



**Hydrogen Europe**  
**Research**

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# **Policy Working Group**

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***17 March 2023***

# Agenda

1. Welcome & agenda
2. Updates on activities
  - Invitation to an event from ERIG on 22 March
3. Latest updates on EU institutions' activities
  - Electricity market reform
  - Net Zero Industry Act
  - Critical Raw Material Act
  - Hydrogen Bank
  - MEPs reaction to the delegated acts
  - E-Fuels
  - Other EU news (policy and funds)
4. Data, reports and studies
  - Clean Hydrogen Alliance roadmap on hydrogen standardization
  - Other data and reports



Updates on  
▶ activities

# Activities from members



The relevance of P2G and regional development in the energy crisis - March 22<sup>nd</sup> 2023  
at Thon Hotel in Brussels. *Event organized by ERIG*

## Agenda of the evening

18:00-18:30 Registration & welcome drinks

18:30-18:45 Welcome and introduction to the topic

Prof. Gerald Linke, ERIG president  
Prof. Marie Münster for SuperP2G

19:00-19:45 Opening statement followed by panel discussion

Prof. Gerald Linke for ERIG  
Prof. Marie Münster for SuperP2G  
Dr. Patrick Cnubben for Hy2Market/ HEAVENNN  
Thea Larsen for Ready4H2  
Hortense Lutz-Hermellin for S3 H2Valleys Platform

19:45-20:15 Discussion with audience

20:15 Come together and dinner buffet

Sign in [here](#).



# Latest updates on ▶ EU institutions' activities

# Publication of the electricity market reform



The [EC proposal](#) to reform the electricity market was unveiled on 14 March.

**Objective:** to improve the stability and predictability of energy costs for consumers, not by changing the merit order (last unit of production determines the cost), but by promoting access to more stable long-term contracts.

*“This does not mean that we will not eventually decouple the price of electricity from the price of gas”*

What are long term contracts?

- Power Purchase Agreements (PPAs) - between two market actors, long term contracts
- Contract for Difference (CfDs) - between an electricity producer and a public entity with a price set through a tender (usually). They are two sided.

A combination of private PPA and CfDs will be possible.

Send long-term signals for investments into renewable and nuclear generation technologies, storage and demand response.

# Publication of the electricity market reform



Other key measures:

- Measures to facilitate the integration of renewables and improve the predictability of their production (guarantee schemes, etc.)
- **Improving the flexibility of the electricity system:**
  - 1) Requirements for MS to develop 5-year long **flexibility assessment report** (every two years).
  - 2) Possibility to introduce new market-based **support schemes to promote storage and demand response**, or they might adapt their existing capacity markets to also highlight value from storage and demand response. [Opportunities for hydrogen]
- Possibility to intervene to apply a price cap (limited)

# Net-Zero Industry Act

On 16 March the Regulation proposal for a [Net Zero Industry Act](#) was published.

Simplifying  
the regulatory  
framework for  
net-zero technologies

Scaling up  
manufacturing  
of net-zero  
technologies

Fostering  
competitive and  
resilient European  
net-zero industry

By 2030, at least 40%  
of EU annual  
deployment needs for  
clean technologies are  
to be produced locally.



# Net-Zero Industry Act

**8 Strategic net-zero technologies** are identified and will benefit from the full regulation



Solar photovoltaic and solar thermal



Electrolysers and fuel cells



Onshore wind and offshore renewables



Sustainable biogas/ biomethane



Batteries and storage



Carbon capture and storage



Heat pumps and geothermal energy



Grid technologies

**Other net-zero technologies** are identified but will not benefit from the same favourable treatment (SMR, electricity and heat storage, renewable fuels and SAF, etc.)

# Net-Zero Industry Act

To stimulate investment into net-zero technologies, the Act proposes:



## Net-Zero Strategic Projects

Priority projects essential for reinforcing the resilience and competitiveness of the EU net-zero industry



## CO<sub>2</sub> injection capacity target

Carbon capture and storage projects will be supported, notably by enhancing the availability of CO<sub>2</sub> storage sites



## Facilitating access to markets

**Sustainability and resilience criteria** in procurement procedures and auctions to help boost demand of renewables



## Enhancing skills

**Net-Zero Industry Academies**, with the support and oversight by the Net-Zero Europe Platform, will provide training and education on net-zero technologies, and lead to quality job creation



## Cutting red tape and accelerated permitting

Lower administrative burden for developing net-zero manufacturing projects and simpler and faster permitting procedures, in particular for strategic projects which will benefit from even faster permitting, to increase planning and investment certainty



## Attracting investment

A **Net-Zero Europe Platform** and the **European Hydrogen Bank** will help attract investment



## Innovation

**Regulatory sandboxes** to help develop and test innovative net-zero technologies and create a level-playing field for innovation

**Net-Zero Platform to be set up to oversee the implementation of the Act.**

EC / Member States / Experts / Industry representatives

**Reactions of the colegislators and stakeholders to be monitored!**

# Critical Raw Materials Act

On 16 March the [Critical Raw Materials Act](#) was published. It consists of a regulation and a communication.

## SETTING 2030 BENCHMARKS FOR STRATEGIC RAW MATERIALS



### EU EXTRACTION

At least **10%** of the EU's annual consumption for extraction



### EU PROCESSING

At least **40%** of the EU's annual consumption for processing



### EU RECYCLING

At least **15%** of the EU's annual consumption for recycling



### EXTERNAL SOURCES

Not more than **65%** of the EU's annual consumption of **each strategic raw material at any relevant stage of processing** from a single third country

15 critical and strategic materials for which the acceleration and simplification procedures go even further (incl. *bismuth, boron, cobalt, copper, nickel, graphite and rare earths for permanent magnets*)

## SETTING PRIORITIES

### List of **Critical Raw Materials**

- It identifies raw materials which are important for the whole European economy and face a high risk of supply disruption

### List of **Strategic Raw Materials**

- It identifies a list of raw materials characterised by high strategic importance and projected global supply/demand imbalances

# Critical Raw Materials Act



## Building European capacities:

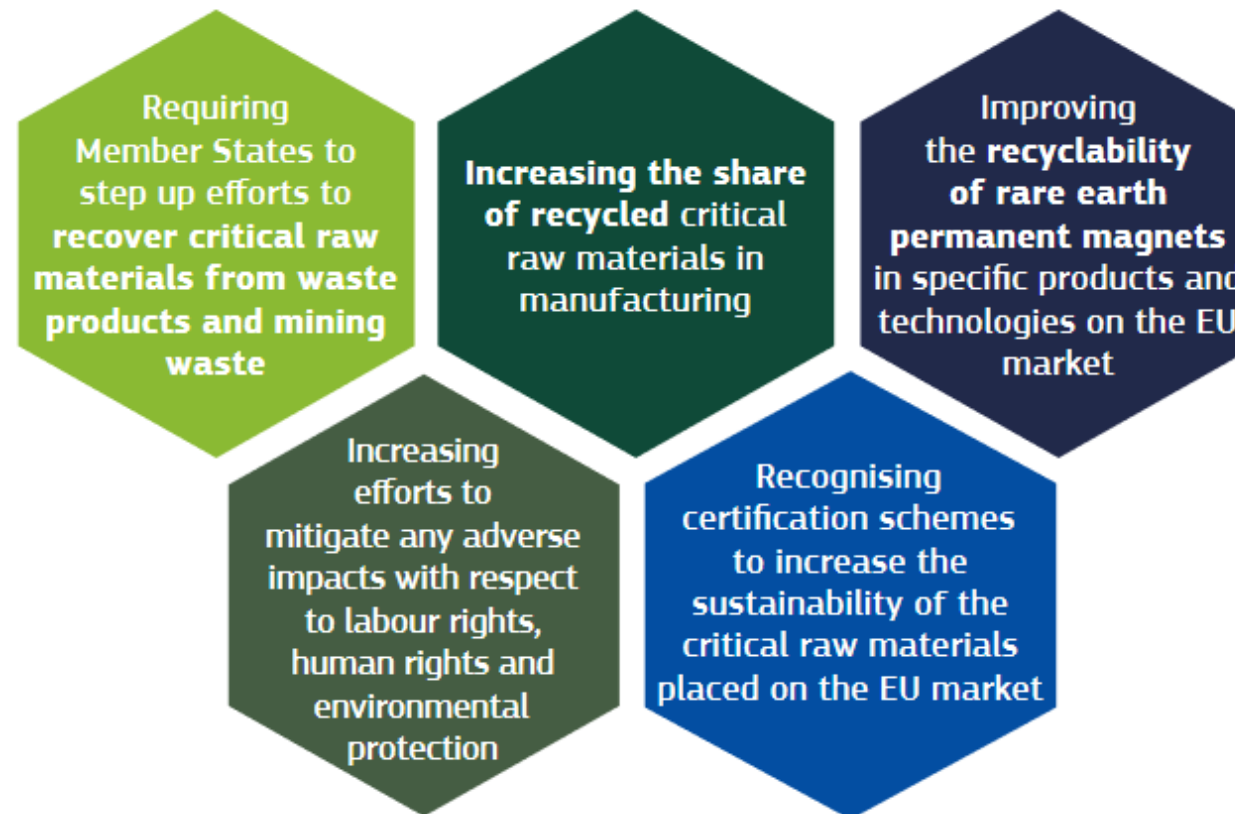
- **Identifying strategic projects** - in the EU and out along the whole value chain; streamline and predictable permitting procedures (in the EU) and improve access to finance
- **Speeding up permitting** (one stop shop) - for strategic CRM less than 2 years for extraction, less than one year for processing and recycling
- **Develop national exploration programmes** to boost knowledge on European CRM
- Create a '**Raw Materials Academy**' to promote skills in the field

## Improving resilience:

- **Monitoring CRM and stress testing**
- Coordinating the development of national strategic stocks for resilience (joint purchasing, audits, etc.)
- Expand a strategic network with third countries
- Create a CRM club
- Strengthen cooperation with WTO & Use the Global Gateway for projects

# Critical Raw Materials Act

Promoting a more sustainable and circular CRM economy.



A European CRM Board to advise the EC shall be established and chaired by the Commission.

# European Hydrogen Bank



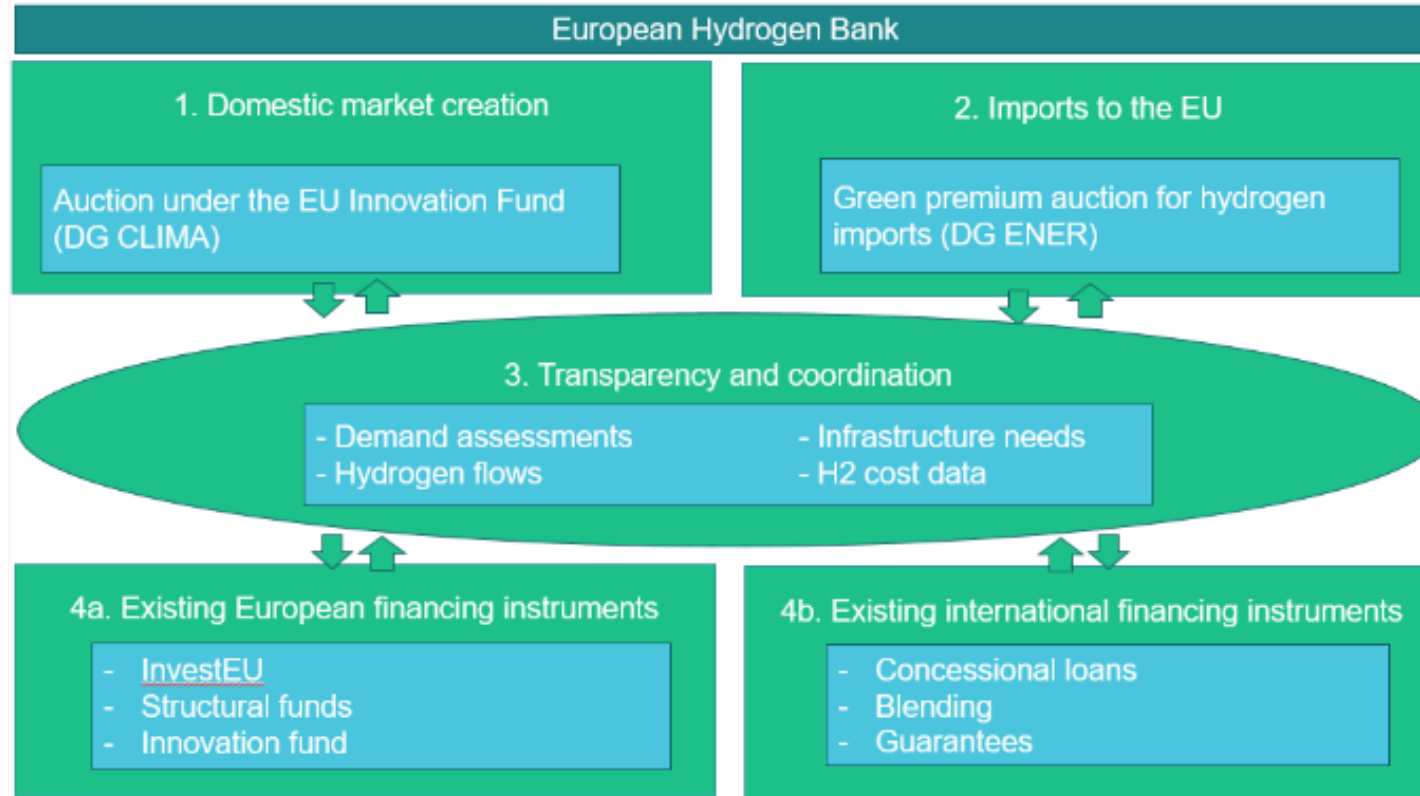
On 16 March, a [Communication](#) on the European Hydrogen Bank was also published.

- **First pilot auctions** on renewable hydrogen production to be launched under the Innovation Fund in Autumn 2023 - 800 million pilot auction for domestic production.
- Selected projects will be awarded a subsidy in the form of a fixed premium per kg of hydrogen produced for a maximum of 10 years of operation.
- The EU auction platform can also offer “**auctions-as-a-service**” for **Member States**.
- The Commission is **further exploring how to design the international dimension of the European Hydrogen Bank** to incentivise renewable hydrogen imports [*feasibility of creating a green premiums scheme for which suppliers from third countries or EU off-takers contracting with third country producers could also apply*]

Before the end of the year, all elements of the Hydrogen Bank should be operational.

# European Hydrogen Bank

## European Hydrogen Bank: Proposed activities



*Figure 1. The four pillars of activities related to the European Hydrogen Bank*

# MEPs reactions to the delegated acts on hydrogen

Following the publication of the DAs on hydrogen in February, diverse reactions were monitored from MEPs.

The rapporteur & shadow rapporteurs on the RED II directive have shared their opinion:

- **EPP** (Markus Pieper, DE): Dissatisfaction, **disagree with the additionality principle and announced that objections will be submitted**. Found incomprehensible that hydrogen from bioenergy is not recognized as RFNBO.
- **S&D** (Nicolas Gonzalez Casares, ES) & **Renew** (Christophe Grudler, FR): acknowledge the **imperfect** nature of these delegated acts, but both **insist on the importance of adopting them as soon as possible** in order to give a positive signal to investors and to harmonise the renewable energy directive.

Commissioner Kadri Simson in the European Parliament on 15 March declared that **the principle of ‘additionality’ could not bring everyone together, but that there was “no segment of the industry that is fundamentally opposed to (this) regulatory framework”**.



# Discussions around E-fuels

- On 28 February Germany announced that it would only validate the interinstitutional agreement reached by the Member States and the European Parliament on stricter CO<sub>2</sub> emission performance standards for new cars and vans and effectively forbidding the sale of ICE as of 2035 if the European Commission presented a new legislative proposal allowing the continued registration of new vehicles running on e-fuels, which are supposed to be carbon neutral.
- On 7 March, the vote for the formal adoption of the interinstitutional agreement planned in the Council was postponed.
- On 13 March, several transport ministers met to reach a common position on the issue (CZ, DE, IT, PL, PT, RO, HU). The Euro 7 standard was also put into question.
- The position is supported by the EPP group.
- On 14 March S&D, Renew and Greens/EFA Groups reiterated their support to the agreement to end the sale of new internal combustion engine vehicles in 2035

# EU policy updates

- **Gas Package** - Interinstitutional negotiations are set to begin
- **RED II revision** - ongoing interinstitutional negotiations. Discussions about RFNBOs in transport are expected to take place at the end of March, which could be the ultimate meeting to close the negotiations.
- **Temporary Crisis and Transition Framework** - new framework adopted on 9 March, in-line with the Green Deal Industrial Plan, to counter the effect of the IRA. Applicable until 2025 included. Capped aid to a certain percentage of investment costs and nominal amounts can be provided. In exceptional cases, matching aid is possible. Member States can extend and simplify smaller aids procedures for technologies such as renewable hydrogen. [Link to the document](#).  
In parallel, the General Block Exemption Regulation (GBER) was also amended in line with these changes.
- **Fastening authorisation procedures** - 7 environmental organisations called on the Council of the EU to reconsider its position on accelerating the permitting of renewable energy projects. They target the presumption of overriding public interest, which they say “*seriously harms biodiversity, in defiance of EU law*”. - 18 weeks to answer, reserve the right to refer the matter to CJEU.
- **FuelEU Maritime** - interinstitutional negotiations are progressing, but important divisions remain on the issue of GHG emission intensity levels (opposition on subquotas)

# EU policy updates

## Energy Efficiency Directive - interinstitutional agreement reached

- The final inter-institutional negotiations on the Energy Efficiency Directive ended on 10 March. Overall energy efficiency target in Europe, finally set at **11.7% by 2030**.
- Annual energy savings of the Member States, must reach an average of 1.49% from 2024 until 2030.
- The public sector will be required to reduce its final energy consumption by 1.9% per year and at least 3% of public buildings will have to be renovated each year.
- Key measure agreed by the co-legislators is the **promotion by Member States of local district heating and cooling plans in municipalities with more than 45,000 inhabitants, with a view to achieving full decarbonisation by 2050.**

# Updates on Funds



- Researchers from **New Zealand** can now participate in Horizon Europe programme Pillar II
- Northern Ireland deal opens should open door to “immediate” talks on **UK Horizon Europe association** according to the President of the EU Commission, U. Von der Leyen. The terms of association are still to be defined. In parallel the UK government announced an extension to the support provided to UK Horizon Europe applicants until the end of June 2023.
- Consultation exposes problem over funding for basic vs applied research in Horizon Europe.
- The EU Member States are planning to reform scientific publishing, according to leaked documents. They denounce high processing fees charged to authors as a growing problem.



# ▶ Reports and studies

# Data and Reports

On 2 March, the European Clean Hydrogen Alliance presented its [roadmap on hydrogen standardisation](#), highlighting the gaps, challenges and needs linked to standardisation for the adoption of H<sub>2</sub> in the EU market.

The document provides a set of **recommendations to streamline and accelerate the process of defining European standards for the entire hydrogen value chain** (production, distribution, transport, storage and end-use)

**400 thematic topics** are analysed across the entire hydrogen value chain and identifies the state of play and prioritises the different segments, some of which require the development of new standards, such as for industry and mobility. The analysis also identifies a series of ‘key actions’ to accelerate the standardisation process and the deployment of hydrogen solutions on a large scale.

# Data and Reports

Here are the most important issues listed:

- a. A clear regulatory framework to give direction to the detailed standardisation work;
- b. The **publication of standardisation requests**, which are mandates of the European Commission to prepare specific standards;
- c. The **engagement of industry** in topics that “need to be developed” and/or topics for which no standardisation committees are exist or are yet active; furthermore, a good information exchange with associations such as Hydrogen Council, IPHE, IRENA, Hydrogen Europe and others is needed;
- d. The need for an **overall coordination of hydrogen standardisation activities** focusing on the technical needs of industry; the alignment with European Commission policies and legislation and the implementation capacity of CEN-CENELEC;
- e. **Increased cooperation between European and international standardisation bodies** based on the existing agreements (Vienna / Frankfurt agreement).

# Data and Reports

Here are 6 key actions listed in the roadmap:

- Key action 1: **Integration** of the identified standardisation topics list into the standard-setting process at EU level (CEN-CENELEC) and international level (ISO-IEC).
- Key action 2: **Prioritise**, as a first step approach, topics that are not yet directly addressed in specific standardisation committees; **topics that need further technical understanding** to allow for identification of standardisation needs; topics that are horizontal and therefore relevant for different segments of the hydrogen value chain.
- Key action 3: Get broader stakeholder engagement in the standardisation process by sending experts to the relevant standardisation committees.
- Key action 4: Call on the European Commission to support the hydrogen standardisation process by issuing standardisation request(s).
- Key action 5: Continuous support of the standardisation process by the WG on Standardisation.
- Key action 6: Strengthen the coordination of the overall process, including with relevant Horizon Europe Partnerships.



# Data and Reports

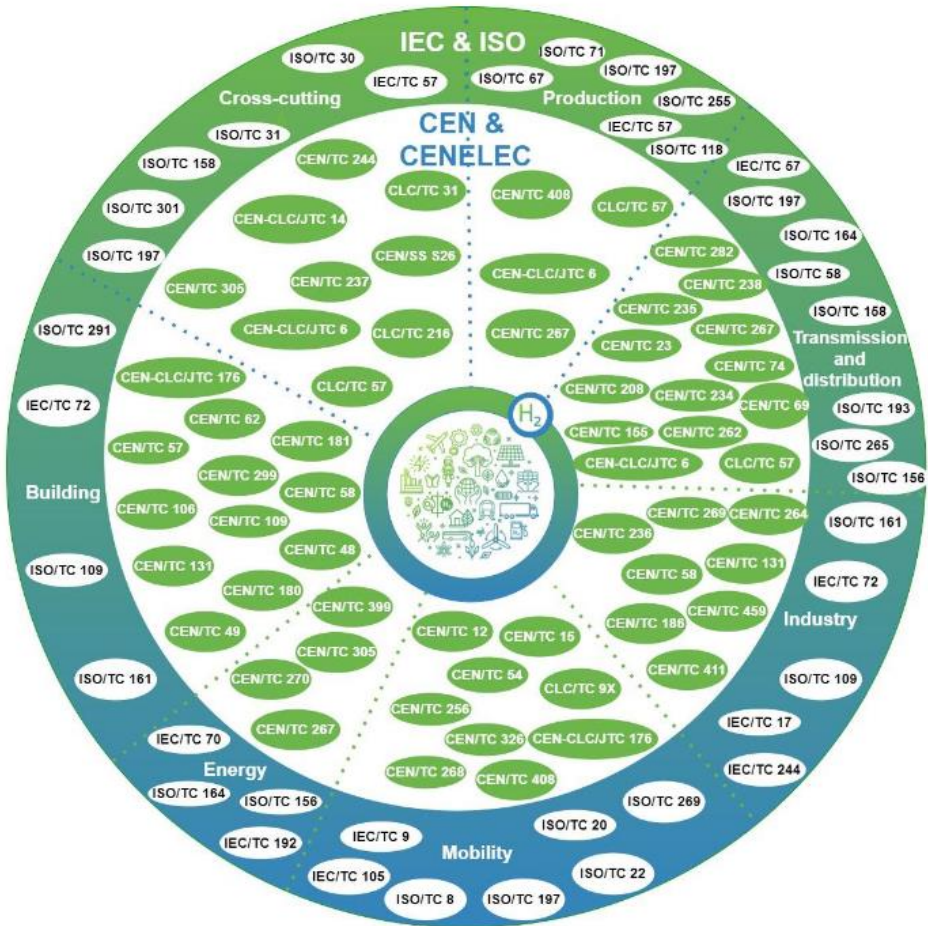


Figure 5 – European and international standardisation landscape for hydrogen topics

Production			
production technologies:	2023		2030
- electrolyser	to be developed	under development	in place
- pyrolysis	to be developed	under development	in place
- steam methane reforming	to be developed	under development	in place
electricity grid connection	to be developed	under development	in place
Power to X	under development	in place	
gas quality aspects:	under development	in place	
safety aspects:			
- material compatibility	PNR	to be developed	under development
			in place

Figure 6: Cluster production – current status of standardization

All clusters are tackled, above is an example for the production cluster.

# Data and Reports

- On Wednesday 15 March, the European Commission [announced](#) €189 million in funding that should finance the establishment of around 63 hydrogen refuelling points and 2000 recharging stations across the EU. They are funded under the *Alternative Fuels Infrastructure Facility (AFIF)* which combines grants from the Connecting Europe Facility with capital from financial institutions to increase the impact of investments.
- In 2022 investments in the EU battery ecosystem exceeded €180 billion (see VP Šefčovič [speech](#) on the European Battery Alliance)
- In a [new report](#) the IEA revealed that CO2 emissions have increased less in 2022 than initially expected - less than 1%. Renewable energies met 90% of global electricity generation growth. The growth was 6% in 2022.



**Hydrogen Europe  
Research**

**Thank you!**