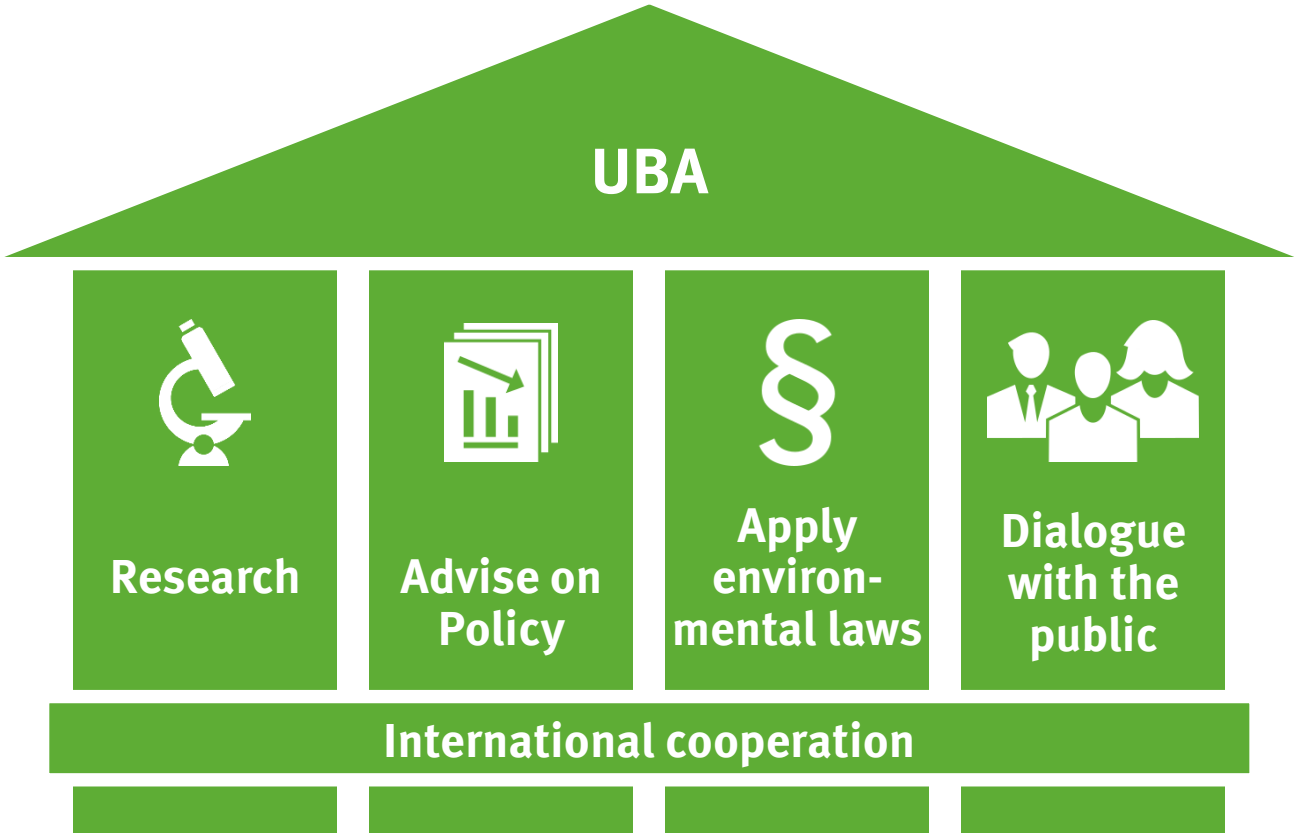
German Environment Agency

- founded in 1974
- subordinate authority of the Federal Ministry for the Environment (BMUKN)
- more than 2,000 employees
- 20 locations in Germany
- main location is Dessau-Roßlau



Tasks of the German Environment Agency (UBA)

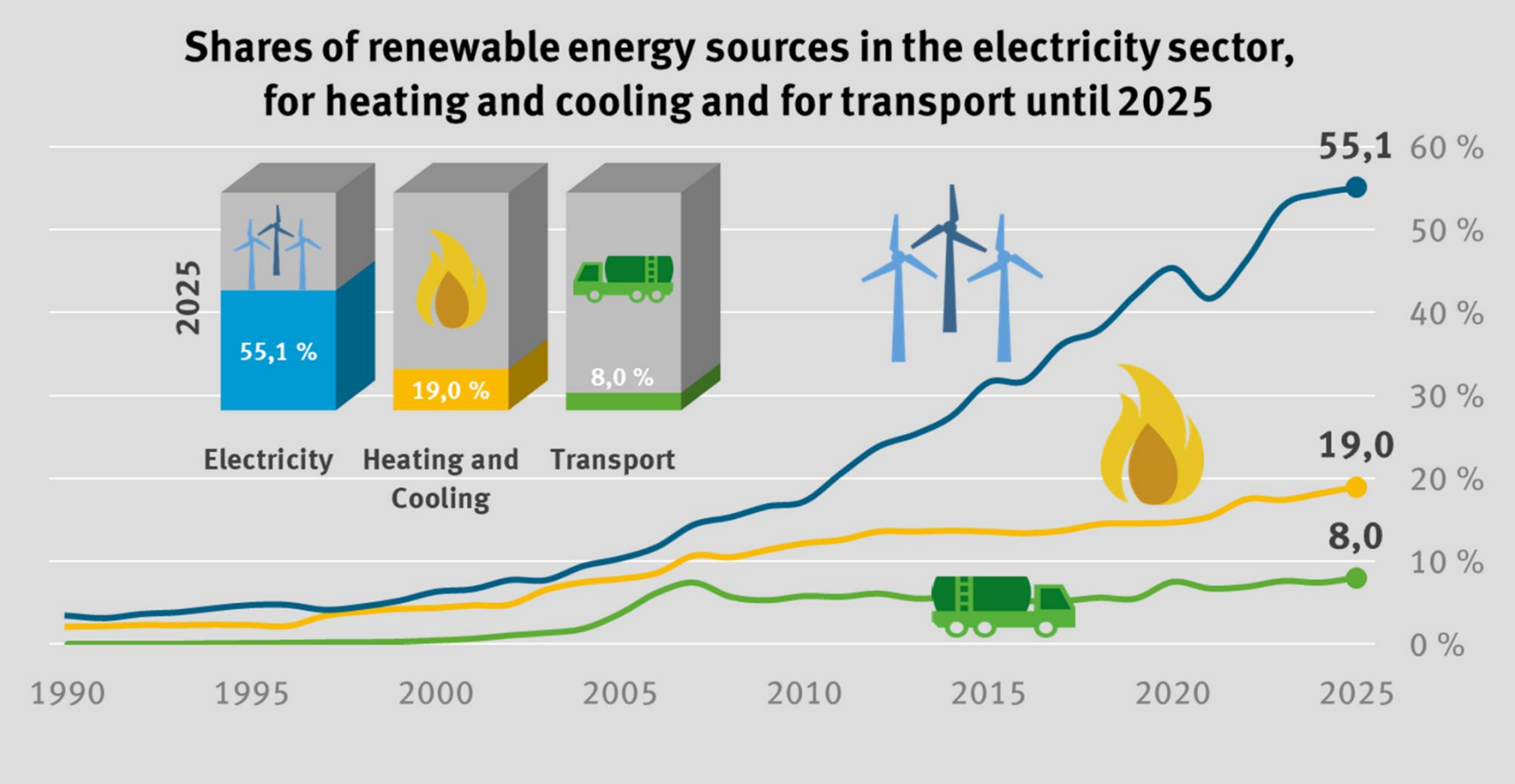
Our task:
to improve the state of the environment,
or at least ensure that it does not deteriorate



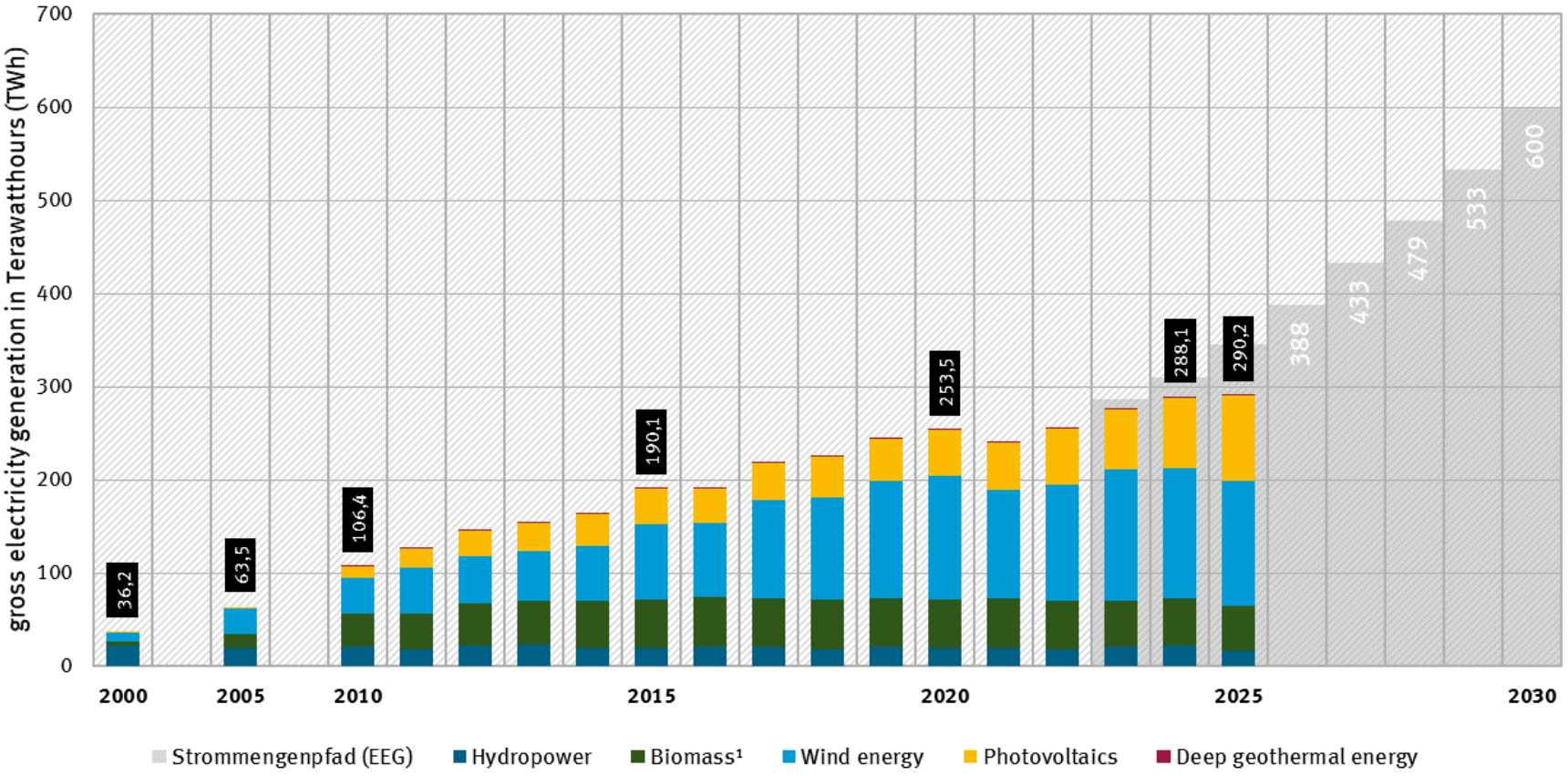
The German GO register

- 33 employees working on the German GO register
- Our mandates:
  - Competent Body for Germany to issue GOs
  - Registrar (software runs on servers of our software provider)
  - First level support for users
  - Administrators
  - Legislator on level of Ordinances
  - Supervisory authority for electricity disclosure of renewable electricity
  - Improvement of German/European GO/Disclosure System
  - Member of European Association of Issuing Bodies (AIB), applying EECS-Rules, using a central interface (hub)

Development of renewable energy share electricity, heating, traffic 1990-2025



German Renewable Electricity Production 2000-2025 and Goal 2030



¹ incl. solid, liquid and gaseous biomass, sewage sludge
and the biologic fraction of waste (in waste incineration plants estimated at 50 %, from 2008 only municipal waste)

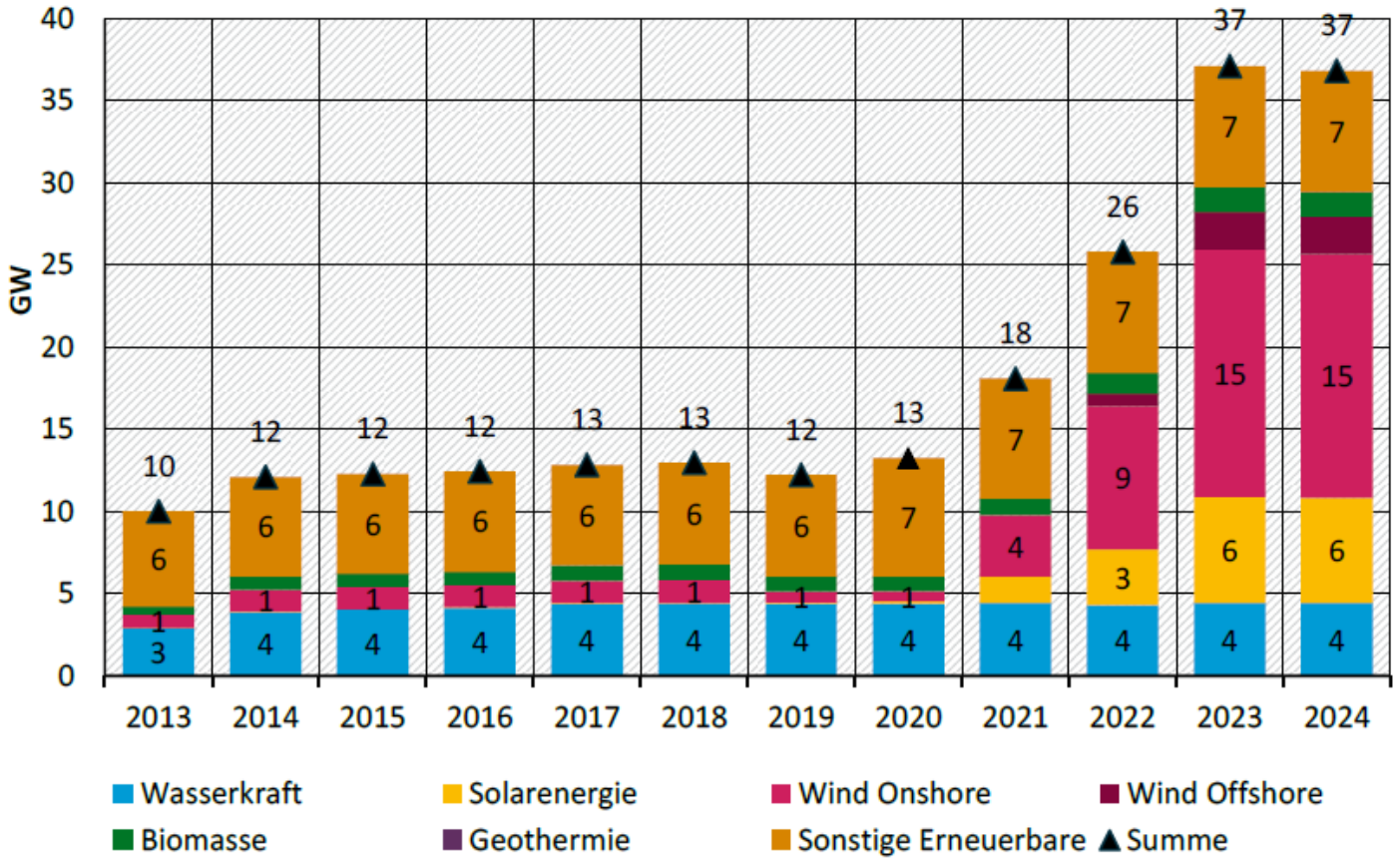
Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of February 2026

GOs only for unsubsidised renewable energy

- GOs are only issued for renewable electricity generation that is not subsidised
- GOs as a tracking instrument
- Subsidised renewable electricity is disclosed to every consumer in the energy products with its share in the production mix

Installed Capacity by Energy Source in HKNR

Abbildung 1: Anlagen im HKNR nach Energieträger

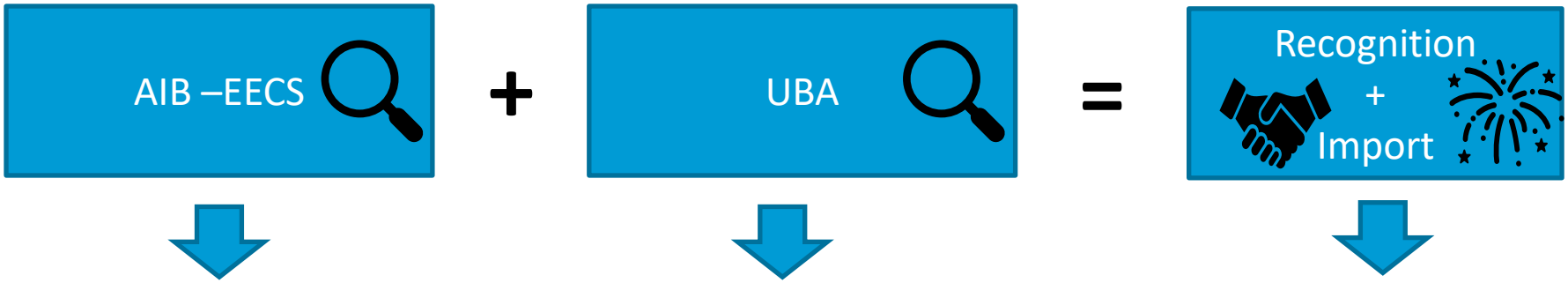


Quelle: eigene Darstellung auf Basis eigener Auswertungen des HKNR (Datenstand 12.2023), r2b energy consulting GmbH

Recognition, international Transfer

INTERNATIONAL TRANSFER VIA AIB HUB

RECOGNITION OBLIGATION OF MEMBER STATES

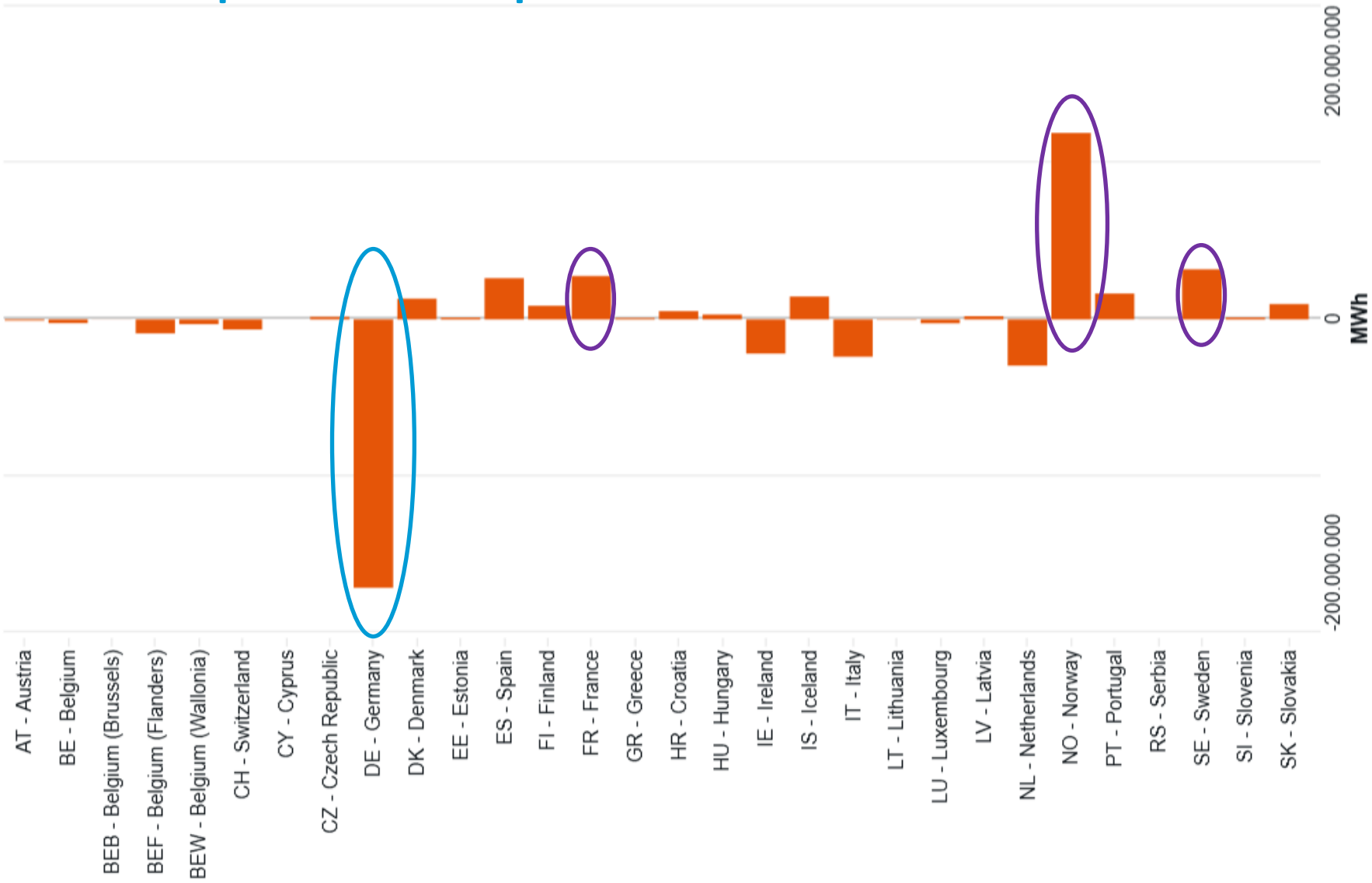


EECS COMPLIANCE CHECK HUB ACCESS

LEGAL COMPLIANCE CHECK

PASSING BOTH ENABLES IMPORT

AIB Net Importers and Exporters 2025



History of GOs in Germany Part I

since 1998: **Unbundling** of grid operation and electricity trade (EnWG 1998)

1998/1999: First suppliers claiming to sell green electricity enter the German market

2000-2012: Öko-Institut runs a GO register for Germany, voluntary basis

2003: EU introduces the **obligation for suppliers to publish an electricity disclosure** (Directive 2003/54/EG (EMD)).

2009: **Directive 2009/28/EC (RED) -** EU further regulates the market for green electricity tariffs. **GOs are introduced to ensure the green claims of suppliers** are backed by actual renewable production.

2009: **Directive 2009/72/EC (EMD)** requires electricity suppliers to **disclose** their **energy mix in the energy bills of consumers**.

History of GOs in Germany Part II

2011: **UBA becomes issuing body for electricity GOs**

2013: **Start of register „HKNR“** – UBA runs the new electricity GO register

2018: **Directive 2018/2001 (RED II)** introduces GOs for gas, hydrogen, heating and cooling

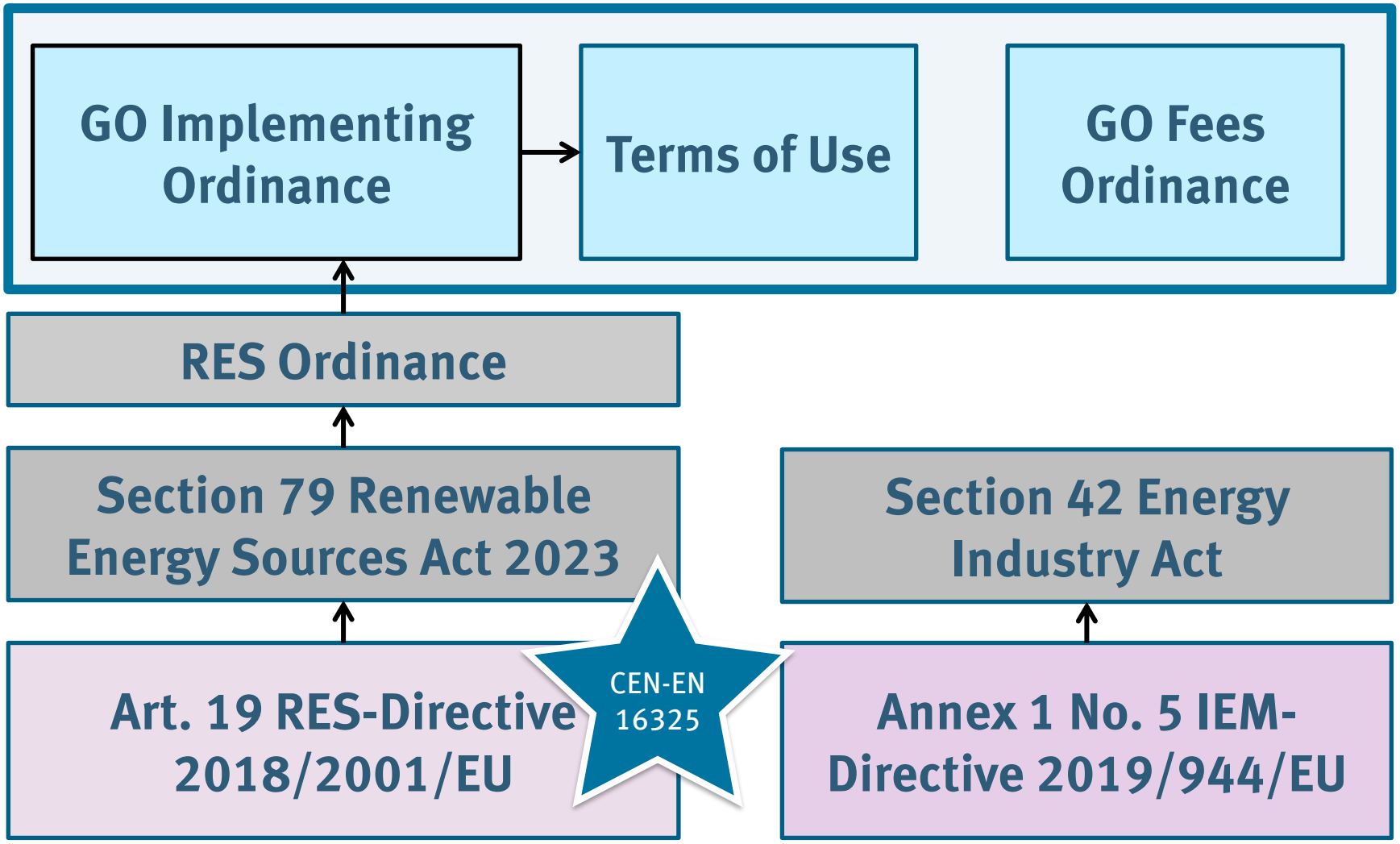
2019: **Start of register for Guarantees of Regional Origin (RNR) for subsidised renewables** as a national instrument

2023: German energy market law (§42 EnWG) requires that **electricity disclosure has to show the country of origin of the underlying GOs**

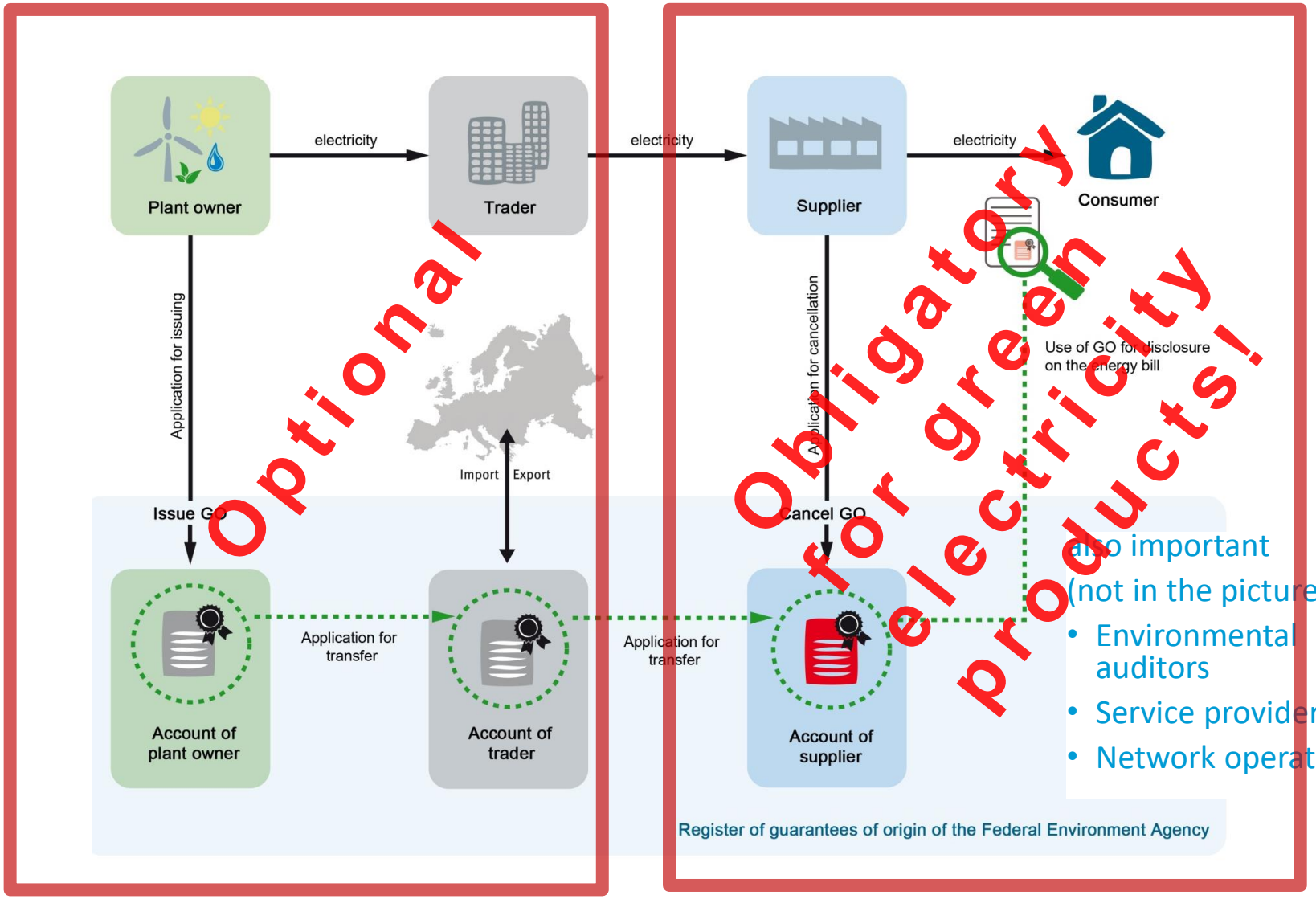
2023: with implementation of RED II into national law (GWKHV) UBA becomes issuing body for GOs for gas, hydrogen, heating & cooling

today: planning of the new GO-registers for gas, hydrogen, heating & cooling

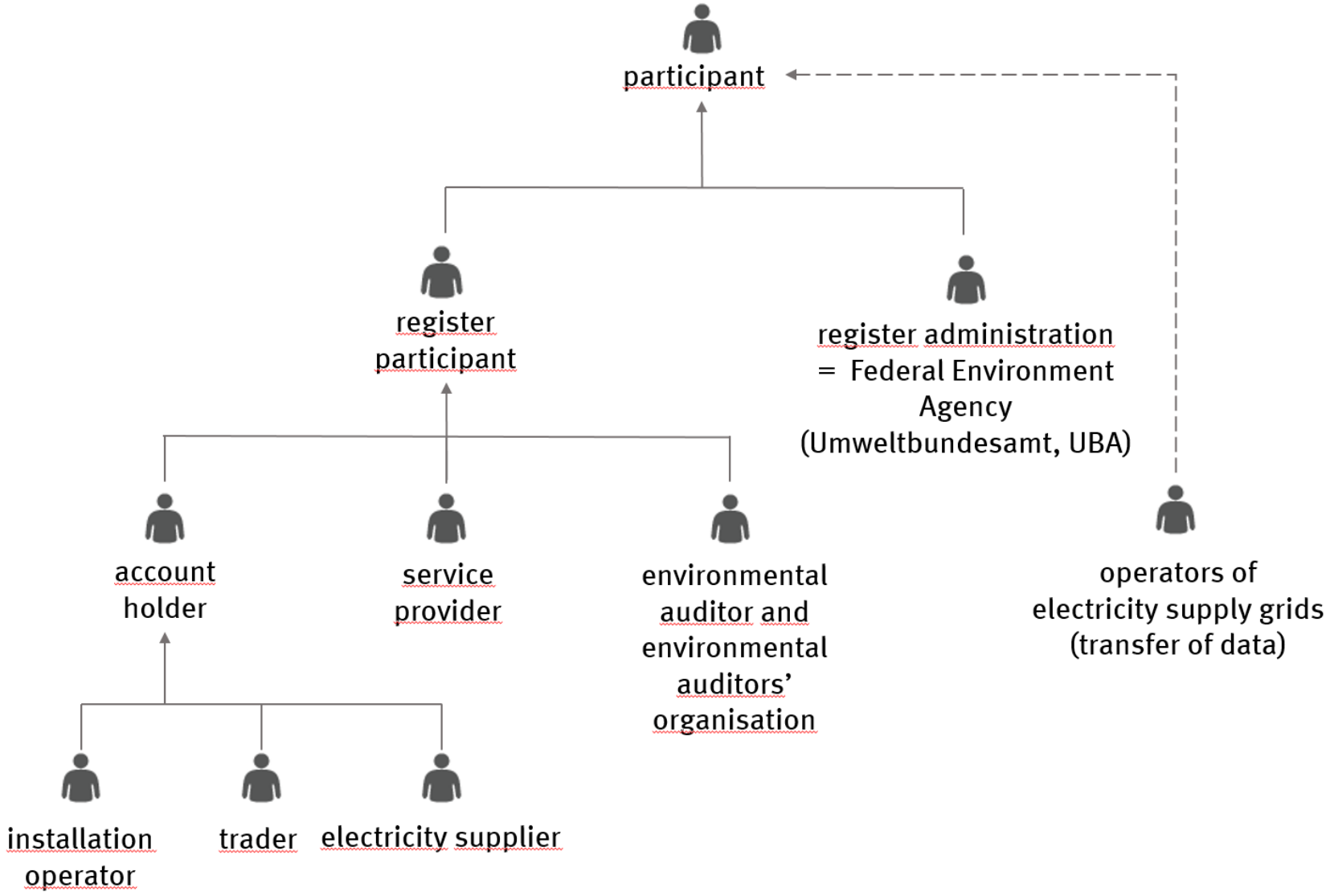
Legal Basis of the German Electricity GO Register



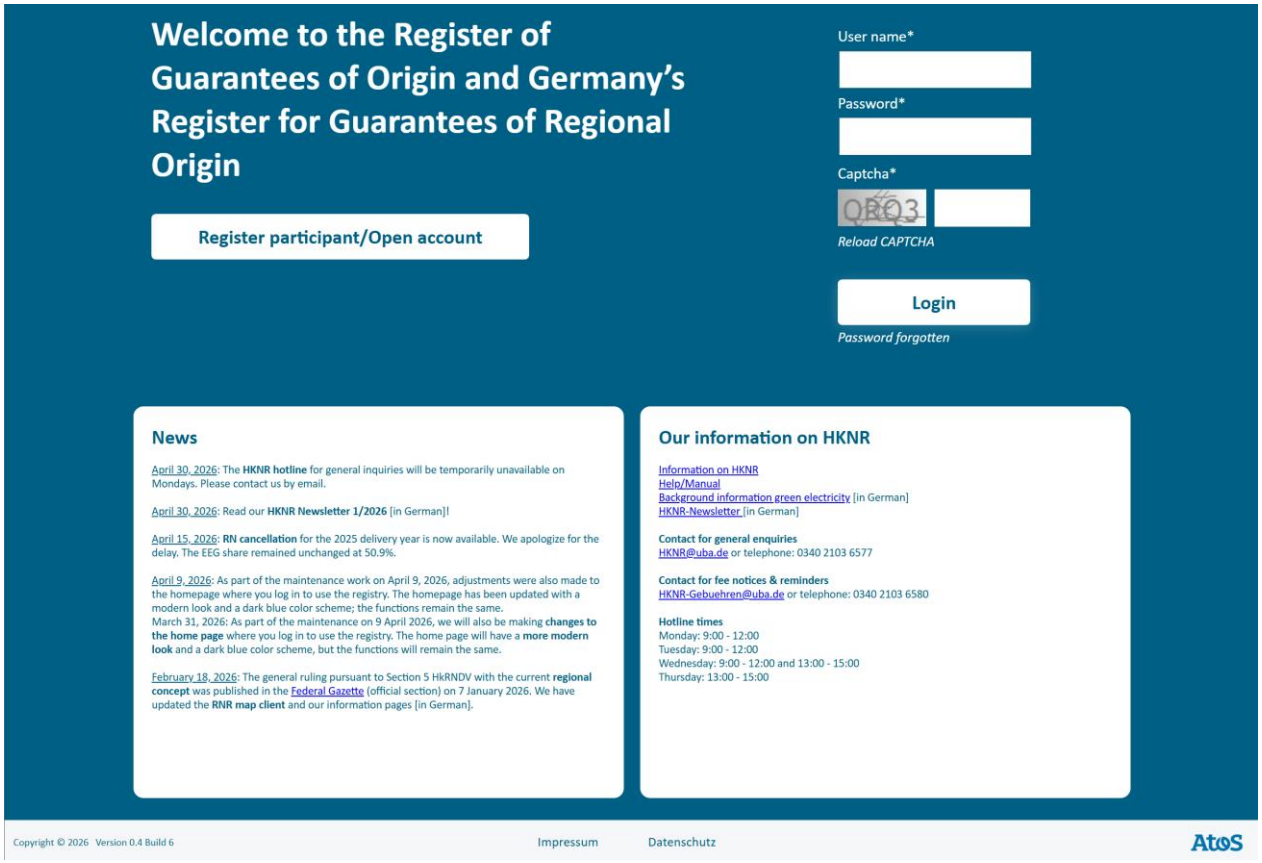
Process Flow Chart of the German GO register



Concept of Roles in the German GO register



Operational Mechanisms of GOs - Register



www.hknr.de

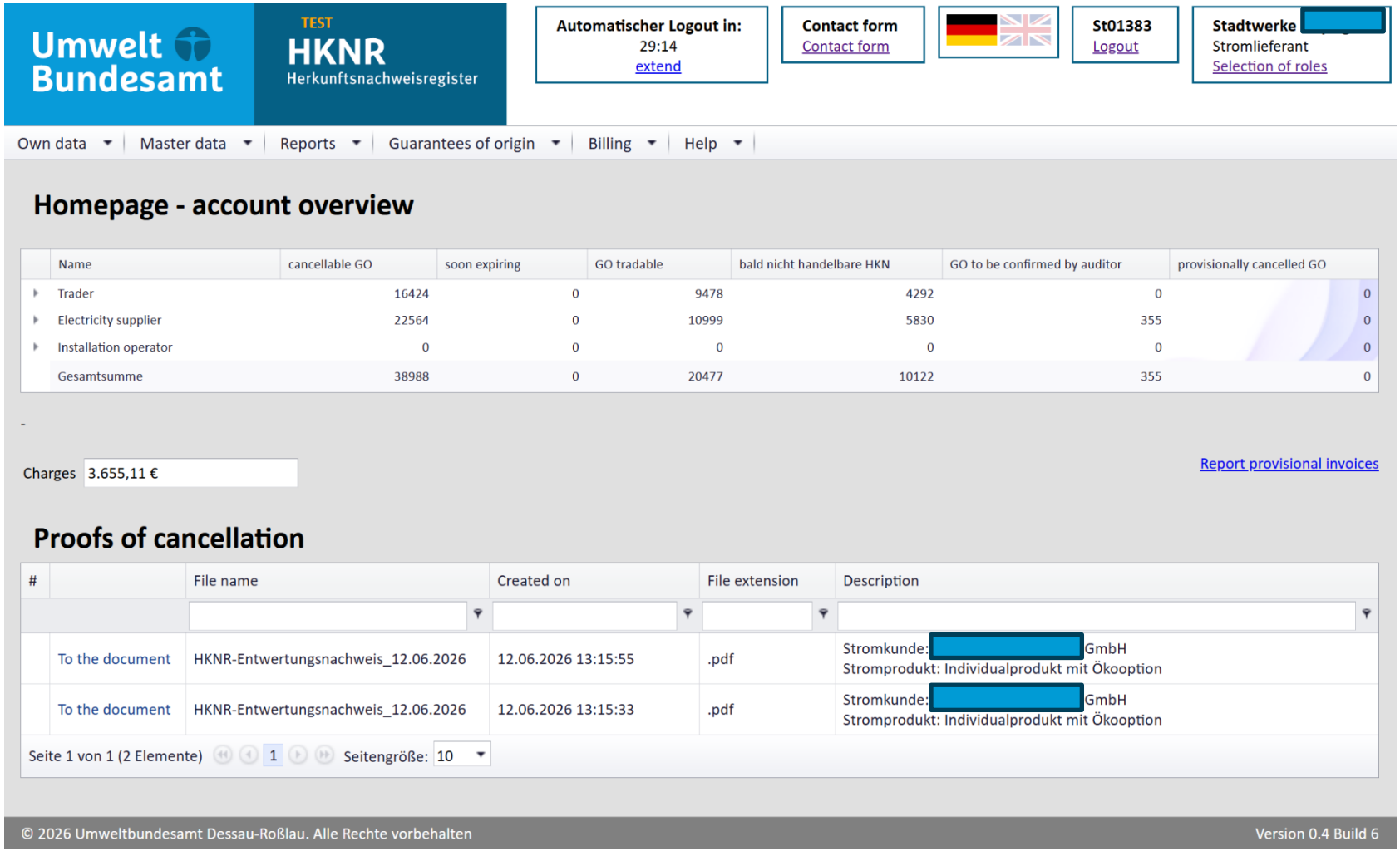
Atos/Eviden Austria

Support:

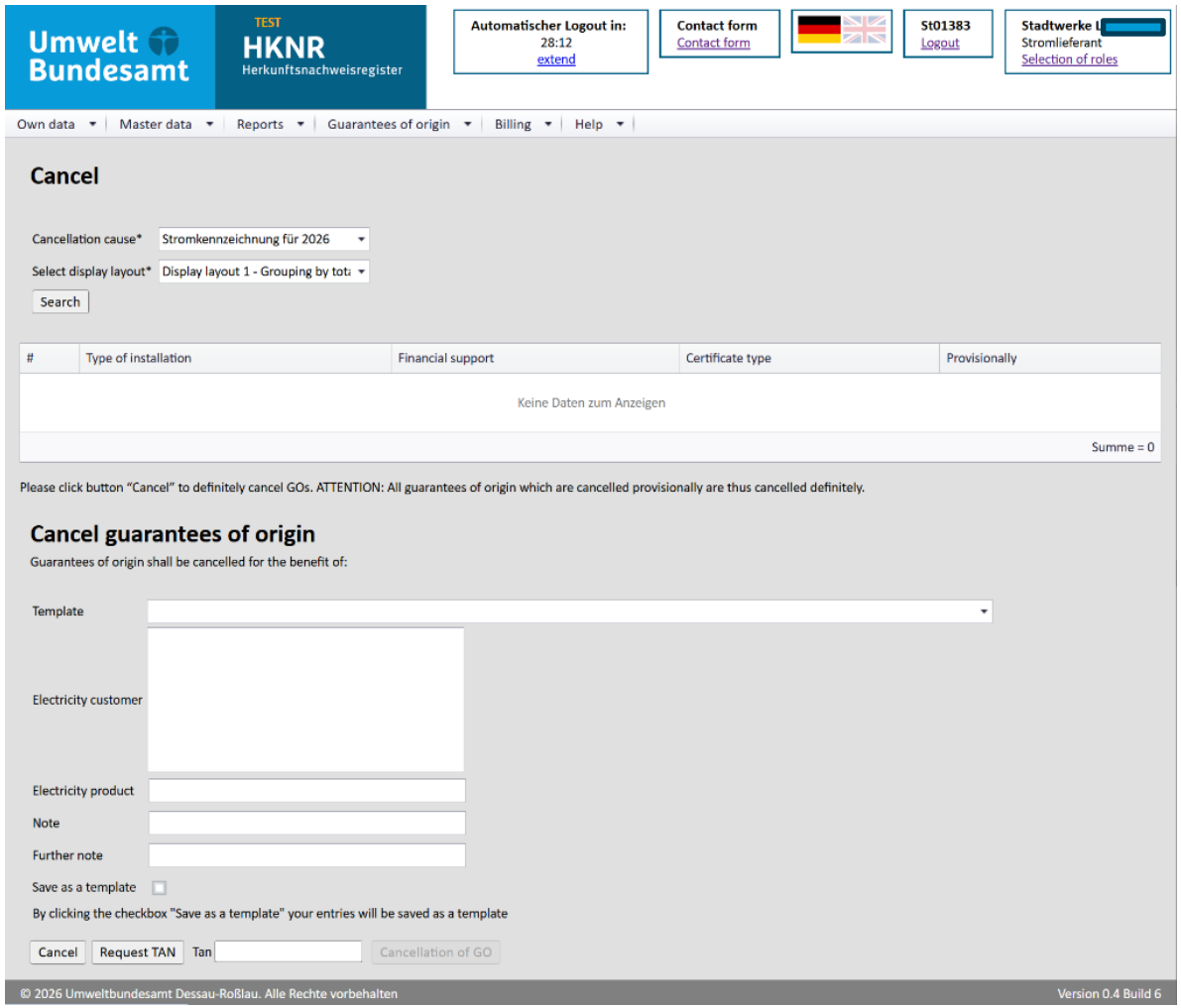
1. handbooks, information sheets, publications…
2. email
3. phone hotline
4. newsletter

two-factor authentication

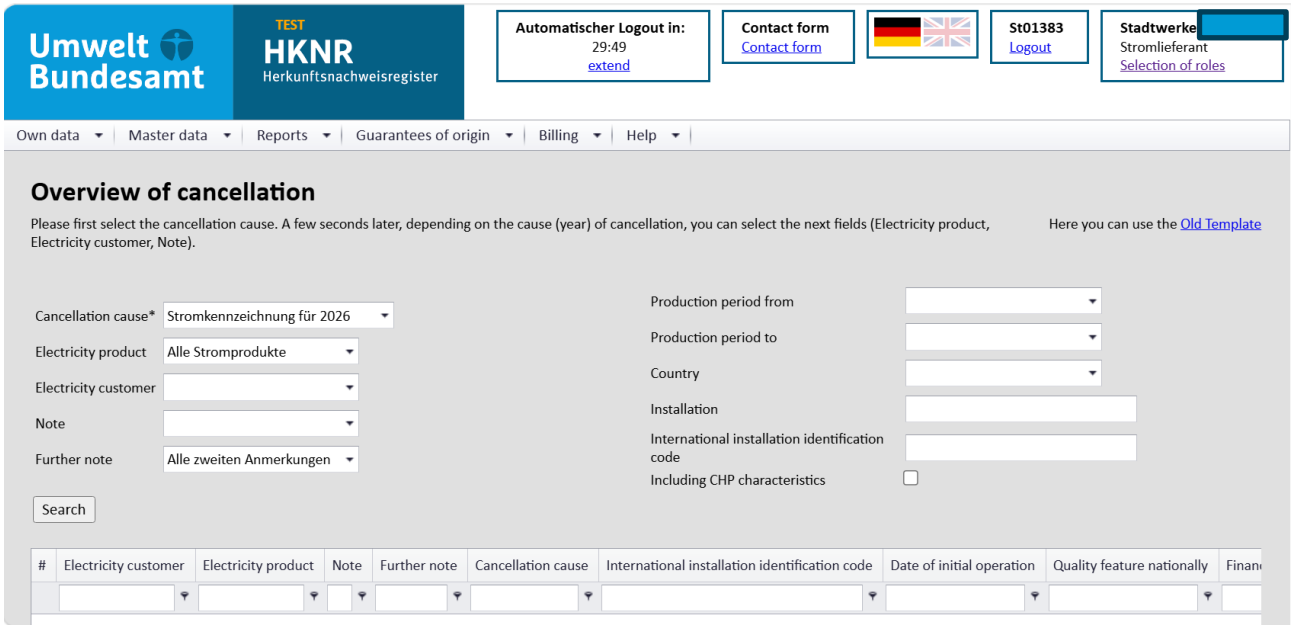
Operational Mechanisms of GOs – Homepage



Operational Mechanisms of GOs – Cancellation



Operational Mechanisms of GOs – Cancellation report



Report contains:

Electricity customer
Electricity product
Cancellation cause
International installation ID code
Date of initial operation
Financial support
Coupling feature (yes/no)
Date of cancellation
Transaction number
Country
Production period
Technology code
Energy source
Certificate number from
Certificate number to
Quantity
Electrical gross capacity
…

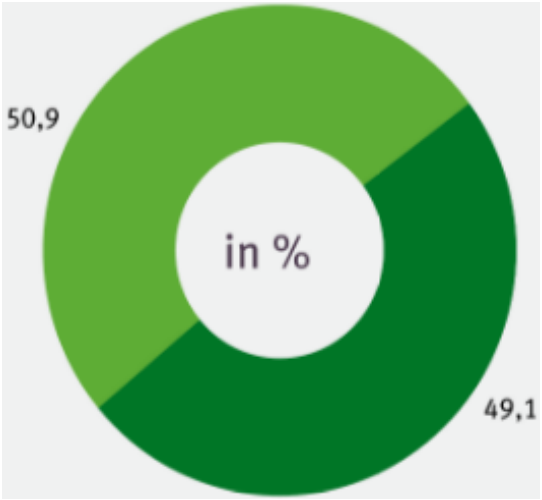
Steps for disclosure with GOs

1. **Registration of participants and power plants in the German register**
2. **Issuing of GOs for renewable electricity**
3. **Transfer of the GOs; international transfer via the AIB HUB of the established European Energy Certificate System (EECS)**
4. **Cancellation of the GOs by the electricity supplier for the purpose of electricity disclosure**
5. **Disclosure and information on countries of origin every year on 1st of July**

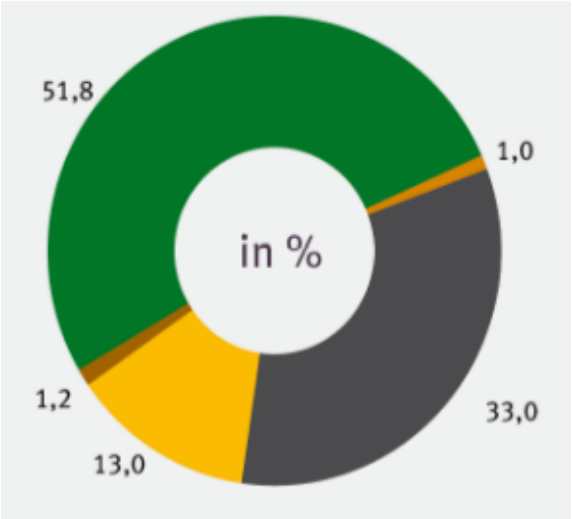
Electricity disclosure: market-based mix and location-based mix

Lieferland der Herkunftsnachweise	Anteil
Deutschland	50 %
Norwegen	30 %
Schweden	20 %

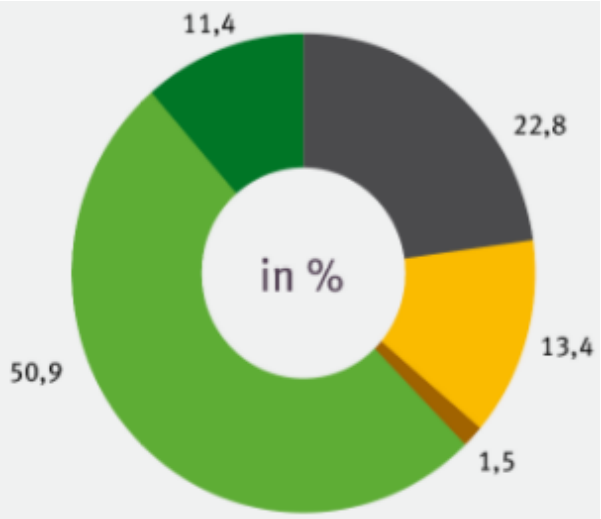
PRODUCT MIX



SUPPLIER MIX



GERMAN ELECTRICITY MIX



renewable energy, supported by the EEG

renewable energy with GOs

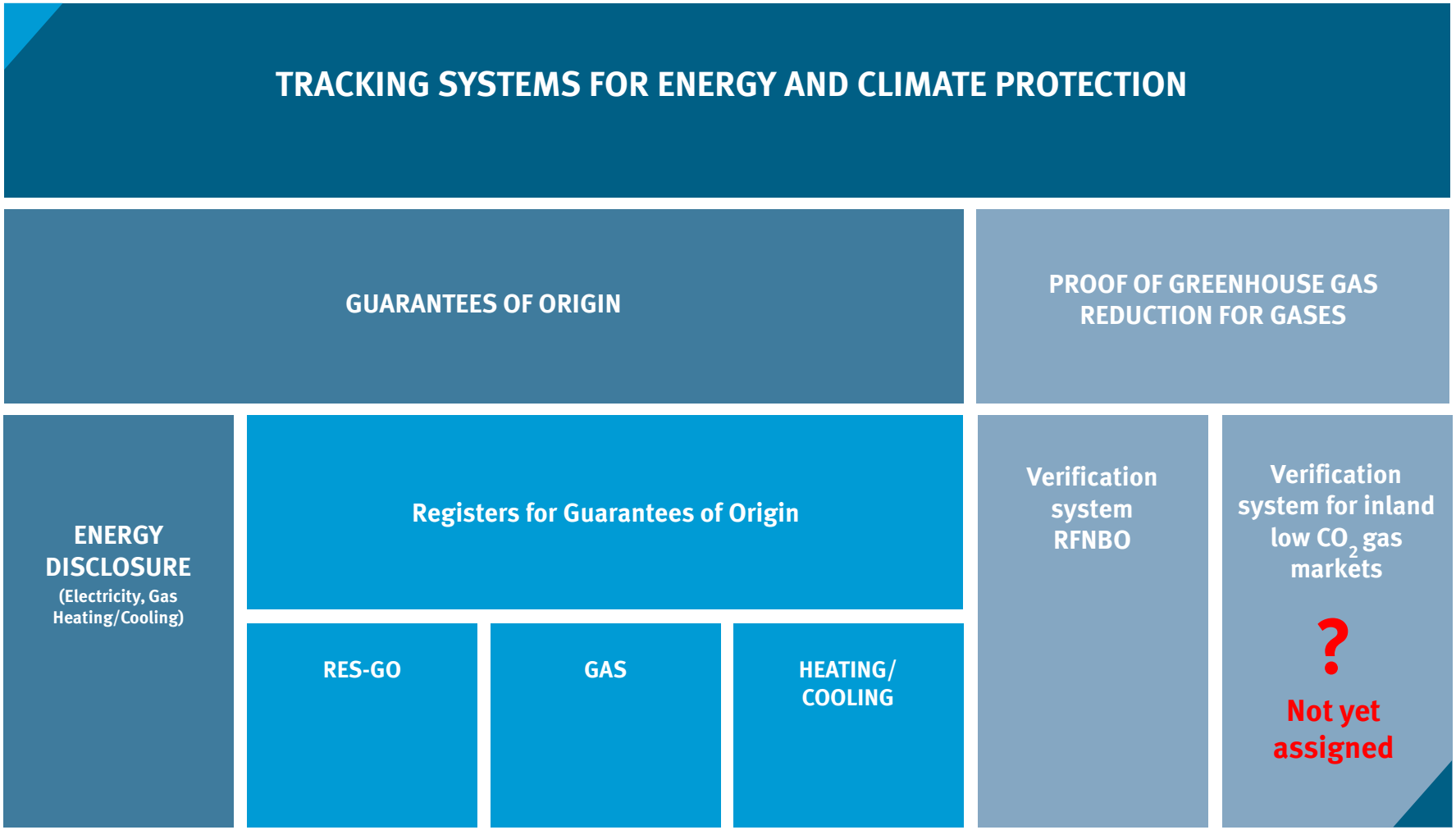
nuclear

coal

natural gas

other fossile energy carriers

Holistic approach: Concept for Tracking Systems for Renewable Energy

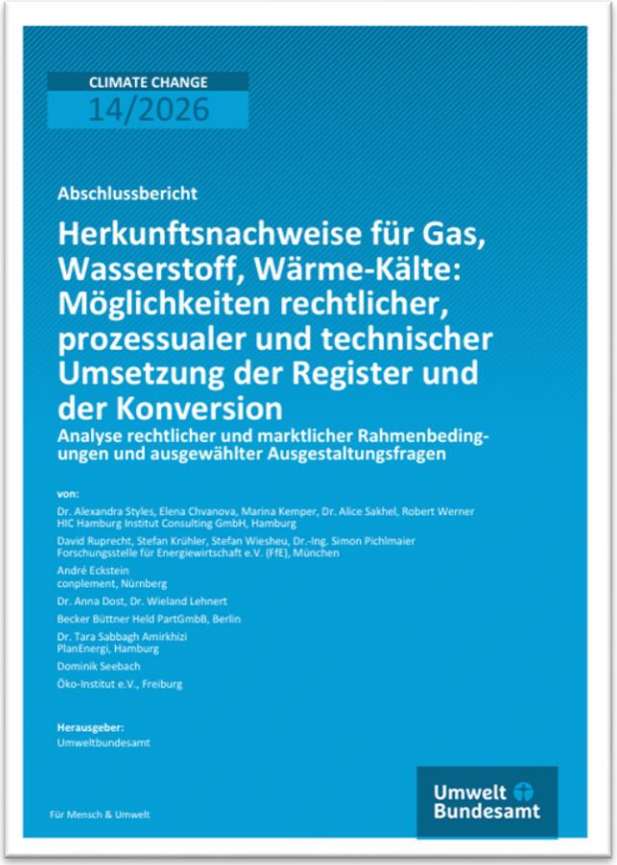


Research Project „Guarantees of Origin for Gas, Hydrogen, and Heating/Cooling: Options for the Legal, Procedural, and Technical Implementation of Registries and Conversion”

[PDF-DOWNLOAD, ENGLISH SUMMARY PP38-45)

Foundations for the practical implementation of GO systems for renewable and low-carbon gases, as well as renewable heating and cooling and unavoidable waste heat, and for the further legal implementation of the obligations under Article 19 of RED II

- Scope of Work for the New GO-Registers
- Description of Core Processes
- Analysis of Market Dynamics
- Assessment of Future Potential
- Legal Framework for the Implementation
- Description of Technical Processes



FKZ 37EV 22 103 0

Research Project - Relevant Results for Hydrogen

- market for green hydrogen and synthetic gases in early stage of development (2024)
- Unclear: Transferring structures of electricity and fossil gas markets to hydrogen market possible?
- hydrogen production and use will need government subsidies in Germany
- certification of RFNBO - hydrogen and derivatives are highly relevant
- Imports of hydrogen and synthetic gases will become increasingly important
- testing and verification processes were reviewed

Additional work package:
Expansion of the GO system to include low-carbon hydrogen

- Current and future market overview
- Legal context for the issuance of GOs

New GO registries for Gas: Work in Progress & Strategic Goals

Project group = 9 employees from our GO-Team **work on setting up the electronic registry**:

- Legal and technical requirements
- Process descriptions for the registry
- Drafting of the implementing regulation
- Drafting of the fee regulation

Strategic Goals

- Rapid implementation registry software for GO for gas, heating and cooling
- One-time implementation of common elements, shared across all registries
- Integration with the National Once-Only Technical System (NOOTS)
- Integration with AIB-HUB
- Portal as a holistic solution for all GO registers
- One-stop shop

Portal as a holistic solution

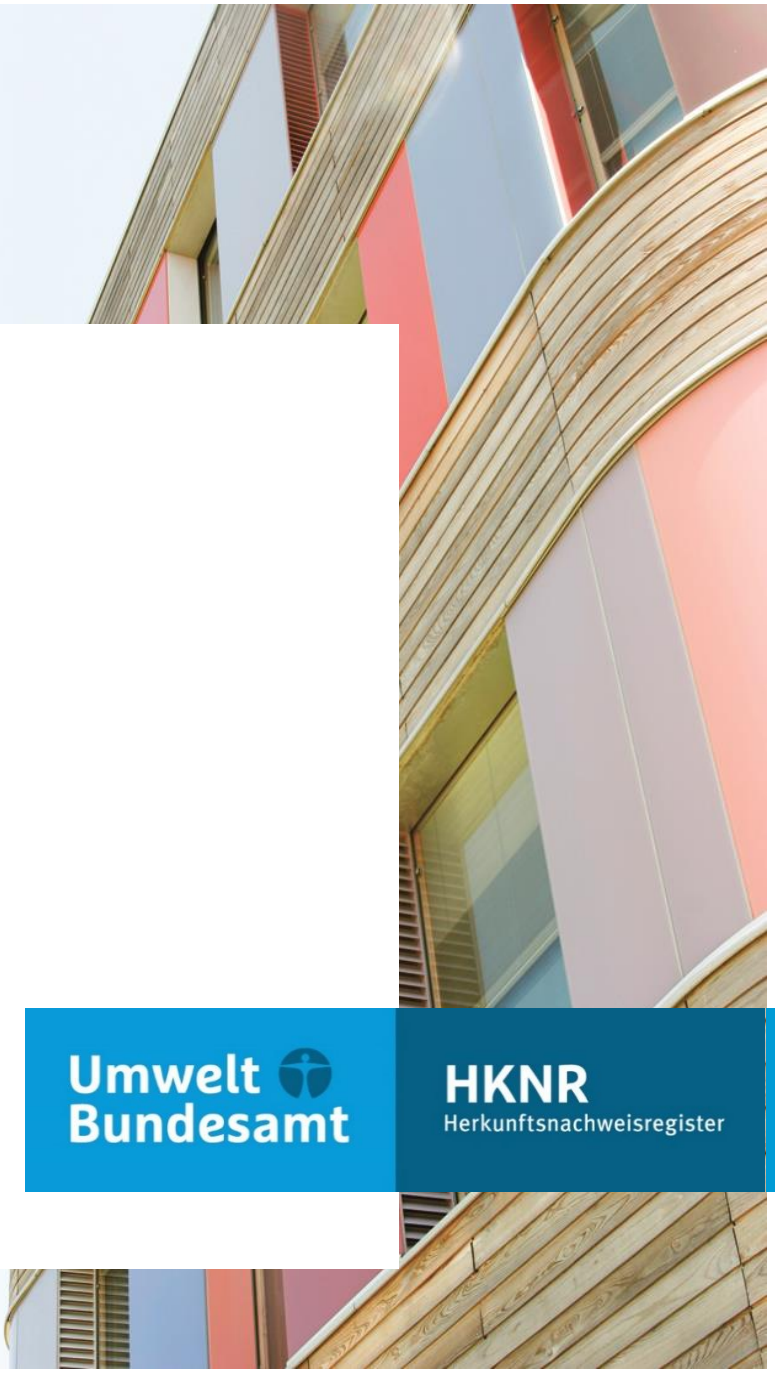


Thank you for your attention

Section V 1.7 / V 1.9
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Anton Stolle

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www.hknr.de



Umwelt Bundesamt

HKNR
Herkunftsnachweisregister