



# Green H2 at Iberdrola A reality since 2022



THE FAST TRACK TO THE HYDROGEN ECONOMY

**EUROPEAN HYDROGEN  
ENERGY CONFERENCE**



# Iberdrola Introduction

## Largest 100% private integrated utility in Europe

+€70 Bn market capitalization (x6 in the last 20 years)



### Global Renewable Leader

+42 GW installed capacity  
3.25 GW added (+8% vs LY)



### Green Power

~80 TWh/year production  
(+6.3% vs 2022)



### 2023 Results

€49 Bn Revenues  
€14.4 Bn Ebitda  
€11.3 Bn Investments



### Networks Asset Base

€42,210 M (+8%)



### Leading the European PPA market

~1 GW contracted in 2023



### Workforce & contribution

+42,000 employees  
€9.3 Bn in taxes (+24% vs 2022)



Data as of FY 2023



# Investment Plan and Vision 2030

## Strategic Outlook 2020-2025

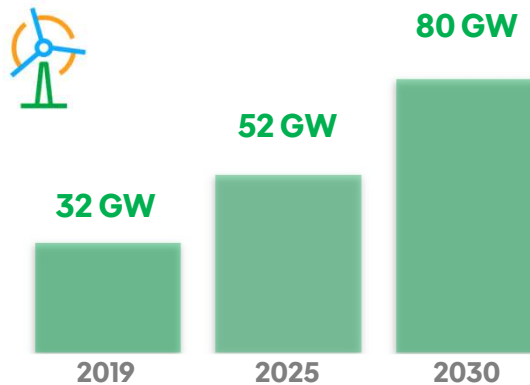
Iberdrola launched a historic investment plan to reach **€47 billion** in the period 2020-2025:

**38%** for more Renewables →

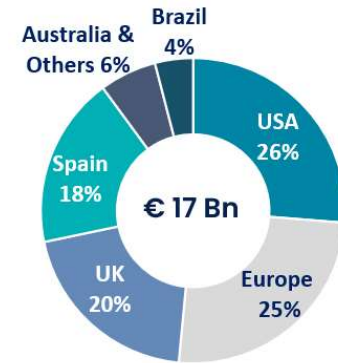
**€17bn** in new assets to reach 52 GW by 2025

**57%** dedicated to strengthen Networks →  
**€27bn** for its modernization, digitization & automation

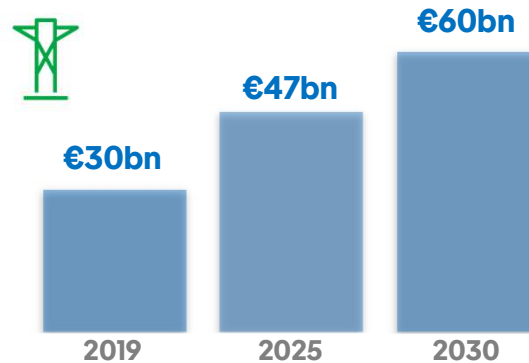
### Renewable Installed Capacity



### Investments by Geography



### Regulated Network Assets



### Investments by Geography



**When we talk about Green H2 we talk about RENEWABLES and NETWORKS**

# Iberdrola as THE decarbonization partner

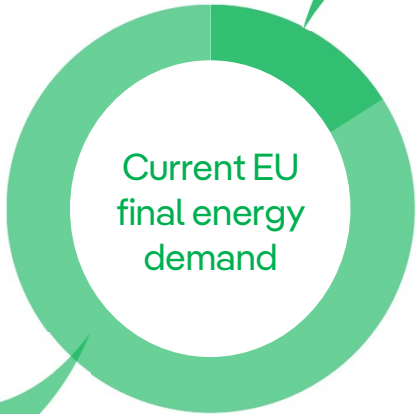
Large portfolio of green energy solutions  
Assisting customers in their integral decarbonization processes



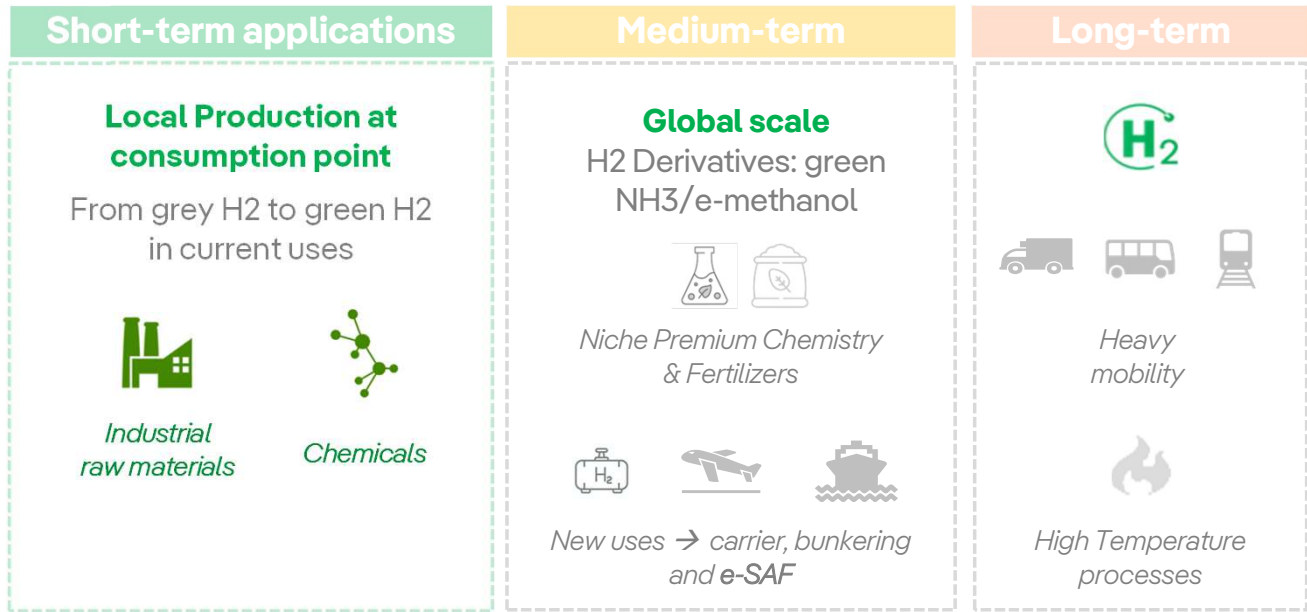
# The complement to electrification

Green H2 makes sense as an energy solution in those sectors and uses that are difficult to electrify or as a green raw material feedstock

**Green hydrogen & derivatives:**  
Crucial to decarbonise the “hard to abate” sectors



**Electrifiable**  
with available clean technologies



**1st Priority:** replacement of grey H2 with green H2 local production



# Key Challenges for H2 – Spain's context

- 1) Massive **electrification** + meeting renewable targets → **+46 GW** up to 2030
- 2) Decarbonize **50% of current H2 production** in Spain (EU commission proposal for 2030) → **+6 GW**
- 3) Decarbonize remaining current H2 production in Spain → **+ 6 GW**
- 4) Spain can contribute to decarbonize EU industry by locally developing new industries to produce H<sub>2</sub> based commodities → currently announced projects would require **+13 GW<sup>(\*)</sup>**
- 5) Spain should contribute to decarbonize EU industry by **exporting green ammonia** → requires 76 GW of RES to decarbonize EU NH<sub>3</sub> production

**+46 GW**

**+52 GW**

**+58 GW**

**+71 GW**

**+147 GW!!**

*Additional RES capacity  
required in Spain*






**Once all this is done, it might make sense to start exporting H2 via pipelines → 2040? 2050?**

*... In 2023, Spain installed 7 GW of new RES...*



(\*) H2GreenSteel, Iberdrola, Maersk, CIP...

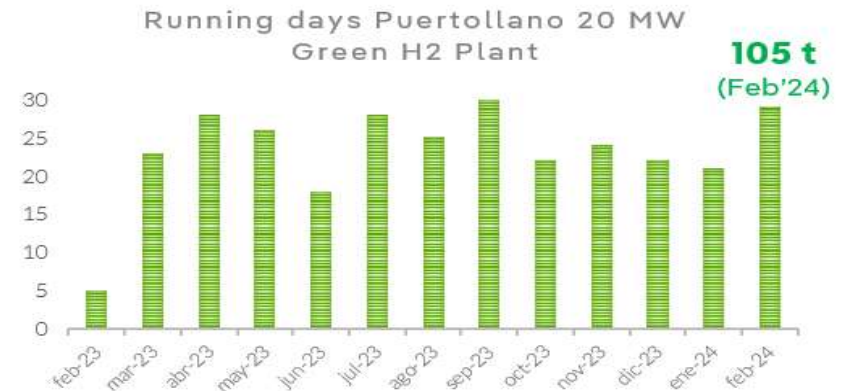
# Spearheading the green hydrogen development

-  **Vast portfolio of renewables** with complementary generation technologies for **baseload supply**
-  Operating **2 real plants** (for fertilizers in Puertollano - **20MW**, for mobility in Barcelona - **2.5MW**)
-  **50 projects** around the world in countries with **strong portfolio of renewable energy**
-  **8 mature projects, FID ready**
  - 6 Projects in Spain allocated in **local and EU different subsidies** schemes
  - 2 successful projects in **H2 Allocation Round 1** in the **UK: Whitelee (10MW)** and **Cromarty (15MW)**
-  **Gaining scale through Green Ammonia & e-Methanol** projects for 1<sup>st</sup> movers and niche customers

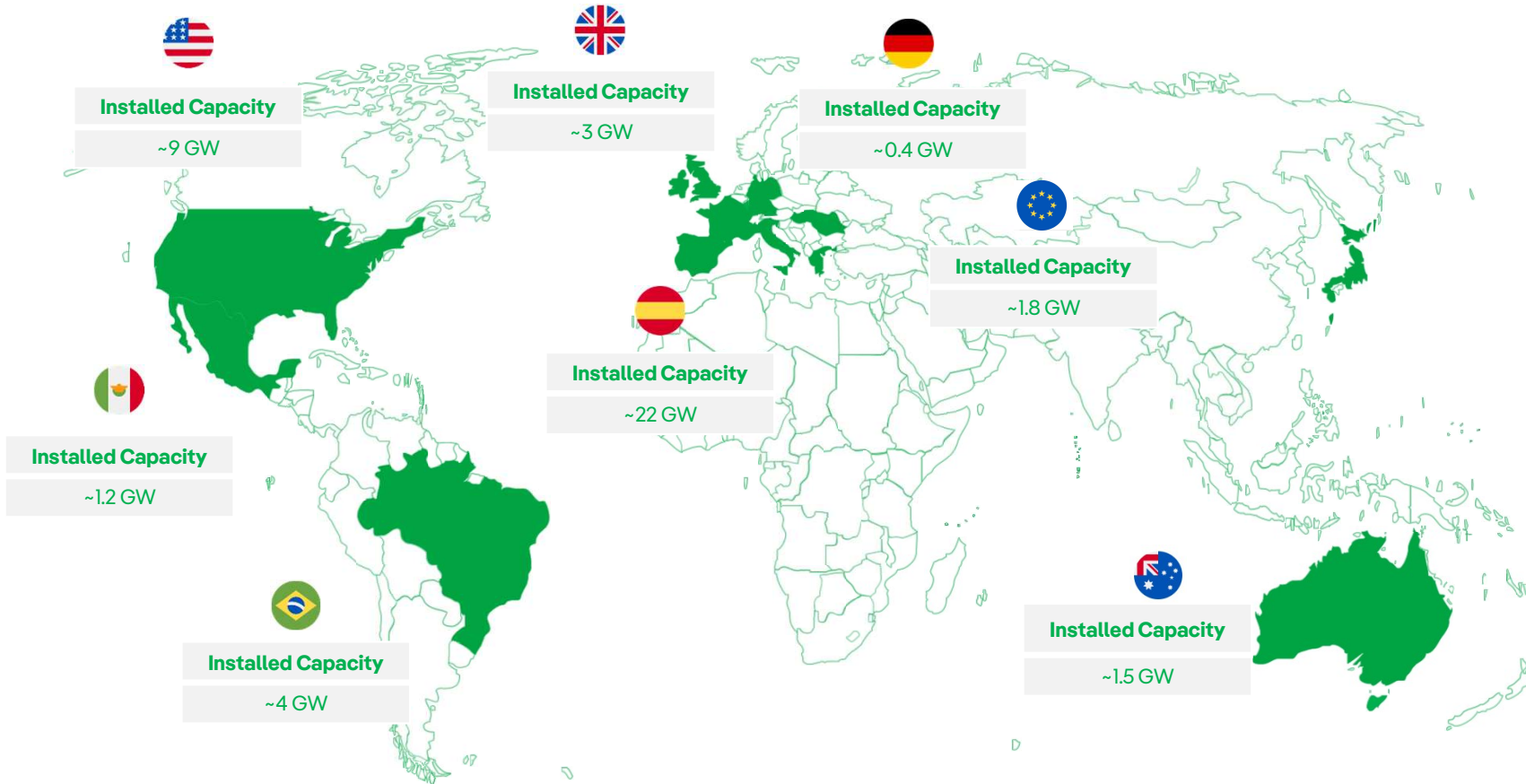
**Target of 3 GW of electrolyzers installed by 2030**








## 1<sup>st</sup> Mover in Green H2 with REAL plants



# Iberdrola: World Leader on Renewable & H2



	<b>Onshore Wind</b> Installed Capacity 20.88 GW
	<b>Solar PV</b> Installed Capacity 5.95 GW
	<b>Offshore Wind</b> Installed Capacity 1.79 GW
	<b>Hydro</b> Installed Capacity 13.3 GW
	<b>Batteries</b> Installed Capacity 0.2 GW

A diversified portfolio of +42 GW (wind, solar and hydro)



Iberdrola has more than 50 Green Hydrogen projects in 8 countries



# Green H2 industrial on-going projects

H<sub>2</sub>

## Green H2 for Refineries

Replacing bp's grey H<sub>2</sub> consumption  
Alliance to jointly produce green H2

Supported by "Cadena de Valor" subsidy scheme under Spain's PERTE

### Castellón Green H<sub>2</sub>



- Location: bp's refinery in Serrallo Industrial Park - Castellón
- 25 MW electrolyzer
- 3,800 tons of green H<sub>2</sub> per year
- COD Q4 2025
- 2<sup>nd</sup> Phase: 175 MW



H<sub>2</sub>

## Green H2 in Scotland

Decarbonization of local industries

Supported by Hydrogen Allocation Round 1 (HAR1) by UK's Government

### Whitelee

- Location: near Glasgow
- 10 MW electrolyzer
- COD 2026
- 2<sup>nd</sup> Phase: +10 MW

### Cromarty

- Location: North of Scotland
- 15 MW electrolyzer
- COD 2026



H<sub>2</sub>

## Local ad-hoc projects

Alliances in Spain for small projects (<5MW) to support the decarbonization of 1<sup>st</sup> movers

Supported by "Pioneros" subsidy scheme under Spain's PERTE



# The Next Step. Big Scale – H2 & Derivatives



## *Iberdrola's IPCEI Project*

Decarbonization of local hydrogen consumers in Puertollano and Huelva area (fertilizers, refineries)

<b>Location</b>	Palos de la Frontera (Huelva)
<b>Electrolyzer</b>	780 MW
<b>Hydrogen Production</b>	90,000 tons/year
<b>COD</b>	From 2023 to 2028

**IPCEI**

Important Projects of Common European Interest



## *Palos Green Ammonia*

Exporting green ammonia to decarbonize fertilizers & chemical industries in the North of Europe

<b>Location</b>	Palos de la Frontera (Huelva)
<b>Electrolyzer</b>	120 MW
<b>Ammonia Production</b>	100,000 tons/year
<b>COD</b>	Q4 2026

**IPCEI**

Important Projects of Common European Interest



## *Green Meiga*

Innovative project with biogenic CO<sub>2</sub> from biomass plants to decarbonize chemical and maritime sectors

<b>Location</b>	Galicia
<b>Electrolyzer</b>	150 MW
<b>E-methanol Production</b>	100,000 tons/year
<b>COD</b>	Q2 2027

**Innovation Fund**



# After building reality in H2, derivatives are the next step

## Other Iberdrola projects for the production of derivatives in key geographies



*Puertollano 20 MW Green H2 Plant*



**Thank you!**

