



Project supported by the FCH JU



CertifHy

the 1st EU-wide Certification Scheme for Green and Low- carbon hydrogen

Presentation to Mission Innovation Workshop
27/03/2019

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Hinicio

- HINICIO is a strategic consultancy specialized in hydrogen and fuel cells, widely recognized as a leader in Europe in this area.
- 80+ assignments on hydrogen and fuel cells since the creation of the company in 2007, including several landmark study at the European level.
- Unmatched experience at every step of the value chain on all aspects:
 - ❑ Technology
 - ❑ Economy
 - ❑ Business Cases
 - ❑ Markets
 - ❑ Strategy
 - ❑ Public policy and regulation
 - ❑ Social acceptance, etc.

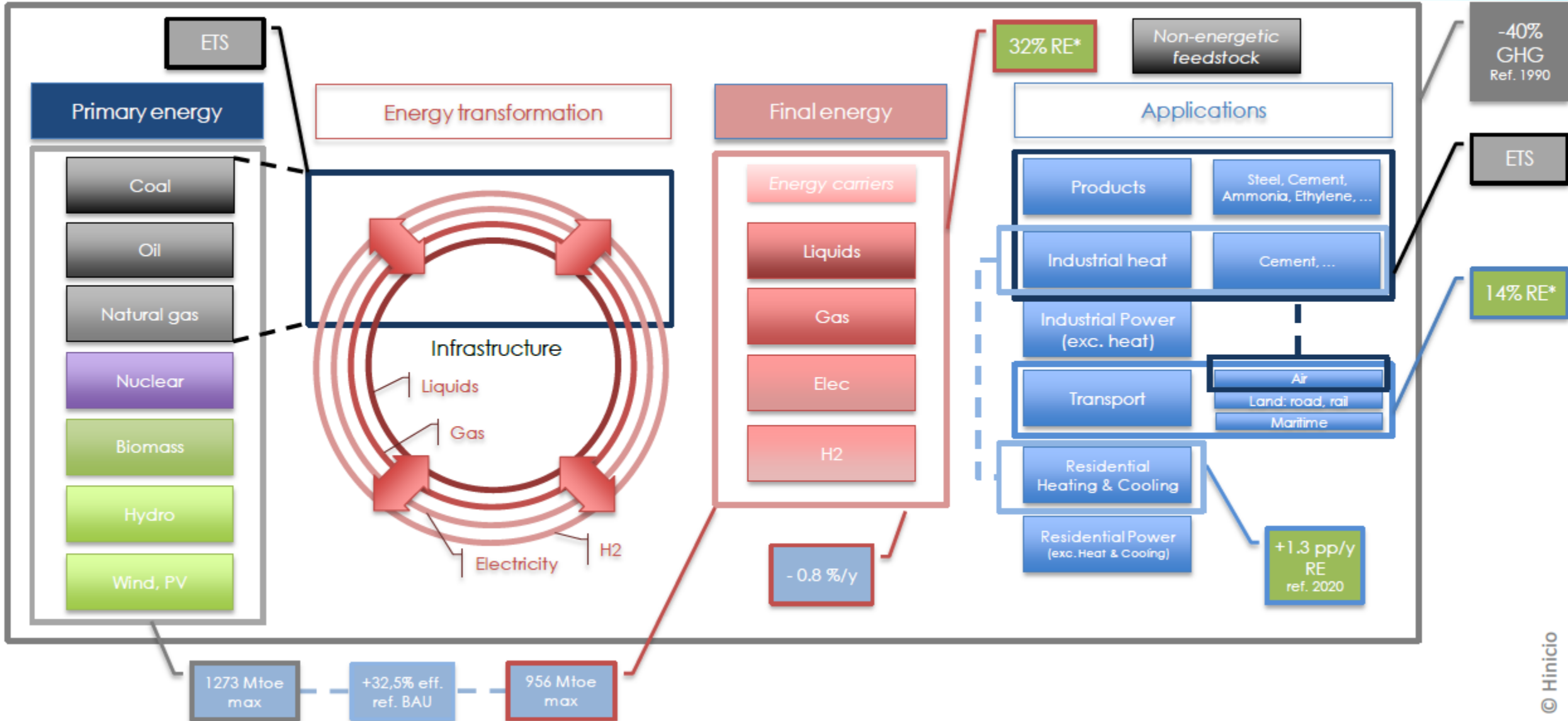
An international view and network



Countries covered by HINICIO's recent studies on hydrogen

Production	T&D et storage	Fuel cell applications	End-clients	Public sector	Investors and donors

Energy tracking will be required across the whole energy system because all energy carriers will increasingly be produced from renewable primary energy via other energy carriers



2014 2016 2017 2018/9 2020s..

Phase 1

1 Define a widely acceptable definition of green hydrogen

2 Determine how an EU wide robust GO scheme should be designed and implemented

Phase 2

1 Set-up a hydrogen GO Stakeholders' platform & its Steering Group

2 Finalise the scheme design ensuring it can be the main route to guarantee the origin of green & low carbon hydrogen across EU Member States

3 Run a pilot scheme to test the proposed design.

4 Identify actions which need to be undertaken after the completion of the study to achieve an EU wide deployment of the scheme

Phase 3

1 Prepare EU wide deployment: Implement key elements

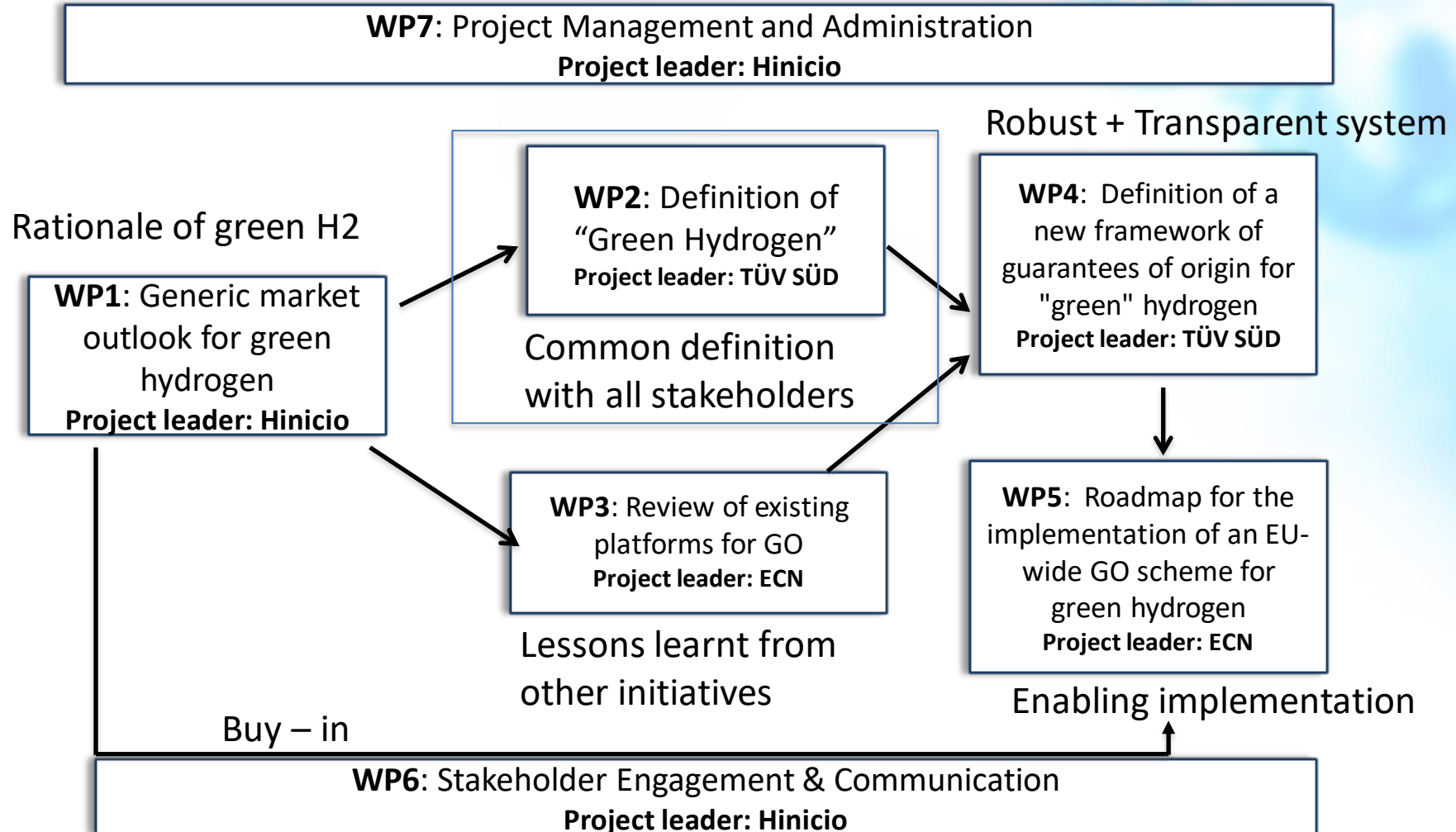
- Competent authority,
- Issuing Body,
- Registry operator,
- Accreditation body

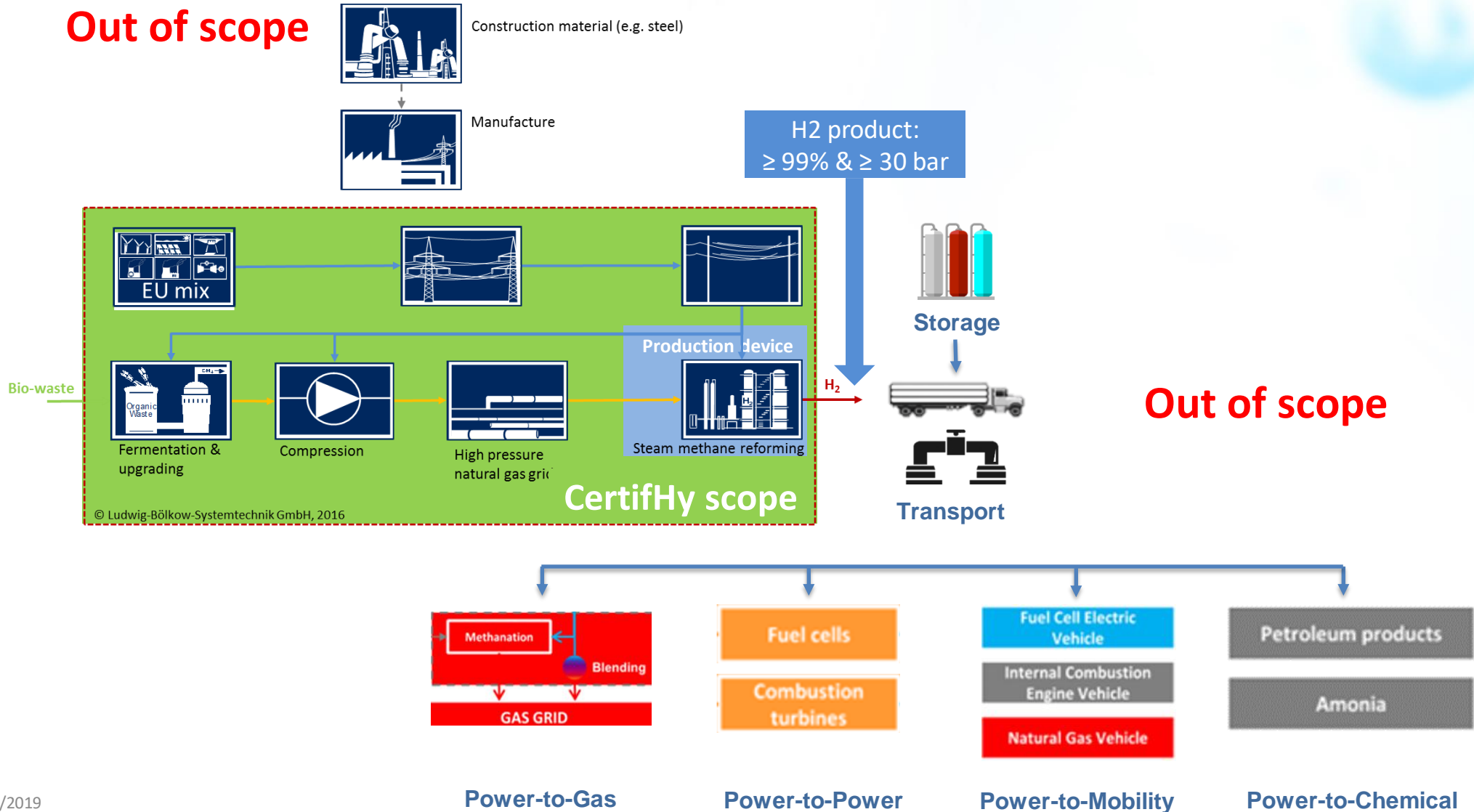
2 Finalise Regulation, Codes and Standards:

- CEN Standard
- EU and national regulation
- CertifHy scheme docs

Consortium

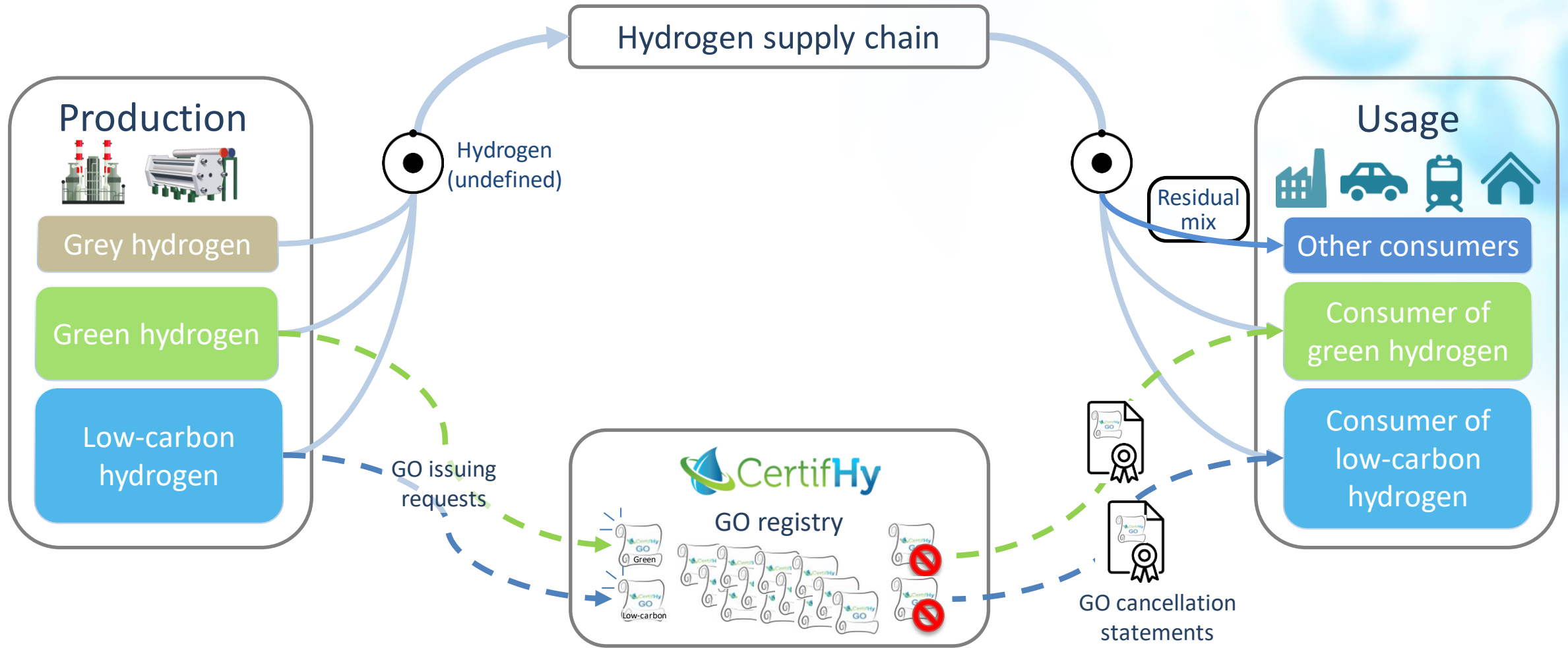
Affiliated Partners





Data on Origin Production Batch	Units
<ul style="list-style-type: none"> • Date and time of hydrogen production (beginning and end) • Facility (identity, location, date of start of operation, process and capacity) • Energy sources (including GoO information if applicable) • Raw material sources (including sustainability information if applicable) • GHG emissions intensity of hydrogen produced • Information on any support scheme (e.g. investment support, feed-in tariff, ...) 	g CO _{2eq} /MJ _{H2}
<ul style="list-style-type: none"> • For hydrogen produced as a by-product: <ul style="list-style-type: none"> ○ Main product ○ Basis of GHG emissions allocation (e.g. input energy share) 	
<ul style="list-style-type: none"> • Average GHG emissions intensity of all H₂ produced by the facility during the 12 months preceding date of production 	g CO _{2eq} /MJ _{H2}
<ul style="list-style-type: none"> • Share of renewable energy in total energy input* for producing the hydrogen 	%
<ul style="list-style-type: none"> • Average GHG emissions intensity of the renewable share 	g CO _{2eq} /MJ _{H2}
<ul style="list-style-type: none"> • Average GHG emissions intensity of the non-renewable share 	g CO _{2eq} /MJ _{H2}
<p>*excluding ancillary energy consumption</p>	

<p>Eligibility for CertifHy Green Hydrogen Guarantee of Origin</p> <p><i>CertifHy Green</i> share of production [options]</p> <p>Allocated GHG emissions intensity [options]</p> <p>CHG emissions offsetting</p> <p><i>Criteria:</i></p> <p>Does the unit quantity of hydrogen covered by this document belong to the CertifHy Green share of production?</p> <p>Is the emissions intensity of the unit quantity of hydrogen covered by this document lower or equal to the CertifHy Low-GHG threshold (36,4 gCO₂_{eq})?</p> <p>CertifHy Green Hydrogen Guarantee of Origin</p>	<p>%</p> <p>g CO₂_{eq} /MJ_{H2}</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p>
<p>Eligibility for CertifHy Low-GHG Hydrogen Guarantee of Origin</p> <p>Allocated GHG emissions intensity</p> <p>CHG emissions offsetting applied</p> <p><i>Criterion:</i> Is the emissions intensity of the unit quantity of hydrogen covered by this document lower or equal to the CertifHy Low-GHG threshold (36,4 gCO₂_{eq})?</p> <p>Low GHG Hydrogen Guarantee of Origin</p>	<p>g CO₂_{eq} /MJ_{H2}</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p>
<p>Issuing Number :</p> <p>(At least one of the above criteria must be satisfied for a GoO to be issued)</p>	







Phase 1

- 1 Define a widely acceptable definition of green hydrogen
- 2 Determine how to design and implement a robust EU wide GO scheme

Affiliated partners:



Phase 2

- 1 Set-up a hydrogen GO Stakeholder platform
- 2 Finalise the scheme design ensuring it can be the main route to guarantee the origin of green & low carbon hydrogen across EU Member States
- 3 Run a pilot scheme to test the proposed design
- 4 Identify actions which need to be undertaken after the completion of the study to achieve an EU wide deployment of the scheme

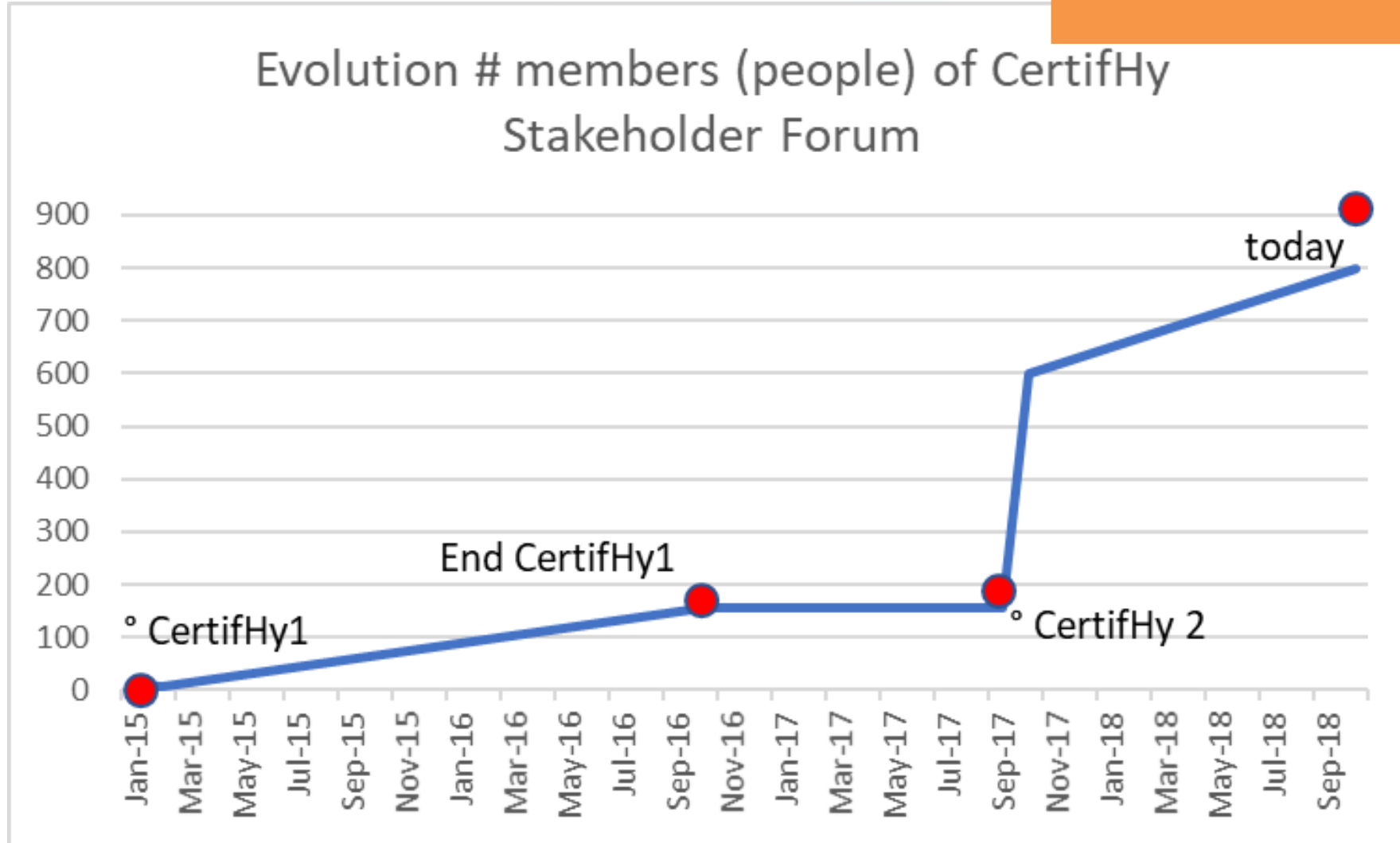
Phase 3

- 1 Prepare EU wide deployment: Implement key elements
 - Competent authority
 - Issuing Body
 - Registry operator
 - Accreditation body
- 2 Finalise Regulation, Codes and Standards:
 - CEN Standard
 - EU and national regulation
 - CertifHy scheme docs

+ 30 new ORGANISATIONS in 2018 with increasing international interest (USA, Canada, Japan, Australia)



+ 100 PEOPLE in 2018



SMR with CCU & biomethane - Port Jérôme (France)

1

AIR LIQUIDE

Available GO volume	TBD
	Up to 900 000 kg

Onsite RE+ Electrolyser - Halle (Belgium)

2

colruyt

Available GO volume	0
	0

Up to 900 tons of Low Carbon H2

Chlor Alkali - Botlek (Netherlands)

3

AIR PRODUCTS
Nouryon

Available GO volume	Up to 50 tons
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RE + Electrolyser - Falkenhagen (Germany)

4

uni per

Available GO volume	Up to 38 tons
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Up to 88 tons of Green H2

Browser address: <https://democmo.grexel.com/default.aspx>

Democmo Logged in

Home - Grexel Intra

CMO.grexel This is democmo site

Select Language: English

Logged in to Supplier 1 :anttik@grexel.com [Sign Out](#)

Home EECS-GO Reports Users Plants My Page Support

Welcome to CMO.grexel anttik@grexel.com

Account Holder	Supplier 1
Email	anttik@grexel.com
Mobile Number	+358 440572964
Client certificate expires	2019-01-23

Pending Tasks
No pending tasks available.

Registry announcements

Title	Modified
Welcome to CMO.grexel demonstration site!	2018-01-23 12:18

Welcome to CMO.grexel demonstration site!

Search Criteria Close

Period Start: 2017-12-23 Period End: 2018-01-23

Account: - All -

Transaction Number:

Trading Schemes:

- All -
- CertifHy-Green
- CertifHy-LowCarbon

Production Device:

- All -
- All owned PDs -

Fuel:

- All -
- F00000000 - Unspecified
- F01000000 - Renewable
- F02000000 - Fossil

Technology:

- All -
- Anaerobic digestion
- Biogas technologies
- Gasification

Transaction Type:

- All -
- Cancel
- Certificate expiry
- Certificate Withdrawal

Transaction Status:

- All -
- Completed
- Failed
- Pending Transfer Approval

Account Statement Close

1 Page Of 1

Account Statement

Default Account - 643002406900001296

Name of Account Holder:	Supplier 1
Address of Account Holder:	00580, Helsinki, Finland
Member code of Account Holder:	97XX36RM1S
Account Status:	Active - Public account

Certificates

Opening balance as at 2017-12-23:	0
Closing balance as at 2018-01-23:	190
Difference	190

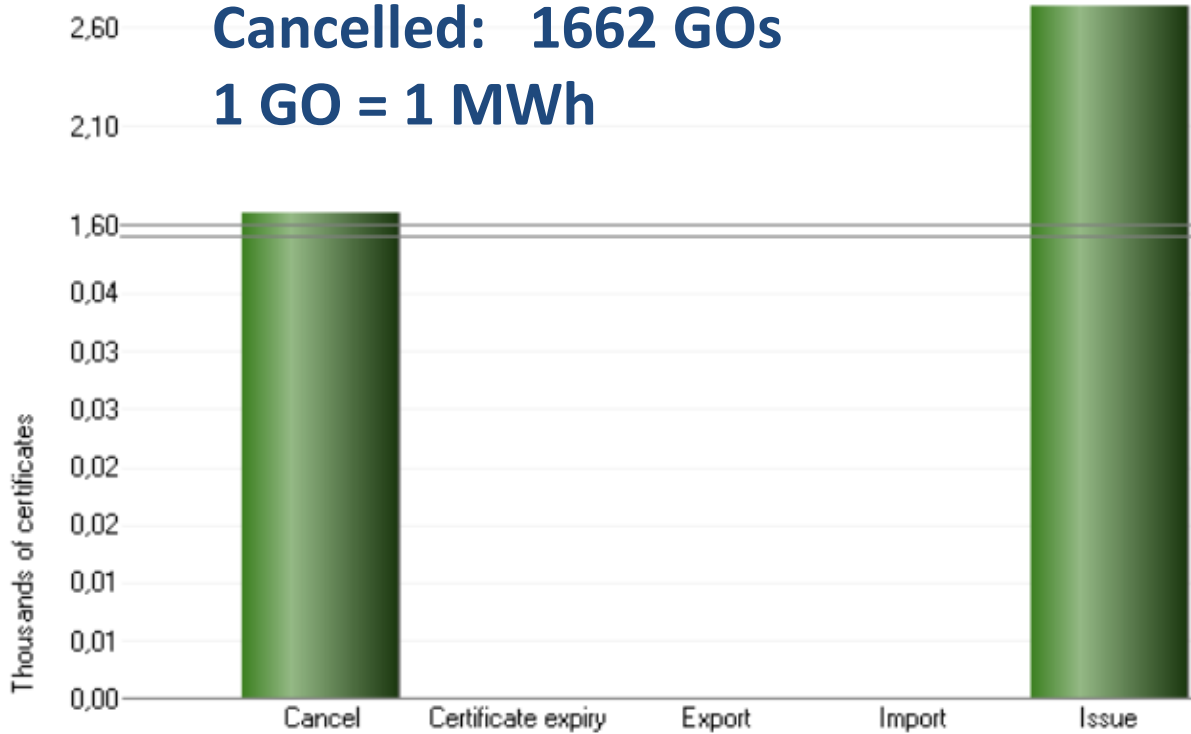
Transaction Date	Transaction Type	Transaction Number	Account From	Account To	Volume
2018-01-23 11:08:47	Transfer	2018012300003	Default Account-643002406900001296	HY- Producer 1-643002406900001265	-10
2018-01-23 10:55:38	Transfer	2018012300002	HY- Producer 1-643002406900001265	Default Account-643002406900001296	200
Total					190

[Select Certificates](#)

Domain Transactions

Domain: CertifHy; Transaction Date: 2019-01-01 To 2019-02-28

Issued: 2714 GOs
Cancelled: 1662 GOs
1 GO = 1 MWh



News Release

Air Products launches European project to certify renewable hydrogen

One of the first to receive Guarantees of Origin under CertifHY; renewable hydrogen will support vehicle fuelling stations

07/02/2019 Rotterdam, The Netherlands

As part of the pilot project, two of Air Products' hydrogen customers in the mobility sector will receive GOs for renewable hydrogen. The first is H2 MOBILITY Deutschland, an organisation operating a network of hydrogen fuelling stations in Germany. The second is London's integrated transport authority, Transport for London, which operates hydrogen buses across the United Kingdom's capital.

Energy Source	Issue	Transfer	Cancel	Export
F01000000 Renewable	2 714	-	1 662	



Q&A

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