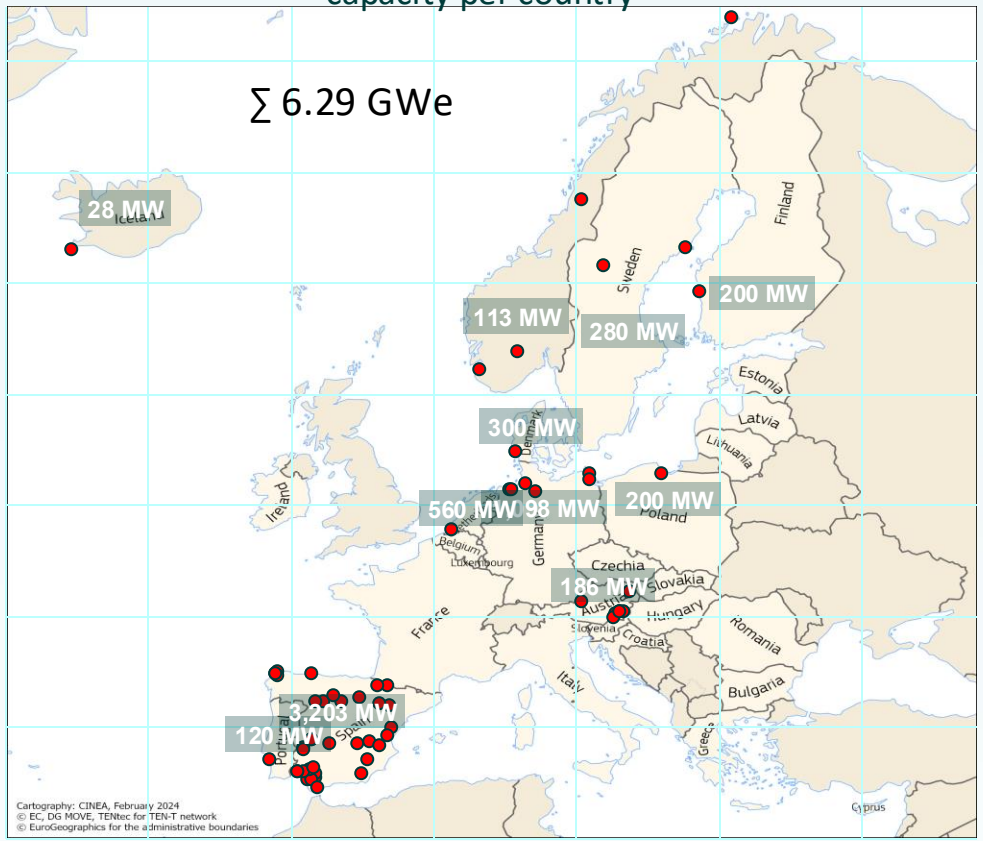
Results of the IF24 RFNBO Hydrogen Auction

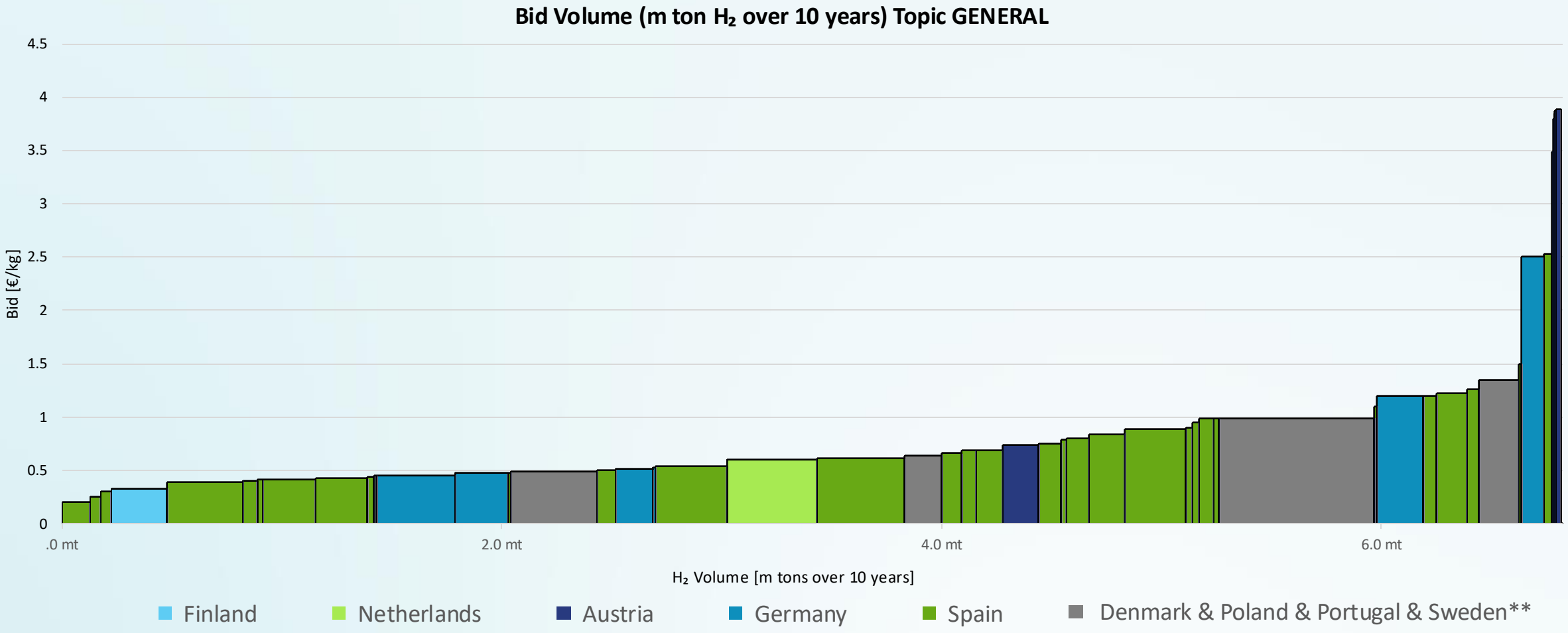
The second H2 auction received **61 bids** from **10** different EEA countries amounting to **6.3 GWe** of capacity

Country	General Topic	Maritime topic
	# Bids	# Bids
Austria	7	0
Denmark	1	0
Finland	1	0
Germany	6	0
Iceland	0	1
Netherlands	1	0
Norway	0	4
Poland	1	0
Portugal	1	0
Spain	34	2
Sweden	1	1
Total	**53**	**8**

Number of Projects and aggregate Electrolyzer capacity per country



Proposals in the General topic requested **EUR 4.48 billion**

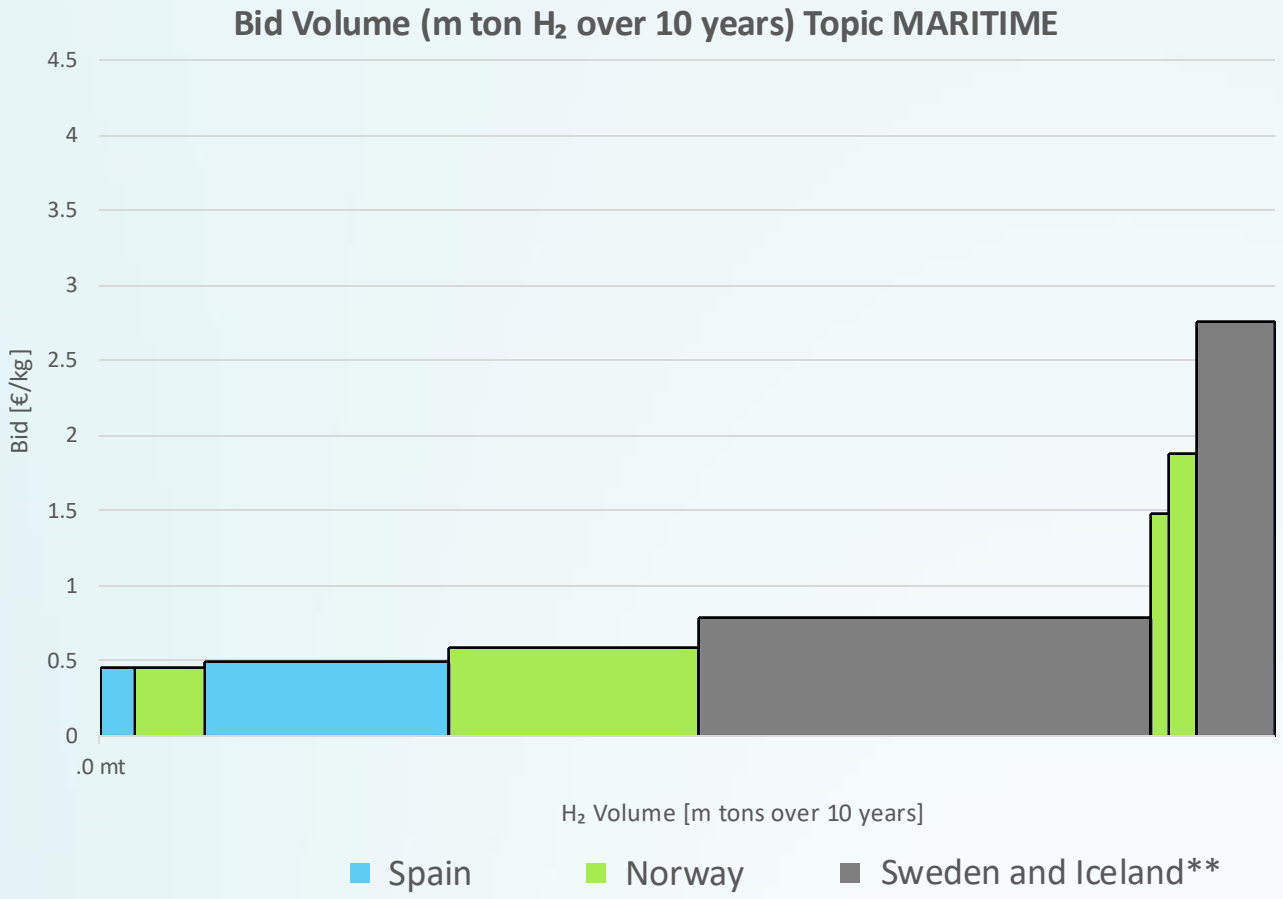


*The bid curve includes all proposals received including 11 that did not pass the admissibility and/or eligibility criteria

** Denmark, Poland, Sweden and Portugal aggregated for anonymisation reasons (only one proposal received from each of them, not among the selected ones)

European Commission

Maritime topic proposals requested EUR 399 M



*The bid curve includes all proposals received including 3 that did not pass the admissibility and/or eligibility criteria
** Sweden and Iceland aggregated for anonymisation reasons (only one proposal received from each of them, not among the selected ones)

European Commission

Under the general topic, 12 projects were selected[(1)] under the Innovation Fund budget

GENERAL TOPIC									
#	Project Name	Coordinator	Project Location	Bid Price (EUR/kg)	bid volume (kt H2/10y)	Bid capacity (MWe)	Expected Electrolyser Origin [(2)]	GHG avoidance [(3)] (ktons CO2e /10y)	Total requested funding (EUR) [(4)]
1	**VILLAMARTIN H2**	GALENA RENOVABLES 6, S.L.	ES	0.2	126	252	Denmark & China	859	25,115,361
2	**PUERTO SERRANO H2**	GALENA RENOVABLES 7, S.L.	ES	0.25	49	98	Denmark & China	337	12,307,139
3	**Kristinestad PtX**	Koppö Energia Oy	FI	0.33	258	200	Germany	1,763	85,077,314
4	**SolWinHy Cadiz**	Viridi RE GmbH	ES	0.4	63	80	United States	431	25,183,586
5	**H2LZ**	IGNIS HIDROGENO ALFA	ES	0.41	26	20	United States	179	10,720,680
6	**AGS**	ARMONIA GREEN SEVILLA	ES	0.41	238	198	Germany	1,631	97,739,954
7	**AGG280**	ARMONIA GREEN GALICIA, S.L.	ES	0.42	238	198	Germany	1,629	100,040,507
8	**H2CRI**	GREEN DEVCO ENERGY 6, S.L.U.	ES	0.44	30	30	Germany	204	13,136,193
9	**KASKADE**	Meridiam SAS	DE	0.45	354	367.5	Germany	2,424	159,451,268
10	**H2-Hub Lubmin**	H2-Hub Lubmin GmbH	DE	0.47	238	210	Germany	1,628	111,860,000
11	**TORDESILLASH2**	Elawan Energy	ES	0.48	17	15	United States	115	8,081,397
12	**Zeevonk electrolyser**	Zeevonk Electrolyser	NL	**0.6**	411	560	Germany	2,812	246,650,840
				Ø 0.405	**Σ 2,048**	**Σ 2,228.5**		**Σ 14,011**	**Σ 895,364,238**

(1) i.e invited to sign grant agreement. Final award planned for Sept/Nov 2025

(2) Expected origin of the electrolyser stacks as planned for the project. All projects are compliant with the resilient criteria of not sourcing more than 25% of the electrolyser capacity from China.

(3) Calculated based on the 2021-2025 ETS benchmark of 6.84 tons CO2e/tH2, not taking into account additional carbon abatement due to substitution effects in the H2 end use application (i.e conservative estimate)

(4) Remaining budget may be used for additional proposals in the reserve list, if necessary. After the final award, the remaining budget will accrue back to the Innovation Fund.

Under the maritime topic, 3 projects were selected (1)

MARITIME TOPIC									
#	Project Name	Coordinator	Project Location	Bid Price (EUR/kg)	Bid volume (kt H2/10y)	Bid capacity (MWe)	Expected Electrolyser Origin (2)	GHG avoidance (3) (ktons CO2e /10y)	Total requested funding (EUR) (4)
13	**RjukanH2**	NORWEGIAN HYDROGEN AS	NO	0.45	29	19	Norway	201	13,203,740
14	**Gen2-LH2**	Gen2 Energy AS	NO	0.59	104	82	Germany	714	61,590,767
15	**HammerfestH2**	GREEN H AS	NO	1.88	12	7.5	United States	80	21,882,918
				Ø 0.97	**Σ 145**	**Σ 108.45**		**Σ 994**	**Σ 96,677,425**

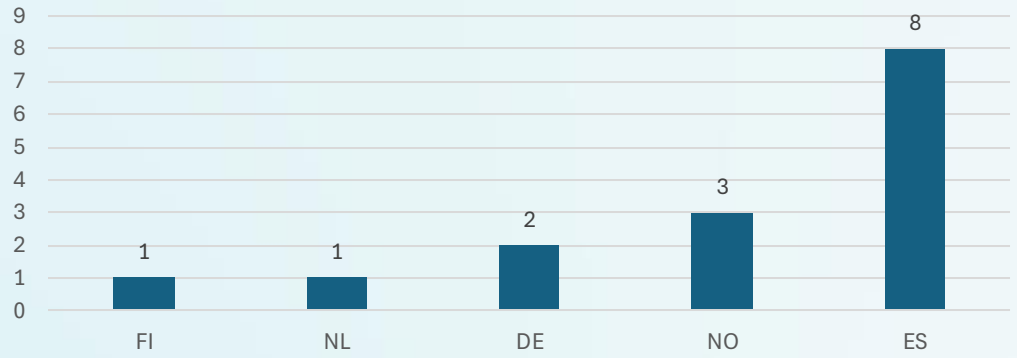
(1) i.e invited to sign grant agreement. Final award planned for Sept/Nov 2025

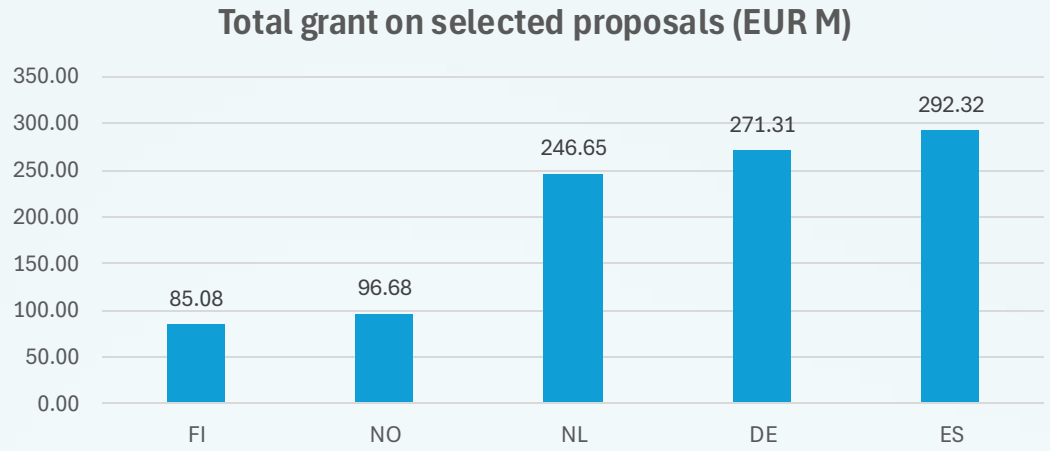
(2) Expected origin of the electrolyser stacks as planned for the project. All projects are compliant with the resilient criteria of not sourcing more than 25% of the electrolyser capacity from China

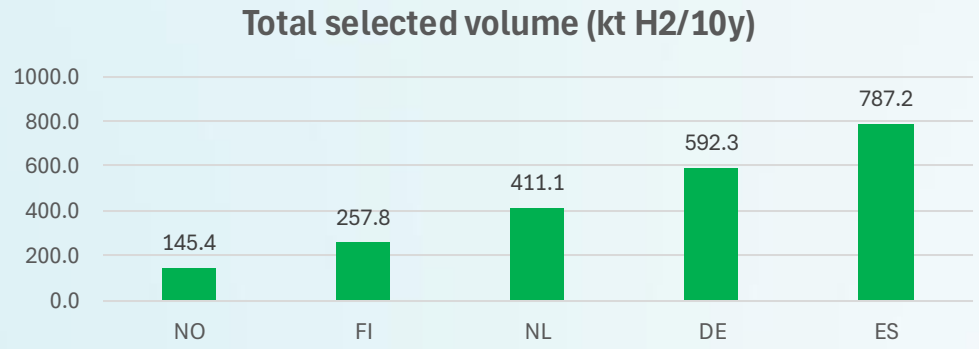
(3) Calculated based on the 2021-2025 ETS benchmark of 6.84 tons CO2e/tH2, not taking into account additional carbon abatement due to substitution effects in the H2 end use application (i.e conservative estimate)

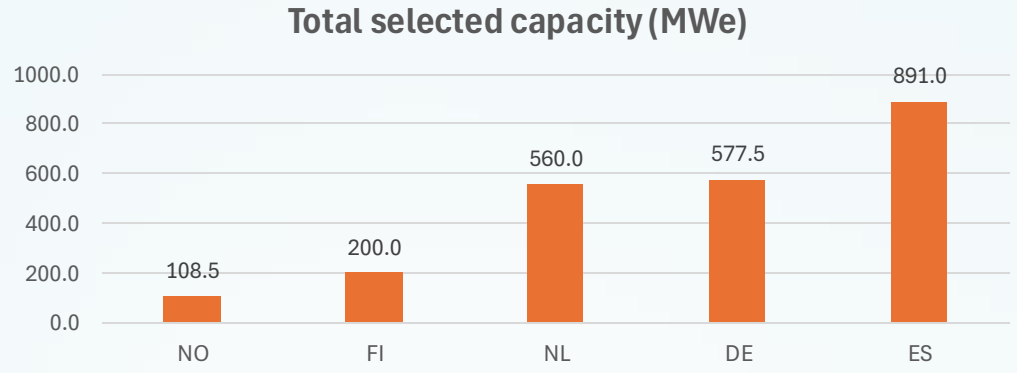
(4) Remaining budget may be used for additional proposals in the reserve list, if necessary. After the final award, the remaining budget will accrue back to the Innovation Fund.

Geographical analysis of selected proposals







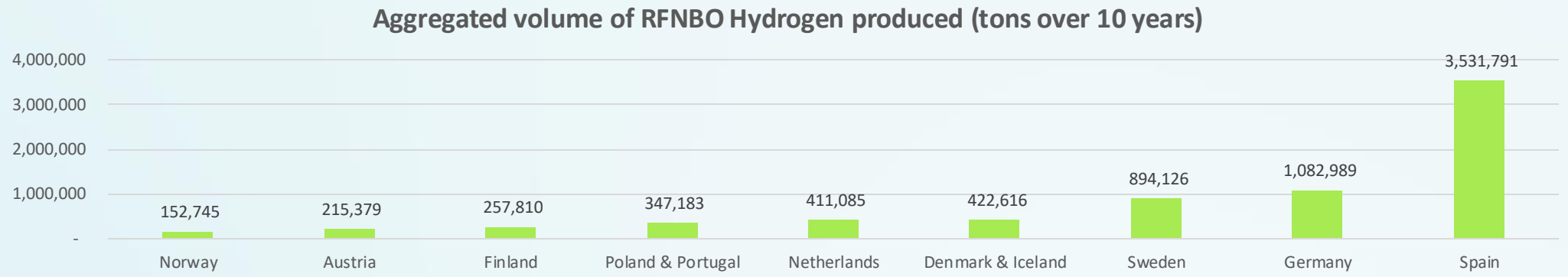


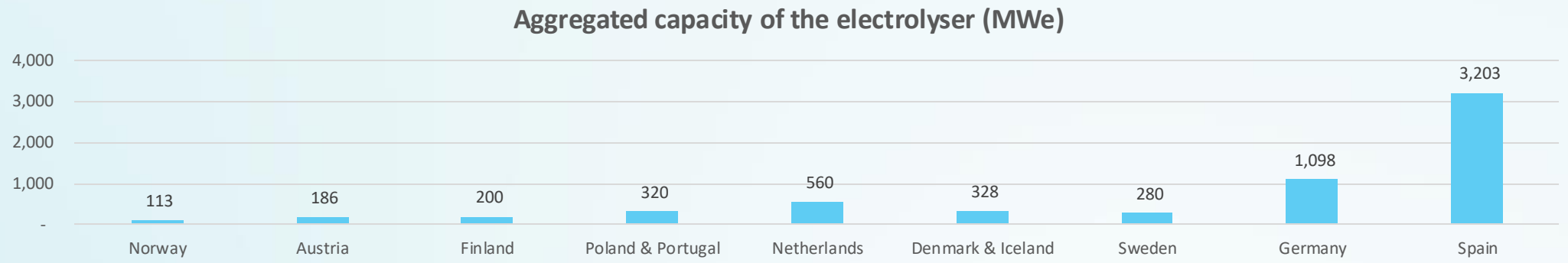
European Commission

Expanded analysis on all received proposals

European Commission

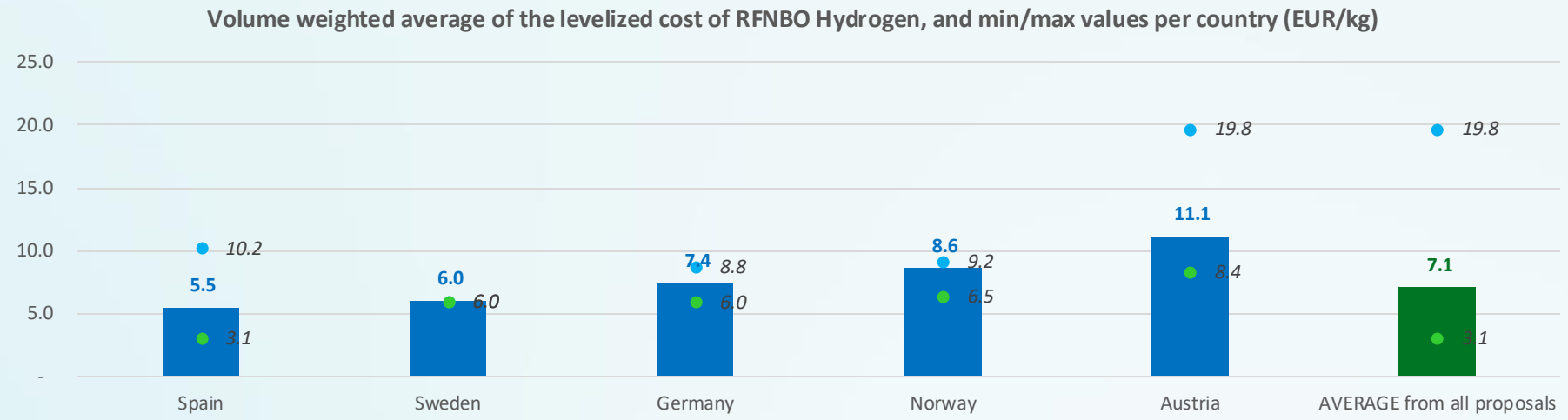
Spain and Germany have submitted the highest production volumes and planned installed capacity

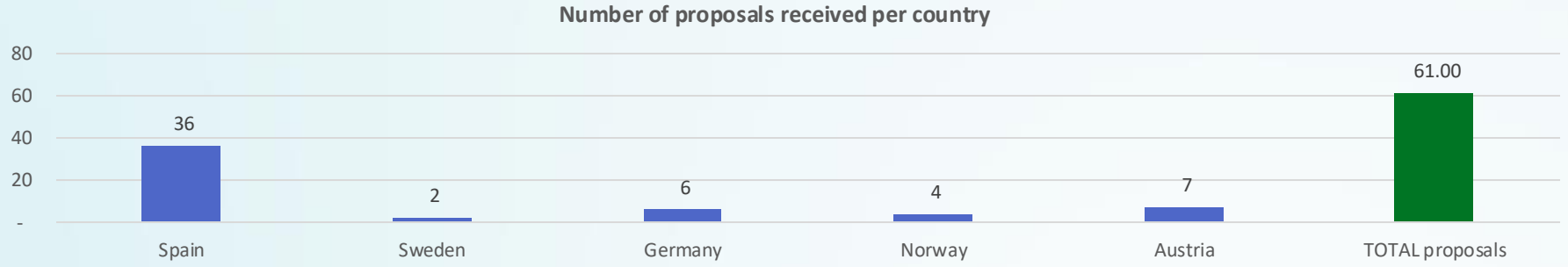




** Poland, Portugal, Denmark and Iceland, aggregated for anonymisation reasons (only one proposal received from each of them, not among the selected ones)*

The average levelized cost of RFNBO H2 located in displayed countries ranges from 5.5 to 11.1 EUR/kg

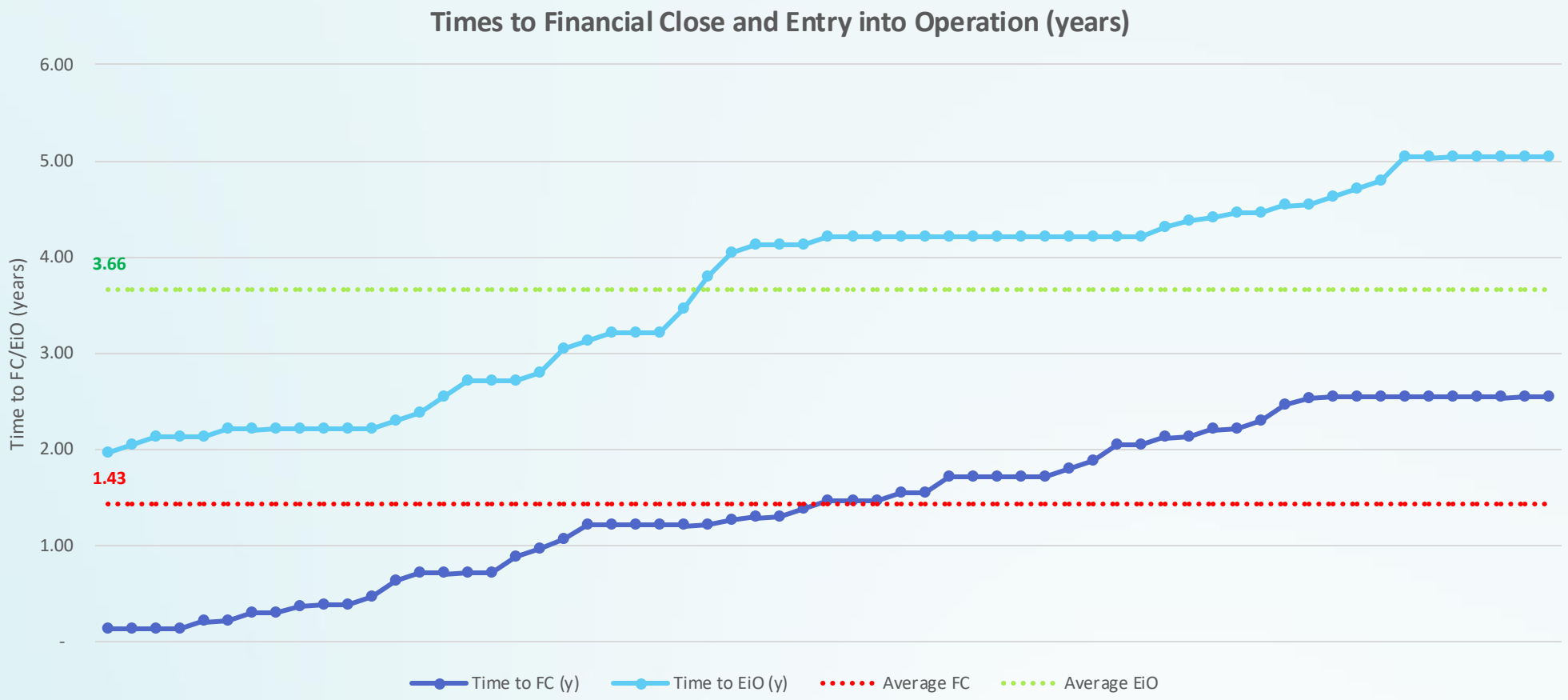




** For anonymisation reasons, countries with one proposal are not displayed*

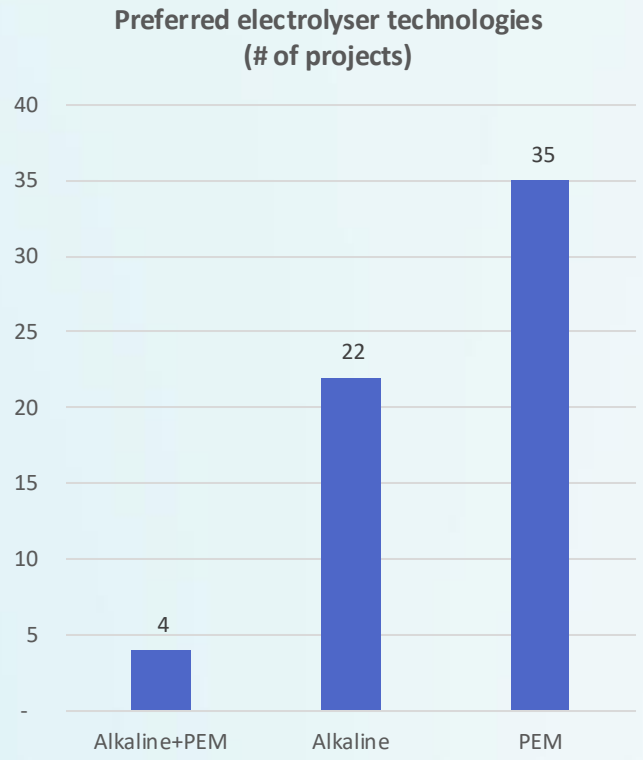
European Commission

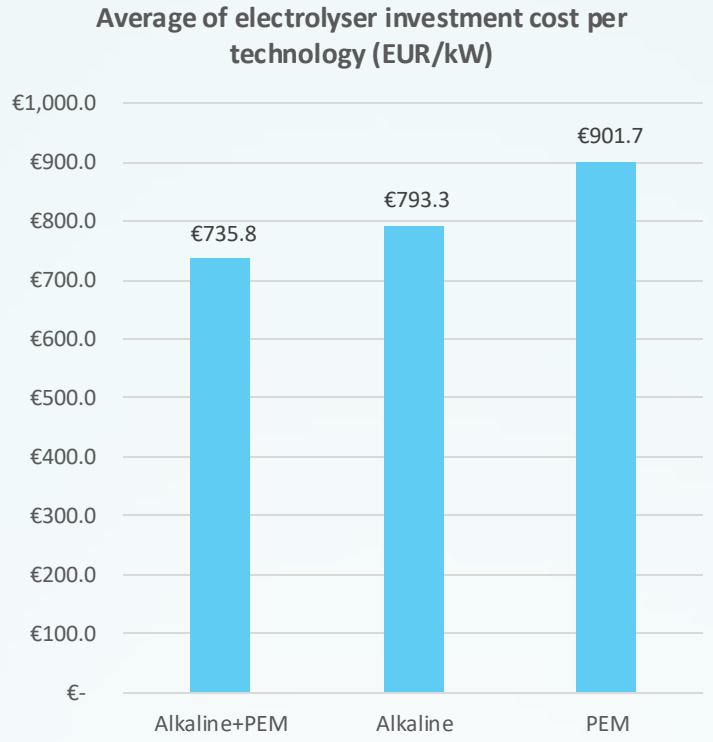
Received projects are mature, with average time to EiO at 3.7 years. No relevant differentiation is perceived linked to project location



European Commission

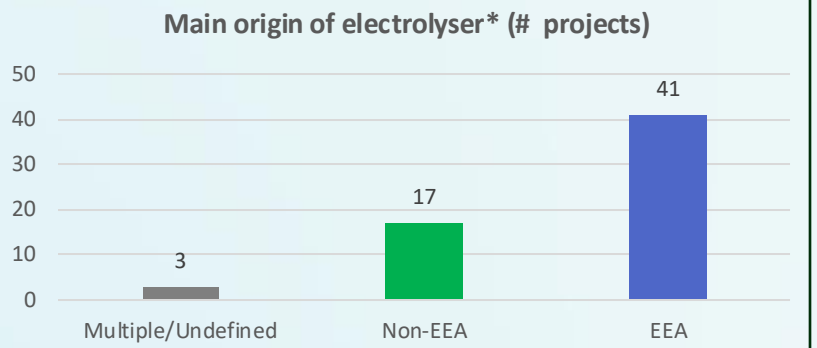
PEM electrolysers are the preferred technology, despite higher cost

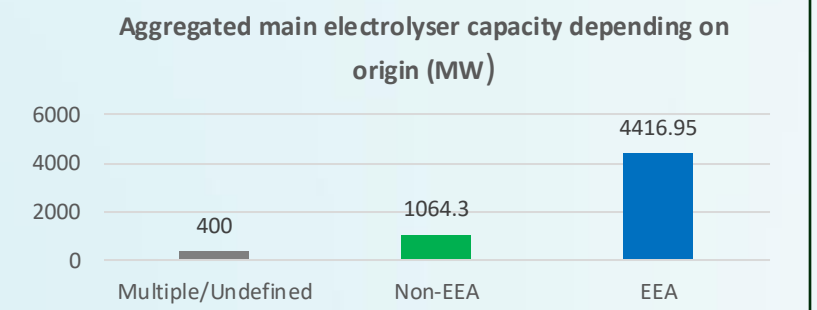


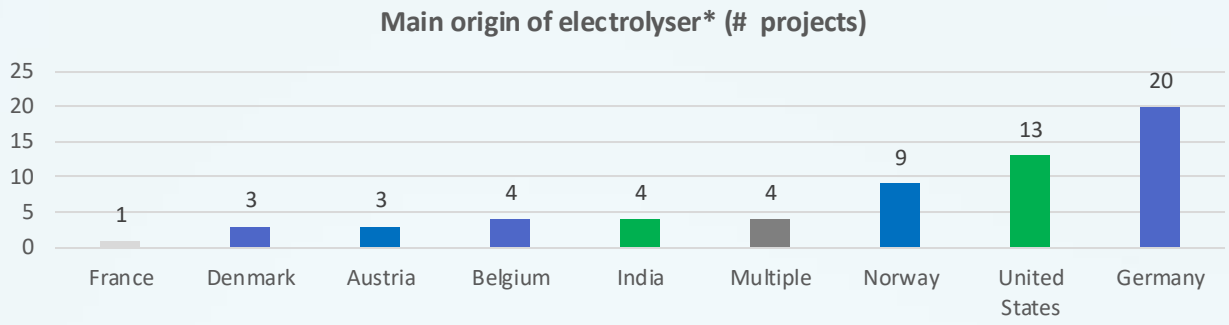


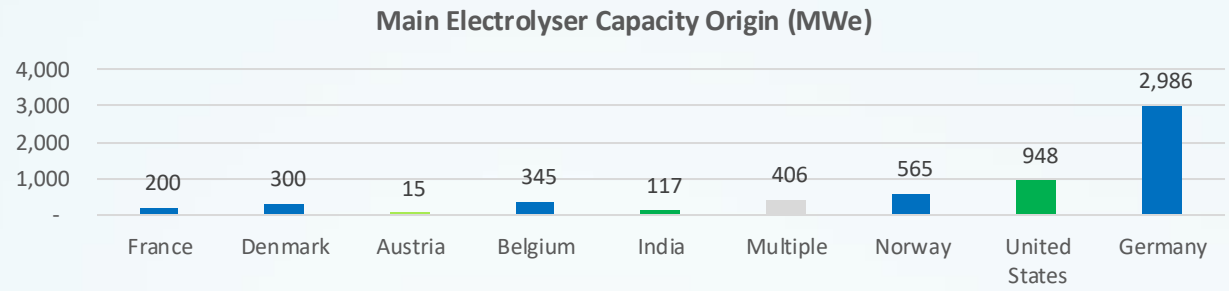
European Commission

Applicants prefer origin of electrolyser from the EEA



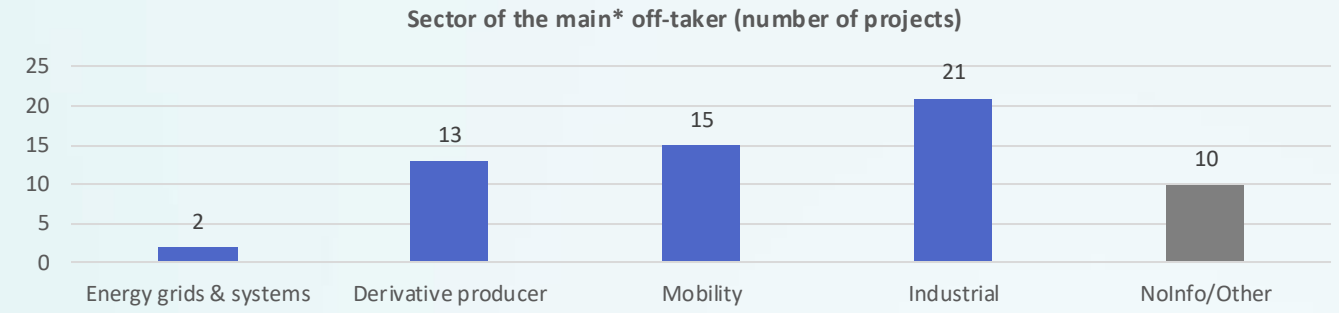


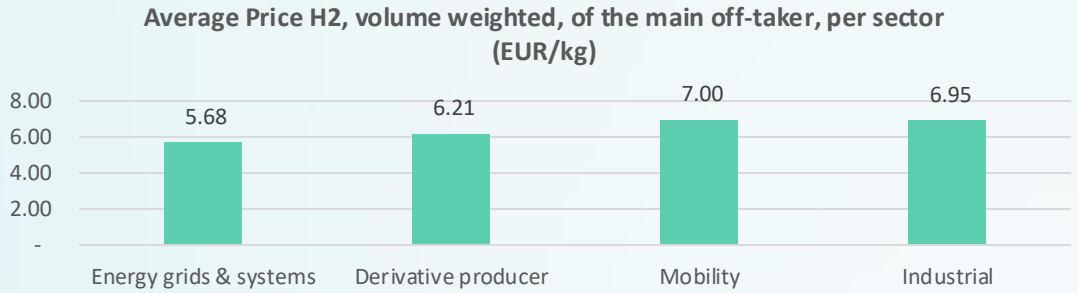


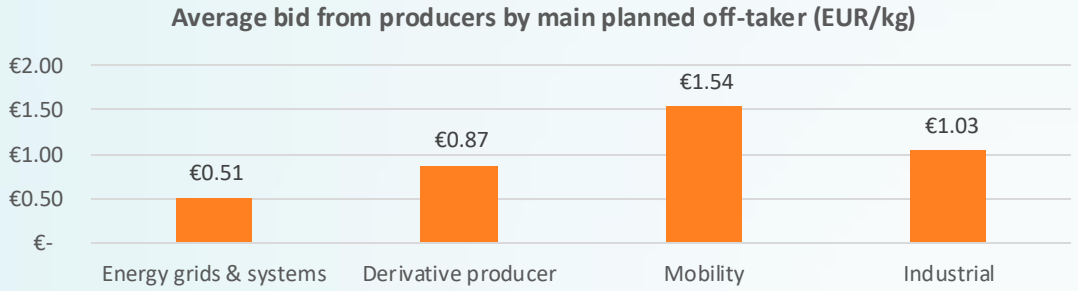


** Expected origin of the electrolyser stacks as planned for the project. Some projects present "multiple" options at the moment of application.*

Mostly industrial off-takers to buy and use the renewable hydrogen, also with the highest willingness to pay



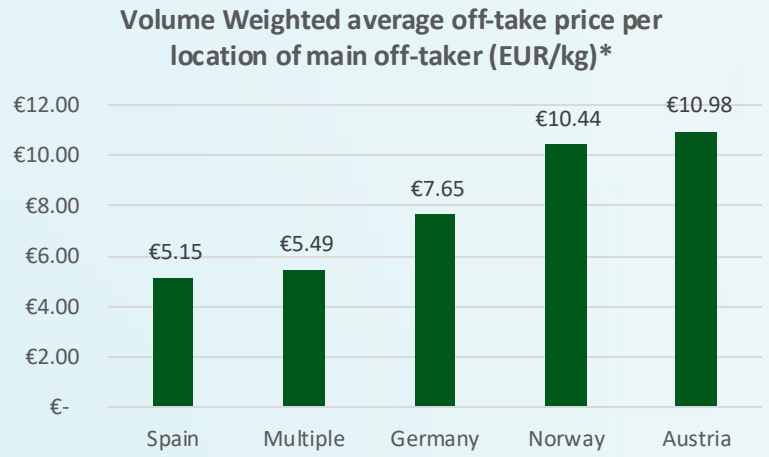


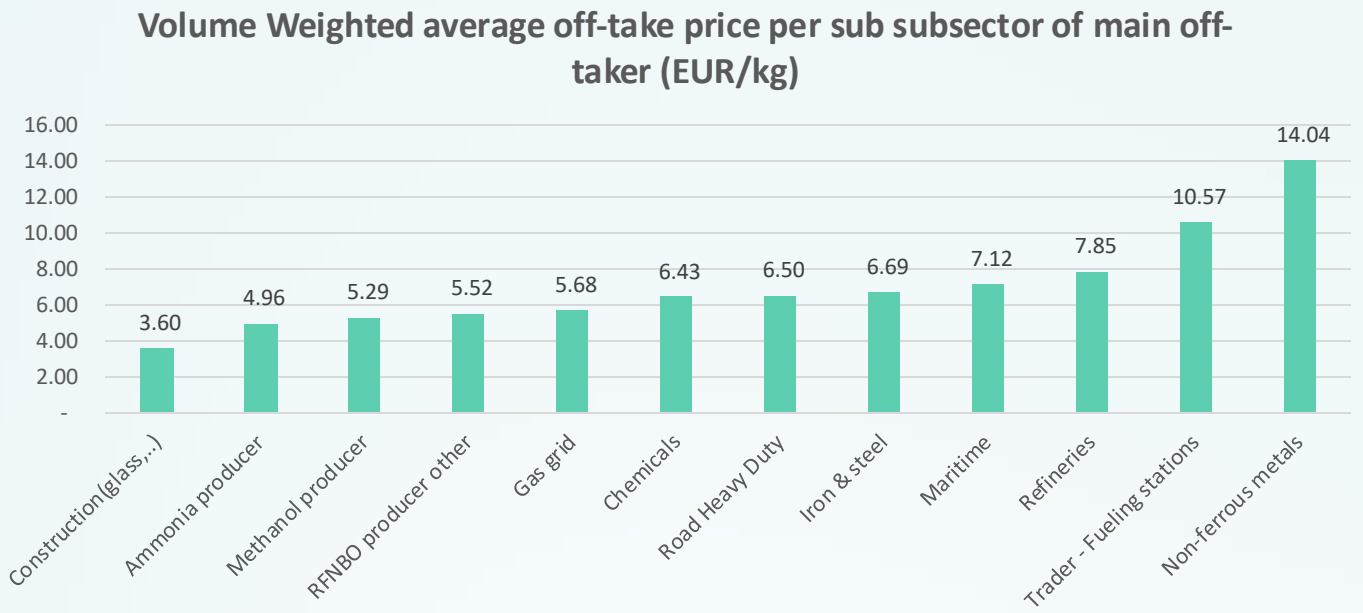


European Commission

** Defined in terms of the largest off-take volume in case of multiple proposed off-takers*

Average off-taker price varies substantially across sub-sectors and countries

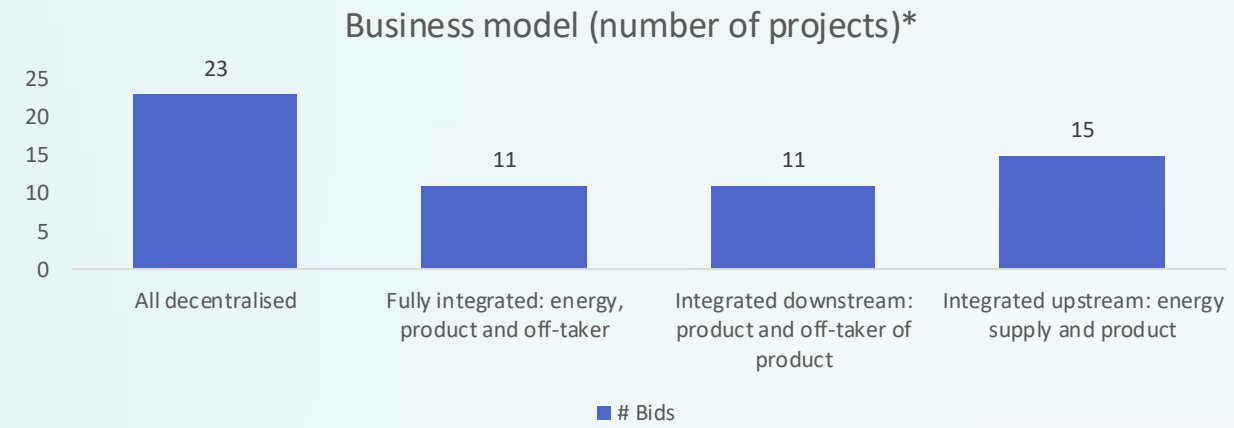


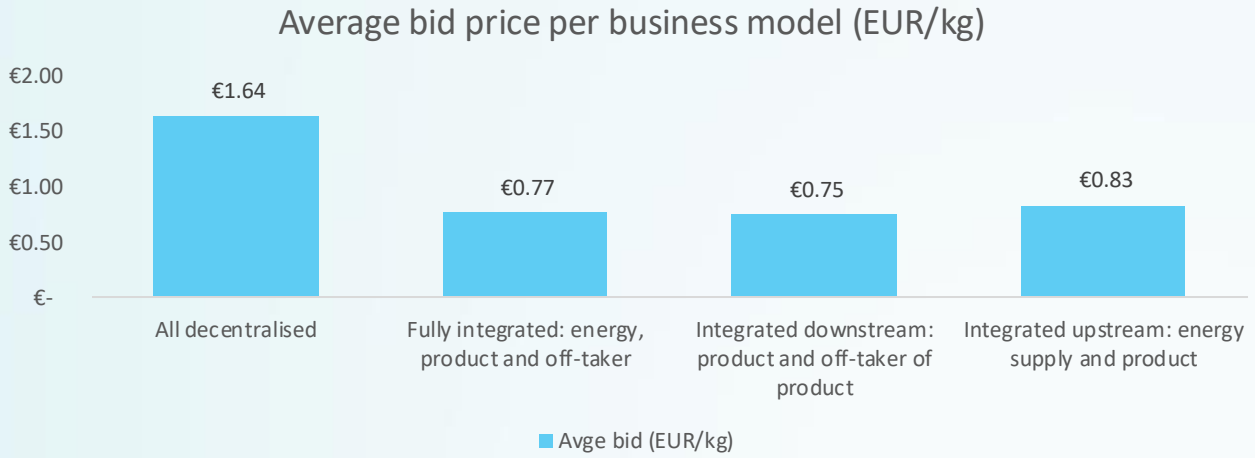


** Only displays countries where there are more than 2 off-takers*

European Commission

Mostly integrated business models chosen, allowing to present lower bids

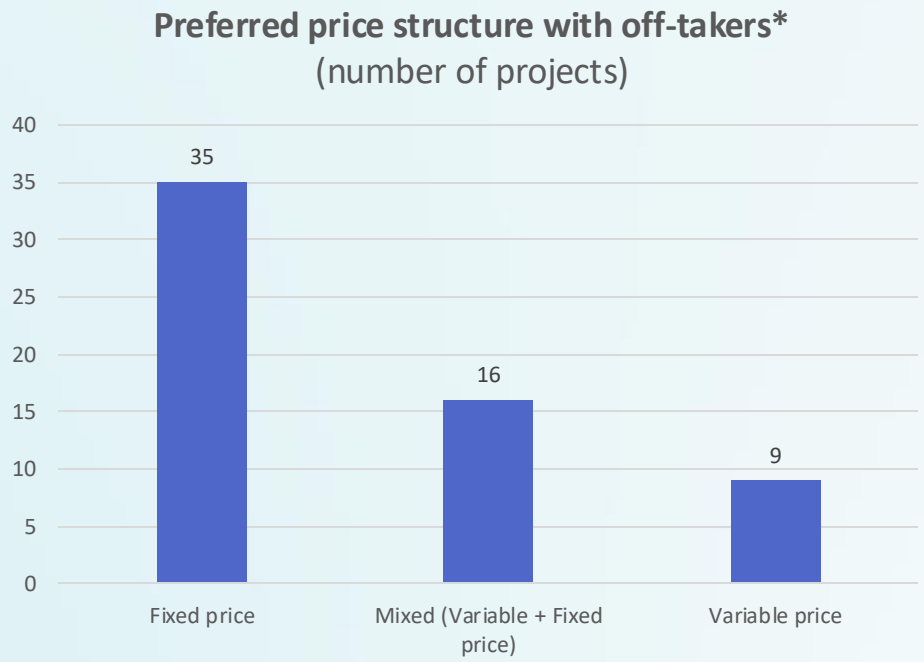




** Does not include one project that did not provide information*

European Commission

The preferred contract structure with off-taker is based on a fixed price, with the most common delivery method being by pipeline

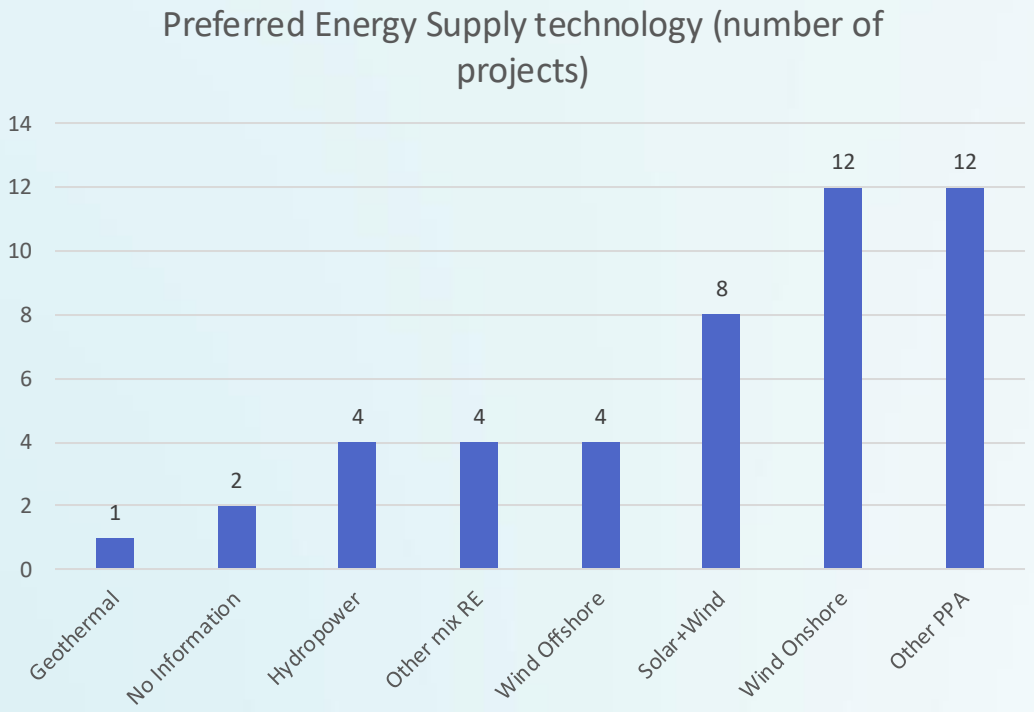


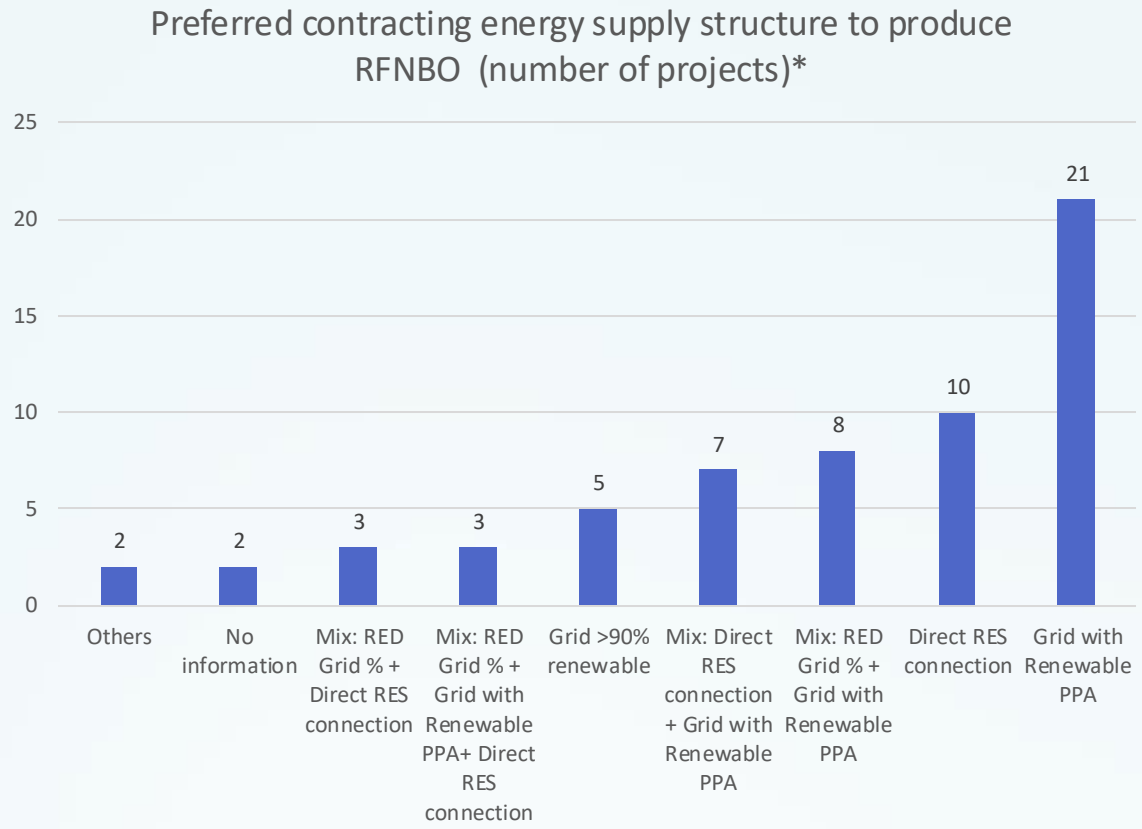
Type of Connection	# projects	Average Distance** (km)
Ship	1	1778
Other/Combined	8	2170
Road	13	559
Pipeline	39	384
Total	61	679

** Does not include one project that did not provide information*

*** Estimated straight line based on coordinates of the project and the main off-taker*

Main source of power supply: wind energy onshore, mostly combining grid connection and a renewable PPA.

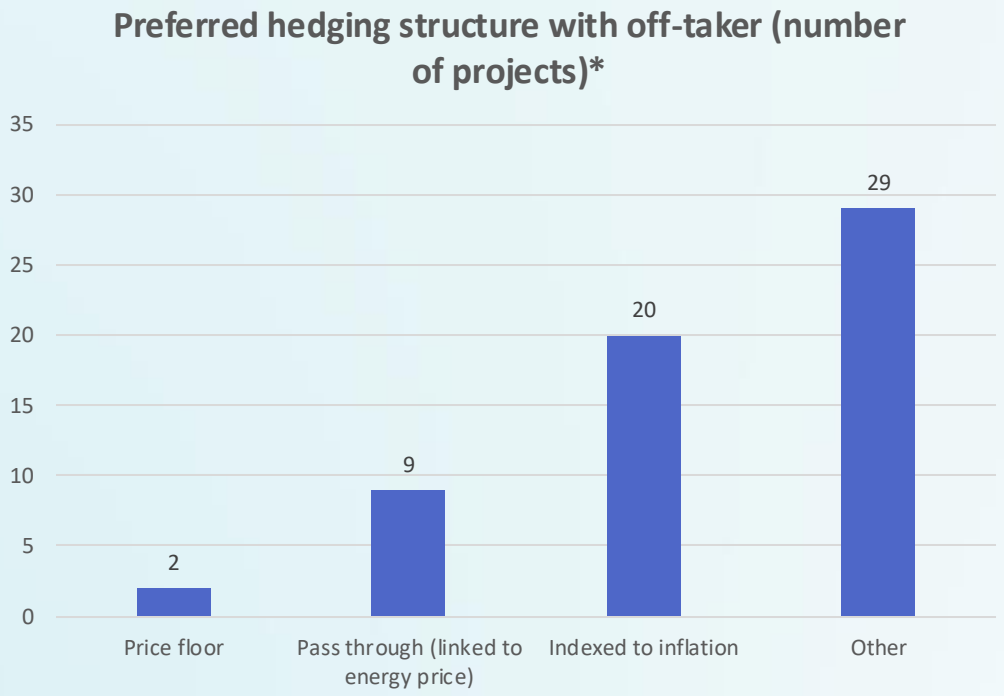


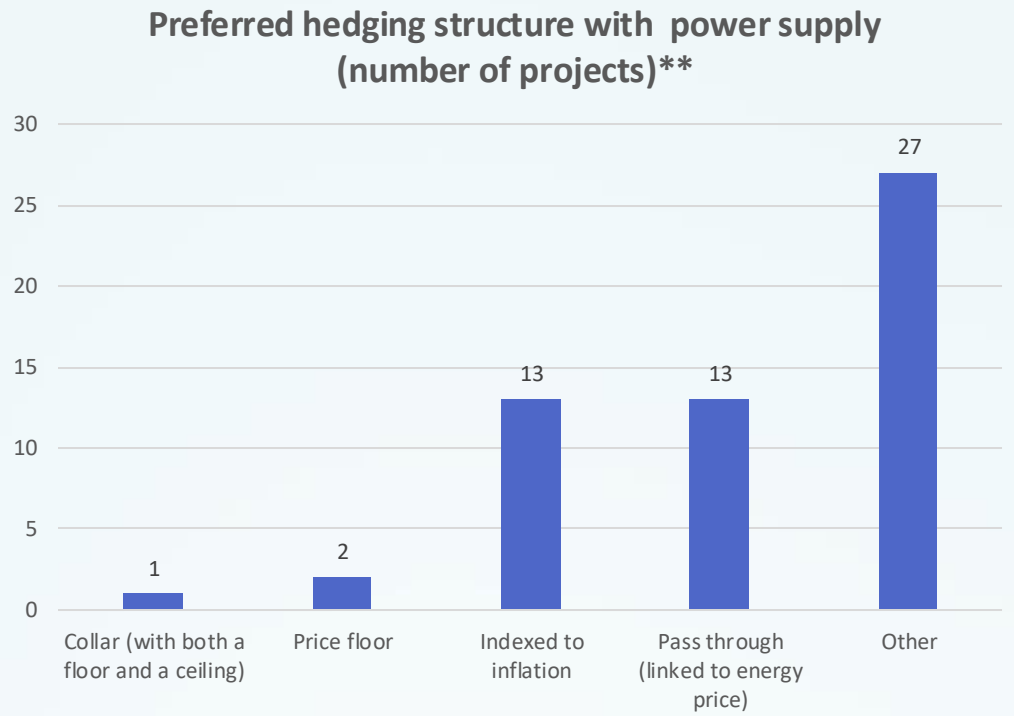


** RED Grid % : production of RFNBO using Renewable Energy Directive Article 27*

European Commission

Hedging structures in contracts with energy supplier and off-taker





** Does not include one project that did not provide information*

*** Does not include five projects that did not provide information*

European Commission