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PROGRAM

EUROPEAN HYDROGEN ENERGY CONFERENCE

6th–8th March, 2024

Bilbao Exhibition Centre (BEC)
Bilbao | Spain

EHEC 2024 EUROPEAN HYDROGEN ENERGY CONFERENCE | AeH2 SPANISH HYDROGEN ASSOCIATION

EHEC 2024
EUROPEAN HYDROGEN ENERGY CONFERENCE

AeH2
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WELCOME TO THE
EUROPEAN HYDROGEN ENERGY CONFERENCE

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EUROPEAN HYDROGEN ENERGY CONFERENCE

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Iberdrola lidera la descarbonización de la industria a través del Hidrógeno Verde

Iberdrola, líder en descarbonización industrial con la mayor planta de hidrógeno verde de Europa.

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WELCOME LETTER

MR. JAVIER BREY
Spanish Hydrogen Association (AeH2)

Dear friends,

I am delighted to extend the warmest of welcomes to the European Hydrogen Energy Conference 2024. It brings me great joy to reunite with you all once more.

Since its inception in 2005, the EHEC has evolved into a cornerstone event within the hydrogen and fuel cell sector. Its primary aim is to foster a deeper understanding of the rapidly evolving global energy industry and the pivotal role that hydrogen plays within it. Over the years, the conference has garnered increasing visibility and acclaim as a premier platform for sharing groundbreaking innovations, research findings, technological advancements, and for nurturing invaluable professional relationships. The Spanish Government has duly acknowledged its significance, recognizing it as an "invaluable opportunity for the development of hydrogen technologies in Spain" within the Spanish Hydrogen Roadmap (Measure 38).

This year, the EHEC once again surpasses its previous iterations with four compelling plenary sessions dedicated to the most pressing hydrogen-related topics, featuring distinguished speakers from across the globe. Additionally, it boasts 36 parallel sessions showcasing the insights of over 200 international speakers on cutting-edge research breakthroughs, as well as more than 90 posters highlighting the latest advancements and initiatives in hydrogen-related projects.

With an ever-growing number of companies and institutions committed to hydrogen innovation, this year's Trade Fair promises to be exceptional. Spanning over 3000 m2, the fair will host more than 80 exhibitors, each eager to share their latest projects, products, and services.

The Spanish Hydrogen Association (AeH2) has labored tirelessly to ensure every aspect of the conference exceeds your expectations. Our collective goal is to deliver an outstanding event replete with engaging presentations and abundant networking opportunities, all against the backdrop of our beloved country.

The 2024 edition of the European Hydrogen Energy Conference convenes at a pivotal moment in the hydrogen industry's trajectory, coinciding with a global push towards carbon neutrality. We find ourselves amidst a genuine transition, with the decarbonization of seven key energy and land-use systems at the forefront of our collective agenda. Hydrogen stands as a linchpin in decarbonizing at least five of these systems. This strategic three-day event provides an unparalleled opportunity to grapple with our most pressing challenges and engage with potential partners and experts from across the hydrogen value chain to chart the most effective course of action for hydrogen technologies to realize their full potential.

In closing, I extend my heartfelt gratitude to every member of the organizing committee for their unwavering dedication and tireless efforts. This event would not have been possible without their contributions. And to all of you, esteemed attendees, I offer my sincerest thanks for gracing us with your presence. We are committed to surpassing your expectations.

Once again, welcome to EHEC 2024.

EUROPEAN HYDROGEN ENERGY CONFERENCE

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EUROPEAN HYDROGEN ENERGY CONFERENCE

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THE AEH2

AeH2
SPANISH HYDROGEN ASSOCIATION

The Spanish Hydrogen Association (AeH2) stands as a beacon of collaboration and innovation within Spain's burgeoning hydrogen industry. Established in 2002, AeH2 is a non-profit organization boasting nearly 400 partners representing every facet of the hydrogen value chain across the nation.

Since its inception, AeH2 has been unwavering in its mission to foster the advancement of hydrogen-based technologies, recognizing their pivotal role in steering Spain toward a sustainable, carbon-free energy paradigm. Through a steadfast commitment to innovation and employment generation, AeH2 has championed the cause of hydrogen, positioning it as a linchpin in the transition toward a cleaner energy future.

AeH2's collaborative efforts extend far and wide, as it actively engages with both public and private sectors to advocate for hydrogen's integration into strategic plans and regulatory frameworks. In 2023, the Spanish Hydrogen Association carried out a Census of Projects with the help of its members, collecting hydrogen projects with a Technology Readiness Level (TRL) of 7 or higher. This comprehensive initiative underscores AeH2's commitment to mapping and promoting high-impact hydrogen initiatives across Spain. By forging partnerships with national, regional, and local public administrations, AeH2 ensures that hydrogen remains at the forefront of Spain's energy agenda.

The fruits of AeH2's collaboration are evident in a series of seminal documents that have shaped Spain's energy landscape. Notable among these is the Draft Bill on Climate Change and Energy Transition, a cornerstone of Spain's environmental policy framework. Additionally, AeH2's contributions to the National Integrated Energy and Climate Plan 2021-2030 (PNIEC) have been instrumental in charting Spain's course toward carbon neutrality.

However, perhaps most significant is the Spanish Hydrogen Roadmap, a visionary document that outlines Spain's trajectory toward hydrogen leadership on the global stage. Within this roadmap, the European Hydrogen Energy Conference (EHEC) emerges as a strategic cornerstone, symbolizing Spain's commitment to fostering international collaboration and driving innovation in the hydrogen sector.

In summary, AeH2's tireless dedication and unwavering commitment have catalyzed Spain's emergence as a global leader in hydrogen technology. As we stand on the cusp of a new era of sustainable energy, AeH2 remains at the forefront, leading the charge toward a brighter, cleaner future for generations to come.

Find out more at www.aeh2.org

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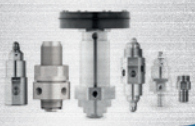

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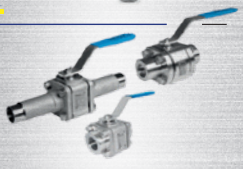

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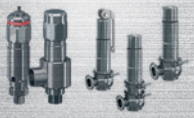

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TIMETABLE

WEDNESDAY 6TH

08.00 • 09.00	Registration
09.00 • 10.00	Opening
10.00 • 10.30	Coffee Break Poster Session
10.30 • 13.00	**Plenary Session 1:** Green Hydrogen production, transport and distribution
13.00 • 14.30	Lunch Break
14.30 • 17.10	Parallel Session 1
17.10 • 17.40	Coffee Break Poster Session
17.40 • 20.00	Parallel Session 2
20.00	Cocktail

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Accelerating green hydrogen production

Green hydrogen generated by electrolysis – this is one of the key elements for a sustainable and climate- neutral energy economy. Our Bosch electrolysis stack represents the heart of hydrogen production and thus supports a future-proof energy system that is independent of fossil fuels. The stack is manufactured according to our climate-neutral standards of automated and industrialized series production – globally scalable at any time and, of course, in the usual high Bosch quality.

March 6, 2024 at EHEC, Plenary Session 1

Presentation by Paul Simon
Director Business Unit Development
Electrolysis Technology & Services, with the topic:

Industrialized electrolysis as the essential core of a future hydrogen-powered ecosystem

Learn more:
www.bosch-electrolysis.com

TIMETABLE

THURSDAY 7TH

08:00 • 09:00	Registration
09.00 • 11.00	**Plenary Session 2:** Hydrogen uses in industry and mobility
11.00 • 11.30	Coffee Break Poster Session
11.30 • 13.30	**Plenary Session 3:** Cross-sectoral Synergies: The role of hydrogen valleys
13.30 • 15.00	Lunch Break
15.00 • 17.00	Parallel Session 3
17.00 • 17.30	Coffee Break Poster Session
17.30 • 19.30	Parallel Session 4
20.30 • 23.00	Gala dinner experience with museum visit and networking party

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for people and our planet

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TIMETABLE

FRIDAY 8TH

08:00 • 09:00	Registration
09.00 • 11.00	**Plenary Session 4:** National H_2 Institutions: tailoring the transition of their national energy systems.
11.00 • 11.30	Coffee Break Poster session
11.30 • 13.30	Parallel Session 5
13.30 • 14.00	Closing Ceremony

EUROPEAN HYDROGEN ENERGY CONFERENCE

THE VENUE BILBAO EXHIBITION CENTRE (BEC)

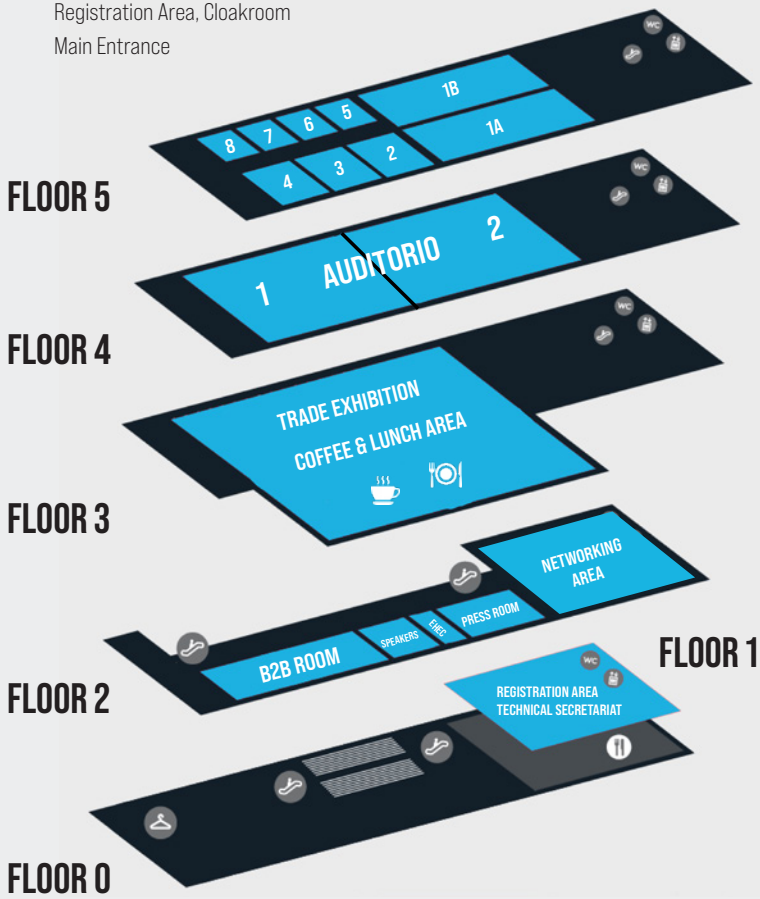
EHEC 2024 will be held at the Bilbao Exhibition Centre (BEC), one of the largest multi-purpose venues in Spain and Europe located in the Biscayan municipality of Baracaldo, in the Basque Country, Spain.

The innovative venue stands out for enabling international, high-capacity events to be held here, and it hosts numerous events such as trade fairs, congresses, business, and corporate meetings, among others. The BEC's generous infrastructure allows for significant seating capacity and has a flexible exhibition area for holding events of relative importance.

Address: *Azkue Kalea, 1, 48902 Barakaldo, Bizkaia*

THE VENUE BILBAO EXHIBITION CENTRE (BEC)

FLOOR 7	Room Torre
FLOOR 5	Room 1A, 1B, 2, 3, 4, 5, 6, 7, 8
FLOOR 4	Auditorio 1 - 2, Poster Area
FLOOR 3	Trade Exhibition, coffee & lunch area
FLOOR 2	Speakers room, B2B room, Atrio Room, Networking Area
FLOOR 1	Registration Area, Cloakroom
FLOOR 0	Main Entrance



EUROPEAN HYDROGEN ENERGY CONFERENCE

CONFERENCE INFORMATION

REGISTRATION

Registration will be held in the Hall of the Complex (see map) from 8:00 to 9:00 am on Wednesday 6th, Thursday 7th, and Friday 8th. Each type of ticket will have its queue.
The Registration & Information Desk and Speakers' Room will remain open throughout the three-day Congress.

EHEC 2024 ENJOYABLE FEATURES & ACTIVITIES:

- Conference Plenary & Parallel Sessions
- Trade Fair: 3rd floor
- Flamenco Cocktail Experience
- Test & Drive
- Cocktail Gala Dinner
- Delegate bag: Program & Proceedings Book
- Side Events & Networking Area

TEST & DRIVE

You can register for Test & Drive on the pavement near the main entrance.

EHEC 2024
EUROPEAN HYDROGEN ENERGY CONFERENCE

CONFERENCE INFORMATION

NAME BADGE
Your name badge serves as your ticket to all sessions, the exhibition, catering, and the Gala Dinner. Please, wear it at all times.

COFFEES, DRINKS & LUNCH
Coffee & Drinks corners will be at the Trade Fair and in the Posters area.
Lunch will take place at the Trade Fair, (3rd floor - Luxua)

WIRELESS INTERNET
Available on-site at no charge. Please note that the connection speed could vary due to the number of attendees connected.

User: **EHEC2024**
Password: **AeH2_Conference**

WEBSITE: www.ehec.info

EUROPEAN HYDROGEN ENERGY CONFERENCE

CONFERENCE INFORMATION

TRADE FAIR SCHEDULE
Wednesday, March 6th from 9:00 a.m. to 8:00 p.m.
Thursday, March 7th from 09:00 a.m. to 8:00 p.m.
Friday, March 8th from 9:00 a.m. to 2:30 p.m.

CERTIFICATES
Certificates of attendance, as well as the Oral Communication, Poster, Speaker and Moderator diplomas can be downloaded from the "CERTIFICATES" section of the "MY CONGRESS" personal area of the web page.

SOCIAL NETWORKS
Find out the latest news about the congress using the hashtag; **#EHEC2024**

TWITER (X): @EHEC_2024
LINKEDIN: European Hydrogen Energy Conference (EHEC) 2024

EHEC 2024
EUROPEAN HYDROGEN ENERGY CONFERENCE

SPEAKERS' INFORMATION

PREPARATION

- Store all your files in a unique folder, especially videos (make sure videos play automatically when the slide is displayed). 16/9 slides format is recommended.
- Mac users: please don't forget to bring your adaptor.
- Bring your file (ppt and pdf format) in a USB to the Speakers' Room located on the 2nd Floor of the Building where Parallel Sessions will be held.

SPEAKERS' ROOM

- Please, bring your presentation the day before or at least 2 hours before your lecture.
- Our technicians will transfer your presentation to a server. We encourage you to confirm on the technician's computer that the ppt is correctly displayed.

LECTURE ROOM

- Your presentation will be transferred and available on your lecture room, on a presentation computer operated by a technician. There will be no possibility to connect your laptop.

EUROPEAN HYDROGEN ENERGY CONFERENCE

SPEAKERS' INFORMATION

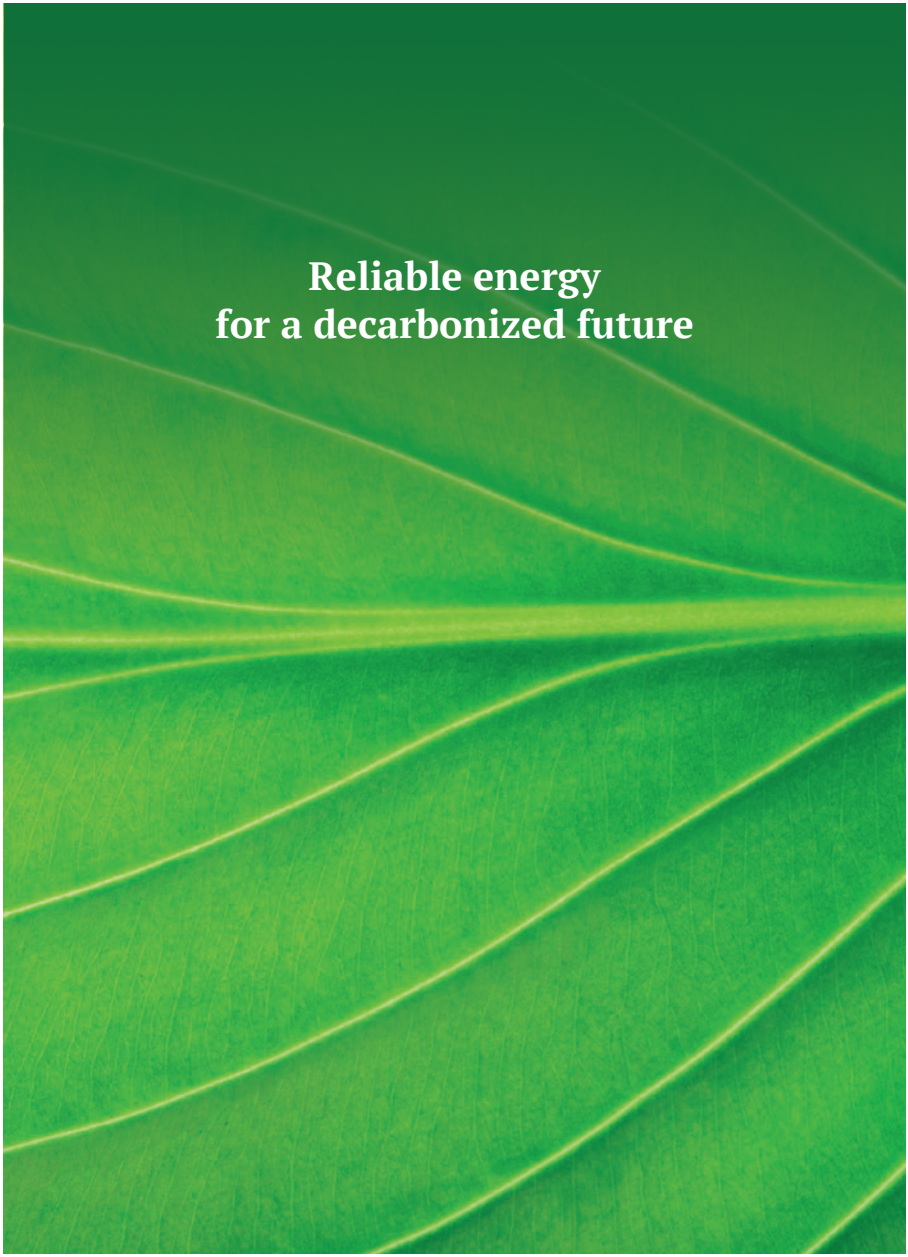
LECTURE ROOM

- It won't be possible to make any changes in the presentation once you are in the Lecture's room.
- Oral presentations will last 15 minutes. There will be an additional 5 minutes for discussion and Q&A. It is important to adjust to the time limits.

INFORMATION FOR CHAIRPERSONS

- Please stick to the time scheduled to allow people to follow the program and move between sessions.
- Let the speaker know when there are left 5 and 1 minute of their time.
- Facilitate and encourage the discussion after the speaker's presentation.

MEMBERS OF THE ORGANIZATION AND LOCAL STAFF WILL BE ALWAYS PRESENT AT THE VENUE. IF YOU NEED ANY HELP, PLEASE CONTACT THEM



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EUROPEAN HYDROGEN ENERGY CONFERENCE

GALA DINNER

March 7th · 20:30h

GUGGENHEIM MUSEUM

Abandoibarra Etorb., 2, Abando, 48009 Bilbo, Bizkaia

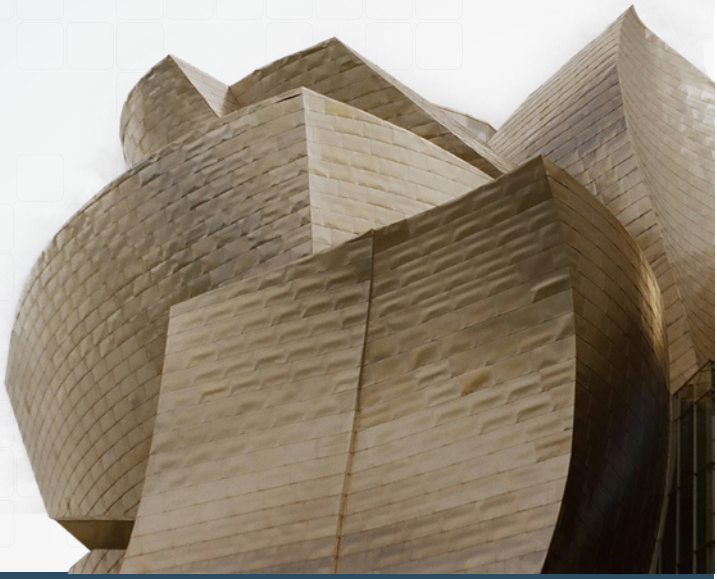
REPSOL

Join us on Thursday March 7th at 20:30h for an exciting private tour of the museum and cocktail offered by "NERUA" by chef Josean Alija awarded with Michelin Star, 3 Repsol suns.

The event, sponsored by **Repsol**, offers all attendees an exquisite soiree at one of the most special places in Bilbao. A unique occasion to meet and establish meaningful relationships.

About Nerua nerua GUGGENHEIM BILBAO

After learning from the great contemporary masters of restaurants, Josean Alija (1978) has been able to cultivate his own style at Nerua Guggenheim Bilbao: aroma, beauty, texture and flavour are the bases that define an essential and approachable cuisine.



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BASQUE HYDROGEN CORRIDOR

Decarbonisation as a driver of economic and social progress

We champion decarbonisation as a driver of economic and social progress, adding value for all stakeholders and, above all, for people, and creating quality of life through sustainability and employment.

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BH2C Asociación

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Clean Hydrogen Partnership

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EUROPEAN HYDROGEN ENERGY CONFERENCE

BILBAO, AT A GLANCE

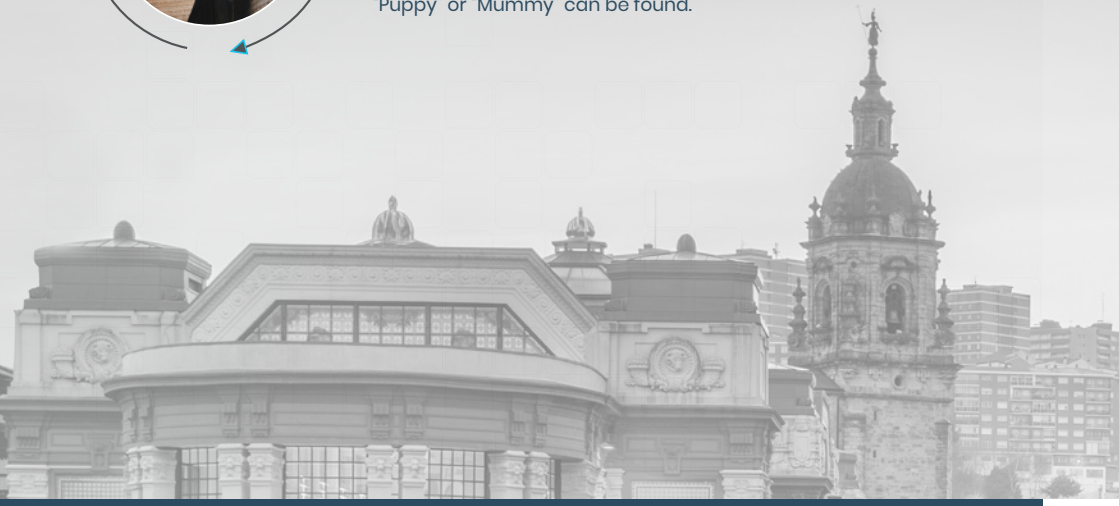
Bilbao, with the Guggenheim Museum as a great international symbol, is the gateway to the Basque cultural universe. It is a city that is an example of urban transformation at a global level and has maintained a number of hallmarks that make it singular and unique. Sea and mountain, character and history, tradition and modern architecture. Bilbao is leisure and culture. Bilbao is everything you expected and more.

Our tables are set with tradition and the avant garde and seasonal products from both the sea and land. Sweetening up your life with the best pastries, letting you express yourself with the latest in fashion, from equipping yourself with the latest technology to browsing for antiques... **See for yourself!**

NOT TO MISS

THE GUGGENHEIM MUSEUM AND ITS SURROUNDINGS

The building was designed by Frank Gehry and has been described as one of the most spectacular constructions of this century. In addition, it is next to the Bilbao Estuary and in the surrounding area characteristic sculptures such as the "Puppy" or "Mummy" can be found.



NOT TO MISS

ZUBIZURI BRIDGE

It was designed by the architect Santiago Calatrava and sought to promote the rebirth of an area of Bilbao after the decline of a fundamental industry for the city, the maritime industry. The layout of the bridge also sought, logically, to facilitate pedestrian communication between two sectors of the population.

LA RIBERA MARKET

It was created in 1929 and is characterized by being the first. Today it is a commercial reference for the whole of Vizcaya. In 1990 it was recognized as the most complete Municipal Food Market by Guinness, being the largest that existed at that time in terms of the number of traders and stalls, as well as the largest covered market in Europe thanks to its 10,000 sq. mt.

THE CATHEDRAL OF SANTIAGO IN BILBAO

It is the most monumental Gothic church in Vizcaya and, apart from being a parish church, it has also been the seat of the Bilbao diocese since it was created half a century ago. The cathedral is in the very heart of the Old Town, the oldest quarter of Bilbao.

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En **Nortegas** ponemos todos nuestros recursos para impulsar la transición energética y dar respuesta a las necesidades del futuro inmediato, a través de dos proyectos estratégicos a nivel nacional.

Por un lado, **H_2SAREA** que impulsa la inyección segura de hidrógeno verde a través de la red actual de gas natural.

Tras tres años de trabajo, **H_2SAREA** confirma la viabilidad de un uso completo de las infraestructuras ya existentes en el desarrollo de la transición energética nacional.

La inyección de un 20% de hidrógeno verde supondría una reducción de CO_2 equivalente al 50% de la demanda de gas natural doméstica de España.

Y por otro, **Nortegas pone en marcha el primer hidroducto** que vehiculará hidrógeno 100% renovable, un hito en el desarrollo de la futura economía del hidrógeno, que representa un avance para proporcionar a la sociedad un modelo energético limpio y sostenible.

CONGRESO EHEC 2024
EUROPEAN HYDROGEN ENERGY CONFERENCE
Bilbao, 6-8 marzo

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EUROPEAN HYDROGEN ENERGY CONFERENCE

TRADE FAIR MAP · 3RD FLOOR

EHEC 2024
EUROPEAN HYDROGEN ENERGY CONFERENCE

STANDS

A

1.1	WEH
1	LEXIER
2	H2CAT
2.1	KINGLER
3	CNH2
4-5	DRÄGER
6-7	H. ANDALUZ
8	KNICK
9	VITKOVICE CYLINDERS
10	COOLERGY
11	EIC GREEN
12	SAFER INSTRUMENTS

B

1-2	BOSCH
3	TCA-HORIBA
4	TRELLEBORG
5	HYDAC
6	VONK
7	VISION BATT
8	ABB
9	NEUWALME-UNIVERGY SOLAR
10	PROTIO
11	PHOENIX
12	AIR LIQUIDE
13–14	ENAGAS
15	CARBUROS METALICOS
16	FUND ARAGON
17	STIRLING
17.2	GAS ECO
18	MSR IBERIA
19	NANO4ENERGY
20	BASES
21	H2 GREEN
22	ELECNOR
23	PRF
24	ANISOL
25	GRUPO ALAVA
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27	UMOE BY IMOX
28	ELECTRIFOR
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30	HIPERBARIC
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33-34	BP
35-36	TECNALIA
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51	ERREDUE
52	HEROSE
53	H2 ERA
54	RAIMABER FLUID TECH

CL

1	BH2C
2	CLUSTER ENERGIA
3	H2SITE
4	ABC
5	TUBACEX
6	MUBIL
7	SALA REUNIONES
8	SPRI
9	PARKE
10	TRAFAG
11	TEKNIFER

C

1	IDOM
2	INTARCON
3	ALFALAVAL
4	AEG PS
5	SIEMENS
6	ZWICKROELL
7	ARIEMA
8	BOLLFILTER
9	FONDON
10	TRESCA-PUENTIA
11	TAMOIN
12	IBERFLUID
13	YOKOGAWA
14	AEH2

D

1	ARCAMO
2	IBERDROLA
3	REPSOL
4.1	LHYFE
4.2	SARRALLE
5	EMP. AGRUP.
6	CEPSA
7	TOYOTA
8	SENER
9	NORTEGAS

ONLINE MAP


HYDROGEN
LET'S GO BEYOND

TEST & DRIVE

TOYOTA

Toyota Mirai is a hydrogen fuel cell electric vehicle with a 180 HP engine, a consumption of 0.79-0.89 kg/100 km, a range of 650 km and a refueling time of 3-5 minutes, with zero emissions

48V hydrogen fuel cell reach forklift with a load capacity of up to 2,000 kg, possibility of high stacking (up to 13 m), versatility for loading/unloading and suitable for operation in narrow aisles

TEST & DRIVE SCHEDULE

March 6th from 09.00 to 19:30

March 7th from 09.00 to 19:30

March 8th from 09.00 to 14:00


SMARTENERGY
Leading the way in green hydrogen.
smartenergy.net
Green Hydrogen
Solar PV
Wind Power

TEST & DRIVE

HYUNDAI

TEST & DRIVE SCHEDULE

March 6th from 09.00 to 19:30

March 7th from 09.00 to 19:30

March 8th from 09.00 to 14:00

Hyundai Motor España, under its "**Progress for Humanity**" claim , undertakes the mission to build a better world by developing innovative solutions to confront global issues. According to this commitment, Hyundai has been **the first motor brand providing all five electrified motoring technologies** (48V hybrid, electric hybrid, plug-in hybrid, 100% electric and hydrogen fuel cell) across the world.

Committed to this challenge, the company has a clear roadmap that proposes a zero-emission mobility structure with the goal of **achieving carbon neutrality by 2045** in all markets where it is present.

EUROPEAN HYDROGEN ENERGY CONFERENCE

OUTDOOR EXHIBITION

CARBUROS METALICOS
Grupo Air Products

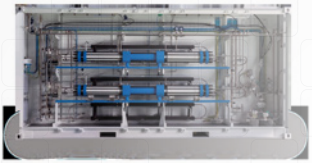
The Carburos Metalicos' mobile dispenser is an independent and highly reliable refueling unit for the supply of hydrogen. It allows the refueling of vehicles in a flexible way, without emissions and with minimal installation.

- Independent and portable units
- Remote monitoring and 24/7 assistance
- Continuous hydrogen supply
- Training for safe use
- Complies with all European and local regulations

The mobile dispenser can be connected to hydrogen bottles that can be supplied individually (for low or medium volume) or in blocks of different sizes that can be adapted to the amount of gas needed.

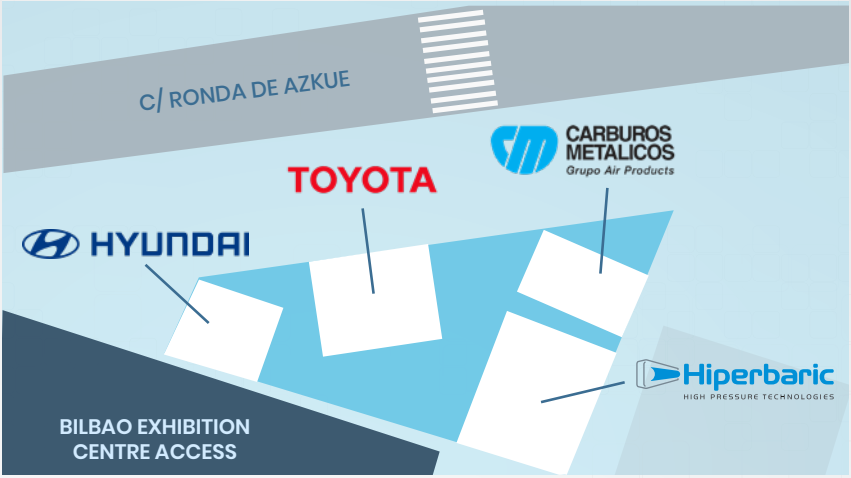
Hiperbaric
HIGH PRESSURE TECHNOLOGIES

Hiperbaric, the global leader in high pressure technologies, will be showcasing its complete and containerized hydrogen compression solution of up to 1,000 bar. A plug & play concept that includes all the necessary components to compress hydrogen at high pressures in a safe, efficient, and reliable way. This equipment is adaptable to any production level, whose main component is a two-stage piston compressor that allows different suction and discharge pressures from 20 bar up to 500 or 950 bar.



EHEC 2024
EUROPEAN HYDROGEN ENERGY CONFERENCE

OUTDOOR EXHIBITION



EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

PLENARY SESSION 1
GREEN HIDROGEN PRODUCTION, TRANSPORT AND DISTRIBUTION

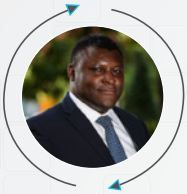
Auditorio · March 6th
10.30 - 13.00

Sponsored by REPSOL

MODERATOR: **AFRICA CASTRO**

Vice-president of the Spanish Hydrogen Technology Platform (PTeH2)

Africa Castro is vice-president of the Spanish Hydrogen Technology Platform (PTeH2) and designated expert in international working groups (European Clean Hydrogen Alliance, Electrolyser Partnership and Clean Hydrogen Mission in Mission Innovation). She is the Director of Strategy, Business Development, and Communication at H2B2. In this role, she plays a vital part in shaping communication strategies and fostering government relationships with key stakeholders.



TOMAS MALANGO

Renewable Fuels and Circular Economy Director at Repsol.
President of SHYNE (Spanish Hydrogen Network)

Tomas Malango is a BS in Chemical Engineering from the Universidad Complutense de Madrid, with postgraduate education in Advanced Management from IE Business School and Management of Research, Development and Technology Transfer from IESE Business School. Tomas Malango joined Repsol in 2001 at the Puertollano Refinery, where he was operation head in different areas before joining the Repsol Technology Center team as Senior Refining Technologist in 2008. Since then, Tomas Malango has managed different technology development projects for Refining and Mobility businesses at Repsol Technology Lab. He was also Hydrogen Director, responsible of creation and development of the renewable hydrogen strategy in Repsol. Since 2022 he is Director of renewable fuels and circular economy and also President of SHYNE (Spanish Hydrogen Network).

PLENARY SESSIONS

PLENARY SESSION 1
GREEN HIDROGEN PRODUCTION, TRANSPORT AND DISTRIBUTION

Auditorio · March 6th
10.30 - 13.00

Sponsored by REPSOL

JORGE PALOMAR
Global Hydrogen Development Director in Iberdrola

Jorge Palomar is responsible for the promotion of Green Hydrogen projects and business development in Iberdrola. He has more than 22 years of experience in the energy sector where he´s experienced on engineering and fuel trading and has previously held different senior positions in the company including being the Head of Global Operations and Trading in Europe and the Head of Corporate PPAS to finally become two years ago the Head of Green Hydrogen Development where he is boosting more than 60 projects in 8 countries that Iberdrola has now under development. By education, he is a Mining Engineer from Universidad Politécnica de Madrid. Has got an International Executive MBA from Universidad Antonio de Nebrija and a Master on Energy Industry Economics from Carlos III University and has taken several leadership senior programs by IMD Business School. He is also an educator in Masters and postgrades in different universities.

JOAQUÍN RODRÍGUEZ JADRAQUE
Director Hydrogen & Clean Power

With a solid track record in the energy sector, Joaquin has played key roles in the development and strategic management of clean and renewable energy projects internationally. As Director of Hydrogen and Clean Energy at CEPSA, he leads the green hydrogen and sustainable fuels strategy, with the objective of building and operating 2 GW of green hydrogen equivalent production by 2030, establishing strategic alliances for the viability of projects such as the Andalusian Hydrogen Valley. Previously, at Fisterra Energy, a Blackstone portfolio company, he led the development of a portfolio of green hydrogen projects in the MENA region and the generation of renewable energy assets in Mexico, including the creation of the first private and independent supply company in the country, Ektria. In addition, he has advised private equity and infrastructure funds such as Macquarie, JP Morgan, TCI and Blackstone in the Mexican energy market. His experience includes leading roles at ENEL GREEN POWER and ENDESA Group, ranging from leading strategy, business development and M&A to global financial and commercial risk management.

EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

PLENARY SESSION 1
GREEN HIDROGEN PRODUCTION, TRANSPORT AND DISTRIBUTION

Auditorio · March 6th
10.30 - 13.00

Sponsored by REPSOL

CAROLINA MESA IVERN
VP, Hydrogen Spain and New Markets

bp

Carolina joined bp in 2012 and has had a variety of roles covering Business Development, Commercial and Planning across Group, Upstream and Solar. She currently manages the Hydrogen business in Spain, New Markets and leads the Center of Excellence (COE) Hydrogen team. Prior to joining bp, she spent her career in M&A and Private Equity, covering a number of different industries, including Energy.

JOSÉ MARÍA LLOPIS
Managing Director Smartenergy Spain & Wind Europe

SMARTENERGY

Benefiting of his wide experience in the energy sector, José María Llopis is managing Smartenergy's Operations in Spain, as well as the Groups' Wind Business. He is Industrial Engineer by the Universidad Politécnica de Valencia with a superior course in Energy Business by ICADE. José María has more than 26 years of professional experience in the energy and utilities industry, having worked in IBERDROLA and in DS2, a telecommunications start-up participated by ENDESA and ITOCHU. Early 2009, he joined the German PV specialist IBC SOLAR, and started his track record in renewable business. In this Group, he was holding various executive management positions leading the expansion of the company from wholesale retail distribution business into large scale project business. During his over 12 years of experience in the solar PV sector, he has been leading highly qualified multinational teams in EPC, O&M and project development business in countries like Spain, Germany, India and Japan.

PAUL SIMON
Director of Renewable Fuels and Circular Economy

BOSCH

Paul Simon has been director of business unit development for electrolysis technology and services at Bosch since July 2022. Before joining the Bosch Group in 2022, he already gained dedicated experience in the field of hydrogen business development, sales, strategy, and project management. Paul Simon was born on March 4, 1992 and studied mechanical engineering at the university of Würzburg, Germany. He is married and has two children.

PLENARY SESSIONS

PLENARY SESSION 1
GREEN HIDROGEN PRODUCTION, TRANSPORT AND DISTRIBUTION

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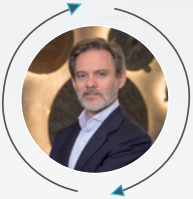


JUAN VILLAR MARCELINO
Managing Director of the Gas Distribution business of Nortegas

Juan Villar is the Managing Director of the Gas Distribution business of Nortegas, a gas distributor in the north of Spain. He has worked at Nortegas for more than 3 years, initially as CFO, then COO of the Group and currently as responsible of the distribution business. His current role involves leading the team that sells gas solutions to our clients, expands and operates our gas networks, and works with our clients to help them use gas effectively and transition towards renewable gases. Before Nortegas, he spent 14 years at Citi, where he was Managing Director in the Investment Banking division, covering Business Services for EMEA, based in London and Madrid. He has also worked as strategy consultant in the Telecom sector, where I had the opportunity to work in the launch of a number of telecom operators in Morocco, Brazil, India and South Africa, taking positions in sales, customer services, marketing, IT and network deployments. He is an Industrial Management Engineer and have an MBA from IESE Business School, with an Exchange at NYU Stern School of Business.

NATALIA LATORRE
General Director of Energy Transition

Professional with more than 20 years of experience in the energy sector (logistics, marketing, sales and construction). General Manager of Energy Transition of Enagas, S.A.,. She is currently leading the company's sustainability journey, the regulatory aspects and the company's strategy, as well as the development of renewable hydrogen infrastructure. Formerly President of Shell Spain between 2015 and 2022, Member of the Strategic Committee and the Board of Directors of Sedigas, the Spanish gas association. Independent Director of Befesa, member of the Advisory Board of Marsi Bionics, member of the Strategic Advisory Board of the "Women and Engineering" program at the Royal Academy of Engineers of Spain. Member of the Board of Directors of the International Women Forum, she belongs to Aemener and also to Women Corporate Director.

EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

PLENARY SESSION 2
HYDROGEN USES IN INDUSTRY AND MOBILITY

Auditorio · March 7th
09.00 - 11.00

MODERATOR: **MARIBEL RODRÍGUEZ**

Responsible of Hydrogen business

Forestry Engineer from the Polytechnic University of Madrid, and MBA from EAE Business School and Rovira y Virgili University. She has developed her professional career in the field of innovation and technological development of renewable hydrogen and the application of low-carbon energy technologies in industry. She began her professional career in 2007 in Ariema Energía y Medioambiente, a nationally pioneering R&D&I intensive SME in the green hydrogen value chain as a project technologist. In 2014 she became deputy director of the company. She has participated in more than 35 projects related to the application of green hydrogen technologies in industry funded by the European Union and the Government of Spain. In 2017 she started collaborating with the European Commission as an external evaluator of SME instrument proposals in the analysis of innovative business ideas based on clean energy and greenhouse emissions reduction. In 2021 she worked at Fotowatio Renevables Ventures as business development manager in green hydrogen initiatives. In November 2021 he joined Repsol's Hydrogen Division as business development manager, currently being responsible of the hydrogen team.

STEPHAN HERBST **TOYOTA**

Technical Head Powertrain Hydrogen and Fuel Cell Business Unit of Toyota Motor Europe's (TME) R&D and Fuel Cell Business Group responsible for hydrogen strategy

Stephan is currently acting as Technical Head Powertrain Hydrogen and Fuel Cell Business Unit of Toyota Motor Europe's (TME) R&D and Fuel Cell Business Group responsible for hydrogen strategy, new products and sustainable mobility. He is on the Management Board of the Hydrogen Council and Chair of the Mobility Working group of Hydrogen Europe. Stephan is also alternate Liaison Delegate to the World Business Council for Sustainable Development. Previously he held various positions in TME Environmental Affairs, Trend Research and Business Strategy. Stephan also worked in Toyota's Global Headquarter in Japan looking after the global environmental strategy. Stephan studied business administration and economics and he holds a PhD in economics. Stephan worked for seven years in the automotive industry in Germany and China before joining TME in 2005.

PLENARY SESSIONS

PLENARY SESSION 2
HYDROGEN USES IN INDUSTRY AND MOBILITY

Auditorio · March 7th
09.00 - 11.00

JAVIER DEL VAL MUÑOZ
Product Manager. Electrification & New Technologies at HYUNDAI

Industrial Engineer, passionate about the automotive world and everything related to it. With more than 15 years of experience in the automotive world, knowing different areas of the business such as after sales, product, marketing and training. Currently, from the product department, responsible for the range of electric vehicles, hybrids, plug-in hybrids, hydrogen and new technologies, both market data and the technical operation of the product itself.

ISAAC PÉREZ-FAFIAN
Delegate Airbus UpNext Spain

Isaac Perez-Fafian is the Delegate for Airbus UpNext in Spain. In this role, Isaac's mission is to accelerate the technologies of the future, incubate talents and inspire the Airbus transformation. Isaac orients the activities in Spain to actively shape the future of aerospace: supporting the Airbus ambitions by prototype developments to evaluate, mature and validate new products and services. To match their ambitions, Isaac Perez-Fafian creates an inspiring place for people to work and develop themselves. He works with the Airbus innovation ecosystem to identify and engage potential partners and suppliers. Isaac has already contributed to a number of innovative platforms including the Airbus Beluga XL as well as the A350 and E-Fan X. Isaac Perez-Fafian is not only an experienced engineer and entrepreneur. He also is a competitive cyclist.

ARMANDO ANSON
Zero Emission Innovation Program Manager

Armando Anson is Technical project manager role in the following CAF projects: FGC UT-113, Freiburg Urbos trams, Utrecht Urbos trams, Amsterdam Urbos trams. Among its functions is the coordination of strategy activities and definition of the equipment that supplies or distributes energy within the train between the different vehicle platforms.

EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

PLENARY SESSION 2
HYDROGEN USES IN INDUSTRY AND MOBILITY

Auditorio · March 7th
09.00 - 11.00

JOAQUÍN DE DIEGO RINCÓN
Director Combustion Applications Europe

Joaquín de Diego Rincón is Director Combustion Applications Europe at Nippon Gases Euro- Holding. Based in Madrid, Spain. He is responsible for Oxy-combustion developments in aluminum, glass, frits, lead, iron, steel and cement applications. After joining Nippon Gases in 1997 has been working in different roles inside Nippon Gases. Joaquín received a Master Degree of Chemistry from Complutense University in Madrid (Spain). Holds a European Welding Specialist Certificate by the European Welding Federation and a MBA by ESIC Business and Marketing School in Madrid (Spain),

HÉCTOR CARBONELL RAMO
H2 and Energy Transition Director for Southern Europe at Air Products

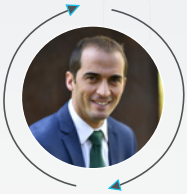
Héctor Carbonell Ramo - H2 and Energy Transition Director for Southern Europe at Air Products (Carburos Metálicos) leads the company's undertaking in the development of the hydrogen market in both Spain and Portugal. This position is backed by 25 years' experience in Industrial Gases and Healthcare B2B markets, in a variety of positions in EMEA and LATAM, covering sales, operations, supply chain, marketing, retail, ERP/SAP deployment and business integrations. This extensive professional career has been developed in different countries over three continents, establishing long periods of permanence in base countries such as Spain, the United States, Germany, Chile and Israel. Chemical Engineer and MBA academic background has achieved broad experience in implementing complex transformational projects and improving business results.

PLENARY SESSIONS

PLENARY SESSION 3
CROSS-SECTORAL SYNERGIES: THE ROLE OF HYDROGEN VALLEYS

Auditorio · March 7th
11.30 - 13.30

Sponsored by BH2C



IÑIGO ANSOLA
Director of EVE (Basque Energy Entity) and Vice President of the Basque Hydrogen Corridor

General Counselor-Director of the Ente Vasco de la Energía-EVE, a public entity belonging to the Department of Economic Development, Sustainability and Environment of the Basque Government. Vice-president of the Basque Hydrogen Association. Previously, General Manager of URA -Basque Water Agency of the Basque Government and previously, Director of Environmental Infrastructures and Director of Water of the Provincial Council of Bizkaia (2007-2011). Member of the Board of Directors of Bahía de Bizkaia Electricidad, Bahía de Bizkaia Gas, CIC Energigune, Bimep, Clúster de la Energía, Enagás Transporte del Norte, Sociedad de Hidrocarburos de Euskadi, CADEM and the other wind, photovoltaic, solar and hydroelectric companies of the EVE Group. Director of the Basque Institute of Competitiveness -ORKESTRA- and Advisory Member of the Plenary of the Chamber of Commerce, Industry and Navigation of Bilbao.

DANIEL FRAILE
Chief Policy & Market Officer at Hydrogen Europe

Daniel Fraile is Chief Policy & Market Officer at Hydrogen Europe where he leads the policy and market intelligence work of the association. He has 18 years of experience on energy policy, renewables energy technologies and international cooperation. He is an engineer with a masters on telecommunications and a Masters in renewable energy. Today, he is leading the Hydrogen Europe policy work, leading a team of analysts and policy specialists. Before, Daniel had been Director of Market Intelligence at WindEurope, where he worked for 7 years leading the market research and leading several policy topics such as system integration and hydrogen. Previously, Daniel has worked on strategic management consulting in the Power to gas sector, has worked for the European photovoltaic industry association, for the environmental NGO CAN-Europe and for the Spanish utility Iberdrola.

EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

PLENARY SESSION 3
CROSS-SECTORAL SYNERGIES: THE ROLE OF HYDROGEN VALLEYS

Auditorio · March 7th
11.30 - 13.30

Sponsored by BH2C

ANTONIO AGUILÓ RULLÁN
Senior Project Officer, Clean Hydrogen Partnership

Antonio is an Industrial Engineer with more than 15 years of experience in the private and public sectors in the field of sustainable energy. In January 2017 he joined the Clean Hydrogen Joint Partnership as a Senior Project Officer. He is currently the Team Coordinator of the Project Officer team and is also responsible for the coordination of the partnership activities on Hydrogen Valleys.

ROSALINDE VAN DER VLIES
Director of the Clean Planet Directorate in the European Commission's Directorate-General for Research and Innovation and Deputy Mission Manager of the Climate-Neutral and Smart Cities Mission

Ms. Rosalinde van der Vlies is the Director of the Clean Planet Directorate in the European Commission's Directorate-General for Research and Innovation and Deputy Mission Manager of the Climate-Neutral and Smart Cities Mission. Before her appointment as Director, Ms. van der Vlies was the Head of Coordination & Interinstitutional Relations Unit, and acting Head of the Communication & Citizens Unit. Previously she held positions in Directorate-General Environment, Directorate-General Justice and Home Affairs, and in the private office of Janez Potočnik, the European Commissioner for the environment. Before joining the European Commission, she worked as a competition lawyer in an international law firm in Brussels and was a part-time teacher at the Catholic University in Brussels.

PLENARY SESSIONS

PLENARY SESSION 3
CROSS-SECTORAL SYNERGIES: THE ROLE OF HYDROGEN VALLEYS

Auditorio · March 7th
11.30 - 13.30

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CHATZIFOTIS KONSTANTINOS
Manager of European Affairs of MOH Group

MOTOR OIL

Mr. Konstantinos I, Chatzifotis is Manager of European Affairs of MOH Group, Member of Directors of Hellenic Hydrogen, and registered lawyer in Athens Bar Association (2005). He has served as Member of Cabinet of EU Commissioner for Migration, Home Affairs and Citizenship (Brussels, 2016-2018), Head of Cabinet of a Vice President of European Parliament (Brussels, 2005-2014), as well as senior advisor of International and EU Affairs and Funding for various Ministers of the Greek Government (Ministry of Development, Ministry of Defence, Ministry of Agricultural Development and Food). He has also advised and supported as external EU funding expert numerous Greek Ministries, Regional and Local Authorities in strategic planning, developing, promoting and managing EU co-funded programs and he has participated as legal expert in international ICT projects.

LUIS TRAVESEDO LORING
VP of Strategy & Sustainability

CEPSA

Luis Travesedo graduated in Business Administration and Management from the Universidad Pontificia de Comillas (ICADE) in Madrid (Spain) and a Program for Executive Development (PDE) from the International Institute for Management Development (IMD) in Switzerland. He has been with Cepsa for the last 29 years in different areas of the company, as Director of Administration/Finance & IT after the international expansion of the E&P activities, and finally becoming Vice President of E&P and member of the Management Committee. In 2023 he assumed responsibility for supporting CEPSA's H2 team as head of the Analysis, Modeling and Optimization department, as well as Project Manager of one of CEPSA's H2 projects in Andalusia. President of the Spanish Association of Petroleum Products Producers (AOP – Asociación Española de Operadores de Productos Petrolíferos)

EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

PLENARY SESSION 4
NATIONAL H2 INSTITUTIONS: TAILORING THE TRANSITION OF THEIR NATIONAL ENERGY SYSTEMS

Auditorio · March 8th
09.00 - 11.00

MODERATOR: **JOSE MARÍA BLASCO**

Director of the Infrastructure, Health and Digital Entrepreneurship Division of ICEX

José María Blasco Ruiz is State Chartered Economist and Trade Expert (civil servant) with a double degree in Economics (Public Economy) and Business Administration (Finance) from the University of Zaragoza. José María is Director of the Infrastructure, Health and Digital Entrepreneurship Division of ICEX and he previously was Economic and Commercial Counselor of the Spanish Embassies in Israel and Singapore, Director at ICEX-Invest in Spain and Deputy Assistant General Director at Ministry of Industry and Commerce.

SUNITA SATYAPAL

Director for the U.S. Department of Energy's (DOE's) Hydrogen and Fuel Cell Technologies Office

Dr. Sunita Satyapal is the Director for the U.S. Department of Energy's (DOE's) Hydrogen and Fuel Cell Technologies Office. She oversees more than $1.6 billion in hydrogen and fuel cell activities, coordinates roughly $10 billion in hydrogen activities across DOE, had a lead role in developing the U.S. National Clean Hydrogen Strategy, and is a Director of the U.S. government's Hydrogen Interagency Task Force.

JOSEPH STANFORD

Communications Lead and Senior Advisor for International Collaboration at the U.S. Department of Energy's Hydrogen and Fuel Cell Technologies Office

Joseph Stanford is the Communications Lead and Senior Advisor for International Collaboration at the U.S. Department of Energy's Hydrogen and Fuel Cell Technologies Office (as a contractor with The Building People). Prior to this role, he held a position as a technology analyst at the U.S. Department of Transportation's Volpe National Transportation Research Center. He also has a background in journalism and several years of service in commercial marine shipping. He has a Master's degree in System Design and Management from the Massachusetts Institute of Technology and Bachelor's degrees in Mathematics and Philosophy from Binghamton University.

PLENARY SESSIONS

PLENARY SESSION 4

NATIONAL H2 INSTITUTIONS: TAILORING THE TRANSITION OF THEIR NATIONAL ENERGY SYSTEMS

Auditorio · March 8th
09.00 - 11.00

THE WORLD BANK

RAFAEL BEN

Energy Specialist for the Latin America and the Caribbean Region of the World Bank

Rafael Ben is an Energy Specialist at the World Bank, where he is currently part of the hydrogen team and co-leads both the Energy Storage and Offshore Wind teams. In previous positions at the World Bank, he worked with the Climate Investment Funds and with the LAC Energy operational unit. Prior to the Bank, Rafael had worked already a decade on renewable energies (mostly wind and solar PV), green hydrogen and fuel cells, both at the Spanish Institute of Aerospace Technology and at international private companies. With ARIEMA (www.ariema.com), he commissioned several small scale Alkaline Electrolyzers and PEM fuel cells, already 15 years ago. He studied chemical engineering and holds a master's degree on Renewable Energy and Energy Markets from the EOI, Madrid.

ANA MARÍA RUZ FRIAS

CORFO

Chief Executive Officer

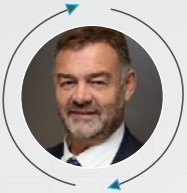
Ana Maria Ruz, head of the Green Hydrogen Committee of CORFO, has 5 years of experience in green hydrogen, including setting up government strategies, liaising to determine how industry needs and fair policy can both be met, and establishing regulations to ensure accountability for hydrogen's promise of decarbonization. She holds a degree in Electrical Civil Engineering and a master's degree in Environmental Management & Planning. She has been awarded the Best Government Initiative at the H2LAC 2023 Industry Awards for accelerating a sustainable and green hydrogen industry in Chile, as well as PE Media Network, 2023 Women in Hydrogen Policy and Regulation category, which recognizes women creating, providing feedback on, and advocating for policies to support the nascent hydrogen economy.

EUROPEAN HYDROGEN ENERGY CONFERENCE

PLENARY SESSIONS

PLENARY SESSION 4
NATIONAL H2 INSTITUTIONS: TAILORING THE TRANSITION OF THEIR NATIONAL ENERGY SYSTEMS

Auditorio · March 8th
09.00 - 11.00



BERT DE COLVENAER
Belgian Hydrogen Council

Bert De Colvenaer was appointed as CEO of WaterstofNet as of 1st September 2023. WaterstofNet is a knowledge and collaboration platform aiming, together with the industrial sector and the government, to contribute to a carbon-neutral society by supporting and realizing hydrogen projects in Flanders, the Netherlands and the Benelux. Prior to his appointment he was Executive Director of the of the ECSEL Joint Undertaking, a public-private partnership on nanoelectronics, embedded software and smart system integration, and the Fuel Cells and Hydrogen Joint Undertaking, mandated to bring the FCH technology to the point of market readiness. Joint Undertakings are autonomous European Union bodies.

WILSON SIERRA
MIEM - Ministry of Industry, Energy and Mining of Uruguay

He is a Chemical Engineer with a degree from the "Universidad de la República" (UdelaR). He has professional experience in the renewable energy field and he is currently the Head of the Renewable Energy Division of the Secretary of Energy, from the Ministry of Industry, Energy and Mining in Uruguay. In particular he has participated in the development of activities to generate the necessary technical and regulatory framework for the promotion of wind energy, bioenergy, energy from small hydro plants and solar energy in Uruguay. Since 2018, he has been involved in the development of green hydrogen, having participated in the design of the National Strategy for the development of green hydrogen and its derivatives in Uruguay. Additionally, he has participated as a lecturer in various courses in School of Chemistry and School of Engineering at the "Universidad de la República" (UdelaR) in Montevideo, Uruguay.

PARALLEL SESSIONS

EUROPEAN HYDROGEN ENERGY CONFERENCE

PARALLEL SESSIONS SCHEDULE

DATE	SESSION	TIME	AUD1	AUD2
WED 6TH	PARALLEL SESSION 1	14:30 - 17:10	Hydrogen Combustion	Hydrogen Infrastructure for Transport, Distribution & Dispensing
	PARALLEL SESSION 2	17:40 - 20:00	Hydrogen Combustion	Hydrogen Infrastructure for Transport, Distribution & Dispensing
THU 7TH	PARALLEL SESSION 3	15:00 - 17:00	Combustion & Hydrogen Systems Modelling	Road Maps, Strategies, Networks & Business Cases
	PARALLEL SESSION 4	17:30 - 19:30	Hydrogen Systems Modelling	LCSA Environmental & Social Impacts
FRI 8TH	PARALLEL SESSION 5	11:30 - 13:30	Hydrogen Systems Modelling	LCSA Environmental & Social Impacts

ROOM 1A	ROOM 1B	ROOM 2	ROOM 3	ROOM 4
Road Maps, Strategies & Networks	Hydrogen Production: Thermochemical & Bio-processes	Hydrogen Production: Solar Processes	Hydrogen Storage: Gas / Liquid	Alkaline Electrolyzers: Materials, Components & Stacks
Hydrogen Storage: Carriers	Catalysts for Hydrogen Production	Transportation & Aerospace Applications	Regulations, Codes & Standards	Membranes
Hydrogen Storage: Carriers	Catalysts for Hydrogen Production & Conversion	SOEC Electrolyzers: Materials, Components & Stacks	Stationary & Other Applications	Other Electrochemical & Fuel Cell Applications
PEM Electrolyzers: Materials, Components & Stacks	PEM Fuel Cells: Materials, Components & Stacks	Electrocatalysts & Electrodes for Electrolyzers & Fuel Cells	Integrated Hydrogen Systems & Business Cases	Other Applications of Hydrogen: E-fuels
PEM Fuel Cells & Electrolyzers: Materials, Components & Stacks	PEM Fuel Cells: Materials, Components & Stacks	Electrocatalysts & Electrodes for Electrolyzers & Fuel Cells	Integrated Hydrogen Systems & Business Cases	Safety & Insurances

HYDROGEN FORECAST TO 2050

DNV's first dedicated hydrogen forecast to 2050 provides new and expanded hydrogen findings from our Energy Transition Outlook model – exploring the outlook globally, regionally, and by sector.

Our latest research explores:

Forecast
*When, where and by how much will hydrogen scale?
*In which sectors will hydrogen and derivatives be used? And where will they not be used?
How will hydrogen be transported and traded?
What will be spent on hydrogen through to 2050?

Insights
*Which policies and strategies can best accelerate the scaling of hydrogen?
*What can be done to reduce risk and increase the attractiveness of hydrogen investments?
*How can hydrogen safety and perception challenges be overcome?
*Which hydrogen value chains will be successful, which won't? What are the pioneering examples?

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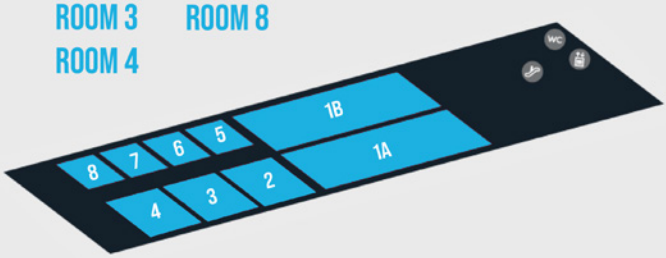
PARALLEL SESSIONS

FLOOR 4 AUDITORIO 1 - 2
POSTER AREA

FLOOR 5 ROOM 1A, ROOM 1B, ROOM 2, ROOM 3, ROOM 4, ROOM 5, ROOM 6, ROOM 7, ROOM 8



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FEED: 100 MW (ELY) Green H2 project, Largest Green Ammonia & Calcium Ammonium Nitrate plant in Latin America to produce e-fertilizer in Villeta (Paraguay)

FEED: 200 MW (ELY) to produce 150 KTm/year e-Methanol

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+2,000 MEGAWATTS

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ORAL
COMMUNICATIONS

WEDNESDAY, 6TH MARCH

14:30 • 17:10 Parallel Session 1

ROOM AUDITORIO 1
HYDROGEN COMBUSTION

14:30

ID41 New burner for H_2 combustion applied to domestic condensing boilers

Ignacio Sánchez

Orkli S. Coop., Ordizia, Spain

14:50

ID212 Numerical analysis of low NO_x hydrogen furnace for heat treatment industrial furnaces

Pablo Barreiro, Isabel Álava, Jesús María

Ikerlan, Mondragon, Spain; UPV/EHU, Bilbao, Spain

15:10

ID270 Hydrogen flame stabilization in narrow channels by a highly conductive wall

Carmen Jiménez, Vadim Kurdyumov

CIEMAT, Madrid, Spain

15:30

ID194 Impact of pure Hydrogen and Hydrogen/Methane blends on two industrial heating systems

Isabel Álava, Mikel Mesanza, Javier Bermejillo, Daniel Cuadrado, Gotzon García

Ikerlan S.Coop., Arrasate-Mondragón, Spain; Nortegas, Bilbao, Spain

15:50

ID222 Effect of hydrogen addition on the combustion characteristics of natural gas cooktop burners

Eduardo Tizné, **Álvaro Muelas**, Antonio Pina, Pilar Remacha, Pablo Bañares, Gerard Ballesté, Francisco Muñoz, Javier Ballester

Universidad de Zaragoza, Zaragoza, Spain; ICB-CSIC, Zaragoza, Spain; Nedgia Catalunya S.A., Barcelona, Spain

16:10

ID38 Minimum Ignition Energy of Hydrogen-Ammonia mixtures in air

Mario Sanchez Sanz, Raquel Gómez Miguel, **Eduardo Fdez.-Tarrazo**

UC3M, Leganés, Spain; INTA, Madrid, Spain

WEDNESDAY, 6TH MARCH 14:30 • 17:10 Parallel Session 1

16:30 **ID136 Reduced kinetics for gas-turbine combustion of hydrogen and hydrogen-ammonia mixtures**

Brandon Li, Jaime Carpio, **Daniel Fernández-Galisteo**, Antonio L Sánchez, Forman A Williams

University of California San Diego, La Jolla, United States; ETSI, Madrid, Spain; CIEMAT, Madrid, Spain

16:50 **ID33 Analysis of the effect of the water injection together with the exhaust gas recirculation in a hydrogen dual-fuel diesel engine**

Javier Serrano Reyes, Francisco José Jiménez-Espadafor Aguilar

University of Seville, Seville, Spain

ROOM AUDITORIO 2
HYDROGEN INFRASTRUCTURE FOR TRANSPORT, DISTRIBUTION & DISPENSING

14:30 **ID165 Analysis of the impact through hydrogen injection on the gas market and the operation conditions of the European natural gas transmission grids**

Alberto Cerezo, **M Cristina Rodríguez**, Javier Sánchez-Laínez, Vanesa Gil, Stefan Gehrmann, Hiltrud Schülken, Virginia Madina

Redexis S.A., Madrid, Spain; FHA, Huesca, Spain; Fundación ARAID, Zaragoza, Spain; DVGW, Bonn, Germany; Tecnalia, San Sebastián, Spain

14:50 **ID197 Novel methods of testing for measurement of natural gas and hydrogen mixtures (THOTH$_2$)**

Matteo Robino, Miguel Ballesteros, **Alessandro Guzzini**

SNAM, Milan, Italy; GERG, Brussels, Belgium; University of Bologna, Bologna, Italy

15:10 **ID315 Development of Advanced Technological Solutions for the Safe Distribution of Hydrogen in the Natural Gas Network (H2AREA)**

Daniel Cuadrado, Gotzon Garcia Miranda, Paula Gata, Francisco J Bermejillo Eguia, Ion Velasco, Elena Silveira, Aistor Esnal, **Nicolas O Larrosa**

Nortegas, Bilbao, Spain; Tecnalia, San Sebastián, Spain

EUROPEAN HYDROGEN ENERGY CONFERENCE

WEDNESDAY, 6TH MARCH **14:30 • 17:10** Parallel Session 1

15:30 **ID139 Establishing protocol for refueling heavy duty with very high flow Hydrogen**
Thibaud Vincendon
HRS, Champ Sur Drac, France

15:50 **ID163 Hydrogen precooling in refueling stations**
Antonio De Francisco
Alfa Laval, Alcobendas, Spain

16:10 **ID217 Hydrogen Refueling Process for Railway Vehicles – Simulation and Model Development**
Steffen Wieser, Mathias Böhm
DLR, Stuttgart, Germany; DLR, Berlin, Germany

16:30 **ID40 H2PORTS. Hydrogen refueling systems development in the port of Valencia**
Cristina Ballester Sierra, Beatriz Nieto Calderón, **Carlos De La Cruz Rodriguez**
CNH2, Puertollano, Ciudad Real, Spain

16:50 **ID154 H2Ref-Demo wants to "boost" high-capacity hydrogen refueling**
Thibaud Vincendon
HRS, Champ Sur Drac, France

ROOM 1A
ROAD MAPS, STRATEGIES & NETWORKS

14:30 **ID371 2050 shades of Solar Chemicals: The construction of a European roadmap for Golden Hydrogen**
Júlia T Miranda Machado, Brendan Flynn, Pau Farràs
University of Galway, Galway, Ireland

ORAL COMMUNICATIONS

WEDNESDAY, 6TH MARCH 14:30 • 17:10 Parallel Session 1

14:50 **ID304 Analysis of potential interactions between European Union and African Union on low carbon hydrogen**

Florence Lefebvre-Joud, Julie Mougin, Thomas Brouhard, Florent Pénet, Stefano Barberis

CEA/LITEN, Grenoble, France; ARTELYS, Paris, France; ENERKA Conseil, Saint-Martin-Le-Vinoux, France; UNIGE, Genova, Italy

15:10 **ID70 Can floating wind accelerate EU & UK renewable hydrogen targets with the US Inflation Reduction Act tax credits?**

Omar S Ibrahim, Matthew Kotarbinski, Shane Mcdonagh, Jerry D Murphy

University College Cork, Cork, Ireland; ORE Catapult, Glasgow, United Kingdom; NREL, Denver, United States; IEA, Paris, France

15:30 **ID300 Hydrogen Valleys – The next step of Austria on the way to a clean energy transition**

Manuela Prieler, Margherita Matzer, Horst Steinmüller

Wiva P&G, Linz, Austria

15:50 **ID210 Spanish contribution to the International Energy Agency Hydrogen Technology Collaboration Programme**

M Pilar Argumosa, Fernando Isorna, Marina Holgado

INTA, Torrejón de Ardoz, Spain; H2-TCP, Torrejón De Ardoz, Spain

16:10 **ID56 Long-term modelling of hydrogen production scenarios in the Basque Country – benchmark of electrolysers**

Diego García-Gusano, Eneko Arrizabalaga, Patxi Hernández, Íñigo Muñoz-Mateos, Juan Pedrero-Alegría, Nekane Hermoso, Beatriz Sánchez-Sarachu, Arantza López-Romo, Nora Fernández, Lara Mabe

Tecnalia, Derio, Spain

16:30 **ID129 Renewable hydrogen: Basque leadership for energy transition**

Manuel Nuñez, Marcos Suarez, Jone Irigoyen, **Arturo Fernández Goyenechea**

Basque Hydrogen Corridor, Bilbao, Spain

16:50 **ID389 Green hydrogen cluster of the Valencia region (HyVal)**

Sagrari Miguel Montalvá, Estrella Jara, Irene Lores, Juan Arenal

BP Energía España S.A.U., Castellón De La Plana, Spain

EUROPEAN HYDROGEN ENERGY CONFERENCE

WEDNESDAY, 6TH MARCH **14:30 • 17:10** Parallel Session 1

ROOM 1B. HYDROGEN PRODUCTION: THERMOCHEMICAL & BIO-PROCESSES

14:30 **ID174 New Technologies for the production, storage and use of renewable hydrogen from biomass waste**

Teresa De La Torre, Francisco Medina Cabello, Sandra Meca Fàbrega, Albert Mitjà Moyano, **José M Sánchez Hervás**, Martí Biset Peiró

ACSA Sorigué, Barcelona, Spain; Universitat de Rovira i Virgili, Barcelona, Spain; EURECAT, Manresa, Spain; INDOX, Anglesola, Spain; CIEMAT, Madrid, Spain; IREC, Barcelona, Spain

14:50 **ID181 Hydrogen production from solid waste: from lignocellulosic to fiber-reinforced plastics**

Alexander Lopez-Urionabarrenechea, **Esther Acha Peña**, Borja B Perez-Martinez, Adriana Serras-Malillos, Blanca M Caballero

UPV/EHU, Bilbao, Spain

15:10 **ID207 Influence of the moisture content of sewage sludge on the production of H_2-rich synthesis gas by gasification processes**

Andelina Bubalo, Dražen Vouk, Danica Maljkovic

University of Zagreb, Zagreb, Croatia; Dok-Ing Ltd., Zagreb, Croatia; Croatian Chamber of Commerce, Zagreb, Croatia

15:30 **ID268 Enhancement of biohydrogen production from fermented acidic cheese whey by using iron supplementation under the lactate-acetate pathway**

Germán Buitrón, Eder J Ordoñez-Frías, Karla M Muñoz-Páez

UNAM, Querétaro, México

15:50 **ID121 Assessment of Hydrogen Production from Sorption Enhanced Chemical Looping Reforming (SE-CLR) of Methane**

Margarita De Las Obras Loscertales, **Teresa Mendiara**, Pilar Gayán, Alberto Abad

ICB-CSIC, Zaragoza, España

WEDNESDAY, 6TH MARCH 14:30 • 17:10 Parallel Session 1

16:10 **ID146 Techno-economic analysis of a 50 MW H_2 production plant by sorption enhanced steam reforming (SESR): Comparing natural gas and biogas**

A Capa, Y Yan, F Rubiera, C Pevida, MV Gil, PT Clough

INCAR-CSIC, Oviedo, Spain; Newcastle University, Newcastle, United Kingdom; Cranfield University, Cranfield, United Kingdom

16:30 **ID338 SHINEFLEET PROJECT: Multi-Fuel compact renewable Hydrogen generator for mobility applications**

Diego Úbeda Romero, Jorge Carrero Montero, Juan M Sánchez Encinal, Carmen Jiménez Borja, Ana Nieto Prado, Inmaculada Moraleda Núñez, Ernesto Simón Camacho, Germán Monjas López, Ana Escobar Lama, Juan L Carreras Muñoz, Azucena Del Río Tejero, Carolina Fernández-Caballero Redondo, Elisa Alcolea Coronel, Miguel A Vega Pacho

Técnicas Reunidas, Madrid, Spain

16:50 **ID346 Technical, Economic, and Environmental Analysis for H_2S-based hydrogen production technologies**

Sawsan Ali, Ismail Il Alkhatib, Ali Almansoori, **Lourdes F Vega**

Khalifa University, Abu Dhabi, United Arab Emirates

ROOM 2
HYDROGEN PRODUCTION: SOLAR PROCESSES

14:30 **ID233 Combining high temperature a solid oxide electrolyzer with solar heat and power: the project PROMETEO**

Alberto Giaconia, Miguel Muñoz, Matteo Testi, Stefan Diethelm, Manuel Romero, Matteo Robino, Jan Van Herle, Barbara Morico, Joey Dobree

ENEA, Roma, Italy; Capital Energy, Madrid, Spain; Fondazione Bruno Kessler, Trento, Italy; SolydEra, Yverdon Les Bains, Switzerland; IMDEA Energy, Móstoles, Spain; Snam, San Donato Milanese, Italy; Ecole Polytechnique Federale de Lausanne, Sion, Switzerland; NextChem, L'aquila, Italy; Stamicarbon, Sittard, The Netherlands

EUROPEAN HYDROGEN ENERGY CONFERENCE

WEDNESDAY, 6TH MARCH **14:30 • 17:10** Parallel Session 1

14:50 **ID42 Green hydrogen production project HYSENCIA Aragon, Spain**

Marcos López-Brea Baquero, Hugo Rey

DH2 Energy, Madrid, Spain

15:10 **ID219 Techno-economic assessment of a hydrogen-based energy storage system for an energy community**

Lucía Pera, **María Serra**, Marta Gandiglio, Paolo Marocco, Alvaro Luna Alloza

Politecnico di Torino, Torino, Italy; CSIC-UPC, Barcelona, Spain; UPC, Terrassa, Spain

15:30 **ID92 Progress on hydrogen production with solar driven high temperature electrolysis**

Timo Roeder, Yasuki Kadohiro, Kai Risthaus, **Nathalie Monnerie**, Christian Satller

DLR, Cologne, Germany

15:50 **ID285 Design Point, Part Load and Annual Performance Analysis of a SOE System with BoP integrating a solar steamer**

Manuel Romero, Germilly Barreto, Beatriz Herrero, José González-Aguilar, Alberto Giaconia, Matteo Testi

IMDEA Energía, Móstoles, Spain; ENEA, Roma, Italy; Fondazione Bruno Kessler, Trento, Italy

16:10 **ID95 Investigating the use of a manganese ferrite-rich industrial waste sludge for thermochemical H_2 production**

Francesco Torre, Ariba Adnad, Elena Palomo del Barrio, Stefania Doppiu

CIC energiGUNE, Basque Foundation for Science, Bilbao, Spain

16:30 **ID151 Effect of the lithium carbonate and nanoparticles addition on the sodium manganese thermochemical cycle**

Joseba Udaeta, Mikel Oregui, Francesco Torre, Nerea Uranga, Marta Hernaiz, Pedro L Arias, Elena Palomo, Stefania Doppiu

UPV/EHU, Bilbao, Spain; CIC-energiGUNE (BRTA), Vitoria, Spain; Tekniker (BRTA), Eibar, Spain; Ikerbasque, Bilbao, Spain

WEDNESDAY, 6TH MARCH 14:30 • 17:10 Parallel Session 1

16:50 **ID223 Green hydrogen production by thermochemical water splitting over monolithic ceramic structures of $La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-\partial}$ (LSCF 6428) perovskite**

Alejandro Pérez Domínguez, Elisa Díaz Correas, María Orfila Del Hoyo, María Linares Serrano, Raúl Sanz Martín, Javier Marugán Aguado, Raúl Molina Gil, Juan A Botas Echevarría

URJC, Móstoles, Spain

ROOM 3
HYDROGEN STORAGE: GAS / LIQUID

14:30 **ID107 How much is enough? Sizing non-geological storage options in large-scale renewable energy hubs**

Fabio B Bozzolo Lueckel, Muireann A Lynch, Rory FD Monaghan

University of Galway, Galway, Ireland; Economic & Social Research Institute, Dublin, Ireland; Ryan Institute, Galway, Ireland; MaREI, Cork, Ireland

14:50 **ID50 Small scale liquefaction of hydrogen and boil-off re-liquefaction based on the Stirling Cryogenerator**

Francesco Dioguardi

Stirling Cryogenics B.V., Son En Breugel, The Netherlands

15:10 **ID111 Full thermoplastic composite H_2 tanks for better recyclability and low-cost manufacturing**

Ricardo Mezzacasa, Miguel Segura, Sonia Garcia, Amaia De La Calle

Tecnalia, Spain

15:30 **ID161 Analysis of different technologies to manufacture hybrid multilayer metal structures to be used in contact with hydrogen**

Iñaki Hurtado, **Olaia Gordo-Burgoa**, Gorka Plata, Nerea Burgos, Elisa Sal, Iban Vicario, Iñigo Crespo, Fernando Santos, Beatriz Calleja, Borja Escauriaza

Mondragon Unibertsitatea, Arrasate-Mondragón, Spain; CEIT, San Sebastián, Spain; Tecnalia, Derio, Spain;AZTERLAN, Durango, Spain;Tubacex Innovation, Derio, Spain;Sidenor I+D, Basauri, Spain

WEDNESDAY, 6TH MARCH

14:30 • 17:10 Parallel Session 1

15:50 **ID221 Transient simulation of BMW iX5 Hydrogen Storage System**

Klaas Kunze, Klaus Szoucsek

BMW AG, Munich, Germany

16:10 **ID134 Underground Hydrogen Storage (UHS): insights on a potential business case for a salt cavern based in Spain**

Gianluca Greco, **Sara Martínez Casasnovas**

FHA, Huesca, Spain

16:30 **ID298 Analysis of underground hydrogen storage**

Iñigo Santamaria

Team Ingenieria, Zamudio, Spain

16:50 **ID170 Ammonia and MOF Based Hydrogen storage for EuRope (AMBHER)**

José Luis Viviente

Tecnalia, San Sebastián, Spain

ROOM 4
ALKALINE ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

14:30 **ID261 Scalable production processes for highly efficient electrodes in alkaline water electrolysis - Influence of electrode structure on activity**

Sebastian Hilbert, Thomas Rauscher, Johannes Trapp, Tilo Büttner, Christian I Bernäcker, Thomas Weißgärber

IFAM, Dresden, Germany; Technical University Dresden, Dresden, Germany

14:50 **ID385 Fabrication of porous Ni electrodes for alkaline electrolyzes by thermal spraying**

M Carmen Parco, Carlos Vaquero Vaquero, Francisco Fernandez, Ekain Fernandez, Ion Velasco, Kateryna Nalyvayko

Tecnalia, San Sebastián, Spain

15:10 **ID244 Development of a high-scale alkaline electrolyzer for heavy duty vehicles in airport environments**

Rodrigo Pérez, Martin Avagyan, David Solera

Ariema Enerxia S.L, Huelva, Spain; Ariema Energía y Medioambiente S.L, Tres Cantos, Spain

ORAL COMMUNICATIONS

WEDNESDAY, 6TH MARCH 14:30 • 17:10 Parallel Session 1

15:30 **ID224 New generation of large alkaline electrolysis plants for the mass production of cheap green hydrogen from renewable sources**

Sara Rodriguez, Ignacio de Dios, Aintzane Izquierdo, Susana Lopez, Lucia Medizabal, Sonia Garcia

Sener Ingeniería y Sistemas S.A., Madrid, Spain; Sener Ingeniería y Sistemas S.A., Getxo, Spain; Tekniker, Eibar, Spain

15:50 **ID280 Advanced alkaline electrolysis technology for pressurized H_2 production with potential for near-zero energy loss: Presentation of HYPRAEL project**

Lidia Martínez-Izquierdo, Laura Abadía, **Vanesa Gil**, Stefan Loos, Kasper Møller, Raymond Thür, Ahmad Harbiye, Bertrand Pavageau

FHA, Huesca, Spain; ARAID Foundation, Zaragoza, Spain; Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V., Munchen, Germany; Green Hydrogen Systems, Kolding, Denmark; AGFA Gevaert NV, Mortsel, Belgium; VECO BV, Eerbeek, Netherlands Antilles; Rhodia LOF, Solvay, Pessac, France

16:10 **ID366 Development and testing of a new alkaline electrolyser capable of operating in an offshore environment**

Rodrigo Pérez, David Solera, Martin Avagyan

Ariema Enerxia S.L, Huelva, Spain; Ariema Energía y Medioambiente S.L, Tres Cantos, Spain

16:30 **ID179 On the effect of carbon nanostructures combined with metal hydroxide catalysts at the anode of AEM water electrolyzers**

David Sebastián, José M Luque-Centeno, Pedro F Napal, Cinthia Alegre, Sara Pérez-Rodríguez, Carlos Serrano-Alcalde, M Victoria Martínez-Huerta, Antonio Lozano, M Jesús Lázaro

ICB-CSIC, Zaragoza, Spain; ICP-CSIC, Madrid, Spain

16:50 **ID213 Towards the first low-temperature 1MW electrochemical CO_2 conversion system to produce electrolysis fuels using AEM technology**

Martin Avagyan, **David Solera Rico**, Marcos Borro García

Ariema Energía y Medioambiente S.L., Madrid, Spain

WEDNESDAY, 6TH MARCH

17:40 • 20:00 Parallel Session 2

ROOM AUDITORIO 1
HYDROGEN COMBUSTION

17:40 **ID73 Feasibility of the use of hydrogen in a diesel engine operating in dual-fuel mode**

Francisco V Tinaut, Santiago Molina, J Javier Lopez, Miriam Reyes

CMT-UPV, Valencia, Spain; University of Valladolid, Valladolid, Spain

18:00 **ID130 Effect of the hydrogen energy ratio on the performance and emissions of a dual-fuel IC engine running with renewable diesel-type fuels**

Juan J Hernández, José Rodríguez-Fernández, Angel Ramos, Victor M Domínguez, Miriam Reyes, Blanca Giménez

UCLM, Ciudad Real, Spain; Universidad de Valladolid, Valladolid, Spain

18:20 **ID347 Performance comparison of hydrogen-fueled internal combustion engines using direct injection versus port-fuel injection**

Fabián Musy, Rafael Ortiz, Alfredo Ortiz, Inmaculada Ortiz

Universidad de Cantabria, Santander, Spain

18:40 **ID145 Numerical methodology for assessing greenhouse gas emissions in hydrogen-fueled internal combustion engines for road transport**

Francisco V Tinaut, Ricardo Novella, **Josep Gomez-Soriano**, Miguel Olcina-Girona

UPV, Valencia, Spain

19:00 **ID90 Complete multicomponent versus mixture-averaged calculations of a laminar H_2/N_2 diffusion flame**

Bertrand Naud, Alberto Cuoci, Manuel Arias-Zugasti

CIEMAT, Madrid, Spain; Politecnico di Milano, Milan, Italy; UNED, Madrid, Spain

WEDNESDAY, 6TH MARCH 17:40 • 20:00 Parallel Session 2

19:20 **ID206 CFD study on the influence of NG/H_2 blends on reaction gases, temperature, and velocity profiles in heating equipment of the steel industry**

Eider Del Molino Duran, Juan Palacios Taubmann, Itsaso Auzmendi, Juan Blanco, Agustin Salcines

Tecnalia, Derio, Spain; Sarralle Engineering, Azpeitia, Spain; Nippon gases, Bergara, Spain

19:40 **ID59 Hydrogen as fuel in heating equipment to enable CO_2 neutral Steelmaking**

Itsaso Auzmendi-Murua, Juan Blanco-Requesens

Sarralle Environment & Energy, Azpeitia, Spain

ROOM AUDITORIO 2
HYDROGEN INFRASTRUCTURE FOR TRANSPORT, DISTRIBUTION & DISPENSING

17:40 **ID147 Impact of hydrogen on materials, components, and equipment of high-pressure natural gas grids: scenarios for H_2 blends and 100% H_2**

Javier Sánchez-Laínez, **Vanesa Gil**, Virginia Madina, Alberto Cerezo, M Dolores Storch De Gracia

FHA, Huesca, Spain; ARAID Foundation, Zaragoza, Spain; Tecnalia, San Sebastian, Spain; Redexis, Madrid, Spain; UPM, Madrid, Spain

18:00 **ID148 Study of the tolerance to hydrogen of non-steel metallic materials of the natural gas distribution grid: Presentation of CANDHy project**

Javier Sánchez- Laínez, Vanesa Gil, Alexandre Perrot, Virginia Madina, Alberto Cereza, Agustin Pascual, Alexandra Kostereva, Elisabetta Mecozzi, Marina Cabirni, Marcos Parro, **Pedro Casero**

FHA, Zaragoza, Spain; ARAID Foundation, Zaragoza, Spain; GRTgaz, Boiscolombes, France; Tecnalia, San Sebastián, Spain; Redexis, Madrid, Spain; GERG, Bruxelles, Belgium; Universita' Degli Studi di Bergamo, Bergamo, Italy; RINA-CSM, Roma, Italy; Suministros Industriales Diversos S.A., Alcobendas, Spain

WEDNESDAY, 6TH MARCH 17:40 • 20:00 Parallel Session 2

18:20 **ID311 Materials Testing in Hydrogen production, storage, distribution and applications – Challenges, Requirements, Solutions**

Aleksander Koprivc, **Chen Cao**

ZwickRoell GmbH & Co. KG, Ulm, Germany

18:40 **ID328 Interrogating the fracture control and arrest approaches in ASME B31.12 for repurposing infrastructure to hydrogen: a fracture mechanics-based methodology for quantification of safety margins**

Nicolas O Larrosa

Tecnalia, San Sebastián, Spain

19:00 **ID286 Hydrogen pipeline networks: Retrofit vs. new-built**

Danial Hamedi Jamali, Caroline Ganzer, Kai Sundmacher

Max Planck Institute, Magdeburg, Germany; Otto-von-Guericke University, Magdeburg, Germany

19:20 **ID302 Modelling and Sensitivity Analysis of Salt Cavern Operation for Hydrogen Storage**

Claudia Käding, Hendrik Langnickel, Adam Pluta, Heinz Bekebrok, Marco Zobel, **Alexander Dyck**

DLR; Oldenburg, Germany

19:40 **ID158 Integration of hydrogen transport, storage, and supply subsystems**

M Dolores Storch De Gracia, Pablo Martínez Fondón, Enrique Saborit, Gema Rodado, Alberto Abanades

Redexis, Madrid, Spain; UPM, Madrid, Spain; CNH2, Puertollano, Spain

ROOM 1A
HYDROGEN STORAGE: CARRIERS

17:40 **ID172 Models fitting of metal hydride tank based on experimental data**

Mingrui Chen, Jing Na, Carles Batlle Arnau, Ramon Costa Castelló

CSIC-UPC, Barcelona, Spain; Kunming University of Science and Technology, Kunming, China; EPSEVG-UPC, Barcelona, Spain

WEDNESDAY, 6TH MARCH 17:40 • 20:00 Parallel Session 2

18:00 **ID327 Bidirectional active temperature controller for fuel cells with metal hydrides**

Hanna Lösch, Inga Bürger, Eva Fensterle

DLR, Stuttgart, Germany

18:20 **ID316 Using the potential energy from high pressure tanks in fuel cell electric vehicles for Powering an innovative air-conditioning process based on metal hydrides**

Alexander Wimmer, Marc Philipp Linder, Inga Bürger

DLR, Stuttgart, Germany

18:40 **ID195 Analysis of the ammonia synthesis process as a hydrogen carrier**

Ania Delgado Vicente, Elena Castilla Madrigal, José I Domínguez Carrero, Alfonso Jesús Horrillo Güemes, Cristina Rodriguez Vilariño

Fundación CIDAUT, Boecillo Valladolid, Spain; Universidad de Valladolid, Valladolid, Spain; Redexis, Madrid, Spain

19:00 **ID188 Efficient ruthenium over ceria catalysts for ammonia synthesis at mild conditions as a chemical platform for green hydrogen storage**

Javier Arroyo-Caire, Mayra Al Lara-Angulo, Manuel A Diaz-Perez, Juan C Serrano-Ruiz

Universidad Loyola Andalucía, Sevilla, Spain

19:20 **ID250 Green Ammonia from Solar: Optimizing Hydrogen Production and Storage Sizing for Continuous Haber-Bosch Operation under Inlet Massflow Variability and Minimized LCOA**

Felipe Gallardo, Anton Frisk, Rafael Guedez, Justin Chiu

KTH, Stockholm, Sweden; Southern Lights, Stockholm, Sweden

19:40 **ID377 To store or not to store? How storage technologies and configurations impact on the cost effectiveness of green ammonia production**

Fatemeh Dadashidooki, Ahmad Rafiee, Rory FD Monaghan

School of Engineering, Galway, Ireland; Ryan Institute for Marine, Galway, Ireland; MaREI, Galway, Ireland; University of Galway, Galway, Ireland; Environmental & Energy Research, Galway, Ireland; SFI Research Centre for Energy, Galway, Ireland; Climate and Marine, Galway, Ireland

WEDNESDAY, 6TH MARCH 17:40 • 20:00 Parallel Session 2

ROOM 1B
CATALYSTS FOR HYDROGEN PRODUCTION

17:40 **ID97 NiRu supported on CeO_2 obtained by mechanochemical milling as catalyst for hydrogen production from ammonia**

Ilaria Lucentini, Isabel Serrano, Xènia García, Laia Pacua, Carlos Escudero, Jordi Llorca

UPC, Barcelona, Spain; ALBA-CELLS Synchrotron Light Facility, Cerdanyola Del Vallès, Spain

18:00 **ID133 Cracking of ammonia process and its role in the European energy transition towards green hydrogen**

Javier Llabrés, Alvaro Represa, Laura Enciso, Elena Corresa, Sonia Escolástico, José M Serra

Sener Ingeniería y Sistemas, Tres Cantos, Spain; ITQ, Valencia, Spain

18:20 **ID350 Integration of High Power UV LEDs for Hydrogen Production through Light-Driven Photocatalytic Water Splitting via Combined Solar and Artificial Light**

Ahmed Abbas, **Shohda Makki,** Konstantinos E Kakosimos

Texas A&M, Doha, Qatar

18:40 **ID359 High-Resolution Kinetic Analysis of Photocatalytic Water Splitting for Hydrogen Production Using Covalent Organic Framework Catalyst and Ascorbic Acid**

Suhde Makki, Konstantinos Kakosimos, Omar Affifi

Texas A&M, Doha, Qatar

19:00 **ID100 Harnessing Nanocatalysts and Organic Photoabsorbers for Efficient Solar Driven Water Splitting**

Nuria Romero, Ruggero Bonetto, Marcos Gil-Sepulcre, Federica Sabuzi, Olaf Rüdiger, Jordi García-Antón, Serena De Beer, Pierluca Galloni, Karine Philippot, Andrea Sartorel, Xavier Sala

LCC-CNRS, Toulouse, France; University of Padova, Padova, Italy; MPI-CEC, Mülheim An Der Ruhr, Germany; Università Tor Vergata di Roma, Roma, Italy; UAB, Bellaterra, Spain

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19:20 **ID236 Nb-carbides-based/TiO_2 nanocomposites for photocatalytic H_2 production**

Narcis Homs, Margarita Bania, Matthijs Koning, Arturo Pajares, Jaroslaw Serafin, Pilar Ramírez De La Piscina

UB, Barcelona, Spain; IREC, Barcelona, Spain; VITO - NV, Mol, Belgium

19:40 **ID297 Machine Learning-aided Screening of Metal Sulfide Photocatalysts for Efficient Hydrogen Evolution Reaction**

Yuting Li, Daniel Bahamon Garcia, Lourdes F Vega

Khalifa University, Abu Dhabi, United Arab Emirates

ROOM 2
TRANSPORTATION & AEROSPACE APPLICATIONS

17:40 **ID62 FCH2RAIL Project: Development and testing of a Fuel Cell Hybrid PowerPack for Rail Applications**

Carlos De La Cruz, Jose M Olavarrieta, Manex Zabala, Thomas Landtmeters, Moritz Schenker

CNH2, Puertollano, Spain; CAF Power & Automation, Irura, Spain; Toyota Motor Europe, Brussels, Belgium; DLR, Sttutgart, Germany

18:00 **ID83 Holistic Design Methodology for the Powertrain and Energy Management Optimization of Hydrogen Railway Vehicles**

Josu Olmos, Andoni Saez-De-Ibarra, Haizea Gaztañaga, Txomin Nieva, Iosu Aizpuru

Ikerlan-BRTA, Arrasate-Mondragon, Spain; CAF Power and Automation, San Sebastian, Spain; Mondragon Unibertsitatea, Arrasate-Mondragon, Spain

18:20 **ID339 P-HiL testing of fuel cell-battery hybrid powertrain for light aircraft**

Francisco J Sánchez Castañeda, Andres Mauricio Sierra, Maria Alejandro, Angel Goti

Tecnalia, Bilbao, Spain

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18:40 **ID186 Demonstration of Hydrogen Fuel Cell Vehicles, Buses and Refueling Stations in Europe: Where are we?**

Laura Bravo Diaz

EU Commission DG, Petten, The Netherlands

19:00 **ID37 Interoperability between Hydrogen Refueling Stations (HRS) and HRS Management Systems**

Mikel Zamalloa, Aitor Basterretxea, Ricardo Calvera, David Luesma, **Txetxu Arzuaga**, Asier Madariaga

IBIL, Barakaldo, Spain; Calvera Hydrogen, Epila - Zaragoza, Spain; Alba Emission Free Energy, Muskiz, Spain

19:20 **ID325 Demonstration of green hydrogen production using solar energy and seawater for road mobility in the Canary Islands**

Pau Farras Costa

University of Galway, Galway, Ireland

19:40 **ID220 BMW Hydrogen Strategies and Next Generation H_2-Storage Solutions**

Klaas Kunze

BMW AG, Munich, Germany

ROOM 3
REGULATIONS, CODES & STANDARDS

17:40 **ID138 Administrative Processing of Green Hydrogen Projects in Spain. Case study: Green Hysland Hydroduct**

Fernando J Cortina, **Pablo Martínez**, M Dolores Storch De Gracia

Redexis SA, Madrid, Spain; UPM, Madrid, Spain

18:00 **ID330 A measurement infrastructure for hydrogen and blends of hydrogen in natural gas**

Adriaan MH Van Der Veen

VSL, Delft, The Netherlands

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18:20 **ID342 Novel methods of testing for measurement of natural gas and hydrogen mixtures (THOTH2) project: results of the Work Package 1**

Alessandro Guzzini, Adrian Dudek, Paola Gislon, Matteo Robino, Tecla Carrubba, Nadia Cerone, Alessandro Cigni, Monika Gajec, Pawel Kulaga, Marco Pellegrini, Cesare Saccani, Mario Tedeschi

University of Bologna, Bologna, Italy; INIG, Kraków, Poland; ENEA, Rome, Italy; SNAM, Milan, Italy

18:40 **ID337 Re-shape your lab: Independent validation of Hydrogen (H_2) as a product and hydrogen production processes in Basque hydrogen corridor at research, demonstration, and industrial levels**

Ruben Pozo, Pablo Cortiguera, Javier Cano, Diana Riaño, Abid Dungarwalla

Bureau Veritas, Madrid, Spain; Bureau Veritas, Barcelona, Spain; Bureau Veritas, London, United Kingdom

19:00 **ID333 Voluntary Electrolyser Certification Scheme**

Ruben Pozo, Pablo Cortiguera

Bureau Veritas, Madrid, Spain

19:20 **ID386 Hydrogen fuel quality for transport: Novel analysis, reference materials, new sampling system and new container**

Thomas Bacquart, Abigail Morris, Pierpaolo Modugno, Shirin Khaki, Sam Bates, Zana Bikbajeva, Ziyin Chen, Xinglong Dong

National Physical Laboratory, Teddington Middlesex, United Kingdom

19:40 **ID336 Sensor developments in impurities monitoring for hydrogen quality assurance: importance of sensor validation and verification**

Shirin Khaki, Ziyin Chen, Thomas Bacquart, Abigail Morris, Pierpaolo Modugno, Samuel Bates, Zana Bikbajeva, Xinglong Dong, Arul Murugan

National Physical Laboratory, London, United Kingdom

EUROPEAN HYDROGEN ENERGY CONFERENCE

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ROOM 4
MEMBRANES

17:40

ID269 B-Hydrogen: Ultra-Pure Green Hydrogen Production by Beer Spent Grain Gasification and Purification with ELP-PP Pd-membranes

David Alique, Gregorio Molina, José M Sánchez-Hervás, Isabel Ortíz, Alejandro J Santos-Carballés, Raúl Sanz, José A Calles, Celia Navarro, Alba Martínez-Miguélez

URJC, Móstoles, Spain; CIEMAT, Madrid, Spain; ENAGAS, Madrid, Spain

18:00

ID326 MACBETH - Membranes and Catalysts Beyond Economic and Technological Hurdles: Improved membraned reactor for a more efficient H_2 production

Mathilde Jégoux, Pierre Olivier, Diego Rodriguez, Jesus Martin Perez, Marco Binotti, Gioele Di Marcoberardino, Luca Di Felice, Fausto Galluci, Alba Arratibel Plazaola, Jon Melendez, Carlo Tregambe, Andrew Steele, Stephen Poulston, Markus Schmitt, Christiane Günther

CRIGEN, Stains, France; CNH2, Puertollano, Spain; Politecnico di Milano, Milano, Italy; Università degli studi di Brescia, Brescia, Italy; Technische Universiteit Eindhoven, Eindhoven, The Netherlands; Tecnalia, San Sebastian, Spain; H2SITE, Bilbao, Spain; ICI Caldaie, Campagnola Di Zevio, Italy; Johnson Matthey, London, United Kingdom; Rauschert, Veilsdorf, Germany

18:20

ID175 Ammonia cracking with Integrated Membrane Reactors

Igor Egana, Elvira Tapia, José A Medrano, Eduardo Briales, Guillermo García-Miguel

H2SITE, Loiu, Spain

18:40

ID305 Synthesis of hydrogen carriers by using molecular sieve carbon membranes

Jaione Ollo, Margot A Llosa-Tanco, David A Pacheco-Tanaka, Serena Poto, Fausto Gallucci

Tecnalia, San Sebastian, Spain; Eindhoven University of Technology, Eindhoven, The Netherlands

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19:00 **ID324 Deblending Applications with Pd-based membranes separators**

Eduardo Briales, Jon Meléndez, José A Medrano, Igor Egaña, Guillermo García-Miguel

H2SITE, Bilbao, Spain

19:20 **ID235 Double-layered Pd-composite membranes prepared by Electroless Pore-Plating for Hydrogen Purification**

Pasquale Licastro, Alessio Caravella, José A Calles, Raúl Sanz, **David Alique**

University of Calabria, Rende, Italy; CNR-ITM, Rende, Italy; URJC, Móstoles, Spain

19:40 **ID176 Pt-activated asymmetric dense ceramic membranes for high temperature H_2 purification**

Pio Gramazio, Andrea Bartoletti, Angela Gondolini, Elisa Mercadelli, **Andrea Fasolini**, Alessandra Sanson, Francesco Basile

Bologna University, Bologna, Italy; CNR-ISSMC (ISTEC), Faenza, Italy

THURSDAY, 7TH MARCH

15:00 • 17:00 Parallel Session 3

ROOM AUDITORIO 1
COMBUSTION & HYDROGEN SYSTEMS MODELLING

15:00

ID254 Study on symmetric and asymmetric flame shapes on the sideview of Hele-Shaw burner with lattice Boltzmann solver

Ziyin Chen, Yves Ballossier, Alejandro Milllán-Merino, Song Zhao, Christophe Almarcha, Pierre Boivin

Aix Marseille Univ, CNRS, Marseille, France; IRPHE, Marseille, France, Marseille, France

15:20

ID290 A large scale H_2-CH_4 industrial furnace Lattice-Boltzmann study

Jose L Andres, Song Zhao, Jean L Consalvi, Diego Calanni, Patrick Muscat, Fouad Said, Pierre Boivin

M2P2, Marseille, France; Fives Pillard, Marseille, France; IUSTI, Marseille, France

15:40

ID240 Optimizing the dynamic operation of PEM electrolysis

Hassan Sayed-Ahmed, Árpad I Toldy, Annukka Santasalo-Aarnio

Aalto University, Espoo, Finland

16:00

ID105 Thermo-electro-chemical Continuous Galerkin formulation for solid oxide electrolyzer cells (SOEC)

Albert Costa-Solé, Abel Gargallo-Peiró, Adrià Quintanas-Corominas, Gerard Guillamet, Joan Farnós, Daniel Mira, Marc Torrell, Albert Tarancón

BSC, Barcelona, Spain; IREC, Barcelona, Spain; ICREA, Barcelona, Spain

16:20

ID58 Transient modelling of a multi-cell alkaline electrolyzer for gas crossover and safe system operation

Ahmadreza Rahbari, Albert Bos

Xintic, Eerbeek, The Netherlands; Delft University of Technology, Delft, The Netherlands

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16:40 **ID86 ExH: a computational tool for perfoming exergo-economic-environmental analyses of processes of H_2 production through Aspen HYSYS Automation**

Jaime Barbero-Sánchez, Álvaro Ruiz De La Hermosa, Nuria Rojas, Magdalena Parascanu, Victor Ferro, Jose L Valverde

UCLM, Ciudad Real, Spain; Nordex-Electrolyzers, Puertollano, Spain; Tecnalia, Bilbao, Spain; UAM, Madrid, Spain

ROOM AUDITORIO 2
ROAD MAPS, STRATEGIES, NETWORKS & BUSINESS CASES

15:00 **ID180 Stakeholders views of hydrogen technology: an exploratory longitudinal study from 2011 to 2023**

Joaquin Navajas-Adan, Roser Sala, Eulalia Badia, Lila Goncalves

CIEMAT, Madrid, Spain

15:20 **ID108 The effect of renewable hydrogen taxonomy and temporal correlation on the design of Power-to-Gas energy systems**

Ander Martinez Alonso, Alex Felice, Minoru Takeda, Keiichi Komai, Maarten Messagie, Thierry Coosemans

Vrije Universiteit Brussel, Brussels, Belgium; Kobe University, Kobe, Japan

15:40 **ID263 Water-for-X – a framework covering water at the green hydrogen value chain – technical aspects**

Andres Lucht Uribe

Dechema e.V, Frankfurt, Germany

16:00 **ID93 Exploring the Advantages of Integrating Energy Storage Technologies into Renewable Hydrogen Production**

Noemi González, Txetxu Arzuaga, Javier Juarez

Repsol, Móstoles, Spain; Alba Emission Free Energy, Muskiz, Spain

16:20 **ID128 How process analytics can help to produce high quality green hydrogen with high throughput**

Francisco Montojo Villasanta

Siemens S.A., Madrid, Spain

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15:00 • 17:00 Parallel Session 3

16:40 **ID348 Safely producing high quality hydrogen**

Stephan Zuijdendorp

PST BV, Oosterhout, The Netherlands; Anisol Equipos SL, Madrid, Spain

ROOM 1A

HYDROGEN STORAGE: CARRIERS

15:00 **ID144 Optimization of a new hydrogen chemical storage system using 1-methyl-naphthalene as LOHC**

Rapado-Gallego Pablo, Eva Diaz, **Salvador Ordóñez**

University of Oviedo, Oviedo, Spain

15:20 **ID276 Electrochemical reactor for hydrogenation/dehydrogenation of LOHC**

Francisco Fernández-Carretero, Francisco Alcaide, Immanuel Vincent, Inés Rincón, Uxoa Huizi, Ekain Fernández

Tecnalia-BRTA, San Sebastián, Spain; CIDETEC-BRTA, San Sebastián, Spain

15:40 **ID363 HYDROFORMIC: a technology for the dehydrogenation of formic acid as hydrogen carrier**

Asun Quintanilla, Gonzalo Vega, Irene Díaz-Herrezuelo, Manuel Belmonte, Jose A Casas

UAM, Madrid, Spain; ICV-CSIC, Madrid, Spain

16:00 **ID94 Environmental impact assessment of different low PGM catalysts for LOHC systems by LCA**

Irene Rey, V Laura Barrio, Ion Agirre

UPV/EHU, Bilbao, Spain

16:20 **ID214 Low-Pt and Pt-free catalysts for hydrogenation of benzyltoluene as liquid organic hydrogen carrier (LOHC)**

Kevin Alconada, V Laura Barrio

UPV/EHU, Bilbao, Spain

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16:40 **ID182 Bio-dimethyl-ether as hydrogen carrier: How to integrate sorption enhanced steam reforming (SESR) of biogas and sorption enhanced DME synthesis (SEDMES)**

A Capa, G Skorikova, V Dikic, S Sluijter, I Tyraskis, F Rubiera, C Pevida, MV Gil, J Boon

INCAR-CSIC, Oviedo, Spain; TNO, Petten, The Netherlands

ROOM 1B
CATALYSTS FOR HYDROGEN PRODUCTION & CONVERSION

15:00 **ID271 Evaluation of strategies for enhancement of the H_2 production in dry reforming of methane intensified over ceramic foams**

Andoni Choya, Beatriz De Rivas, Jose I Gutiérrez-Ortiz, Rubén López-Fonseca

UPV/EHU, Leioa, Spain

15:20 **ID356 IRON ORE as a catalyst for the production of Hydrogen from Methane or Biogas**

Jaime López, José L Pinilla, Daniel Torres, Isabel Suelves

ICB-CSIC, Zaragoza, Spain

15:40 **ID309 Low temperature steam reforming of methanol over hydrothermally prepared CuZn oxide catalysts for fuel cell applications**

Konstantinos Ar Papageorgiou, **Joan Papavasiliou**

University of Patras, Patras, Greece; FORTH/ICE-HT, Patras, Greece

16:00 **ID43 Methyl formate - a new hydrogen carrier**

Henrik Junge, Zhihong Wei, Elisabetta Alberico, Haijun Jiao, Rui Sang, Matthias Beller

Leibniz Institute for Catalysis, Rostock, Germany; Shanxi University, Taiyuan, China; Consiglio Nazionale delle Ricerche, Sassari, Italy

16:20 **ID205 CO_2 methanation as a viable strategy to overcome the compatibility challenges of sustainable hydrogen storage and transport facilities: Tools of global energy transition towards decarbonization**

Zouhair Boukha, Miguel A Gutiérrez-Ortiz, Juan R González-Velasco

UPV/EHU, Leioa, Spain

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16:40 **ID375 Development and multi-technique characterization of sepiolite-nickel-ceria-based catalysts for the CO_2 methanation reaction aimed at the storage of green hydrogen**

Raúl B Machado-Silva, Antonio Chica

ITQ-UPV-CSIC, Valencia, Spain

ROOM 2

SOEC ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

15:00 **ID72 Research and analysis for the development of a proprietary SOEC technology to industrialize efficient systems for hydrogen production – EfiSOEC**

Ana I Martínez González, **Berta Moreno Burriel**, Andrés Hernández Rodríguez, Elena Verdú Sánchez

Repsol S.A., Móstoles, Spain

15:20 **ID320 Scalable fabrication routes and smart designs for advanced solid oxide electrolyzers**

Iñigo Garbayo, Xabier Júdez, Paula Ciaurriz, Gonzalo Jiménez, Violeta Ureña, Kandela Ruiz, Miguel Fantova, Alba Acevedo, Yuli Betancur, Mónica Aguado

Fundación CENER, Sangüesa, Spain; Public University of Navarre, Pamplona, Spain

15:40 **ID362 Fabrication and characterization of electrolyte supported reversible solid oxide cells**

Roberto Campana, Adrian Pardo, Cristina Montes, Marc Martinez, Jesús Rodríguez

CNH2, Puertollano, Spain

16:00 **ID126 Performance and durability in pressurized conditions of reversible proton conducting ceramic cells**

M Laure Fontaine, Einar Vøllestad, Ragnar Strandbakke, Didrik Småbråten, Elena Stefan, Christelle Denonville, Álvaro Represa Bullido, Jose Serra, Sonia Escolástico Rozalén

SINTEF, Oslo, Norway; CSIC-ITQ, Valencia, Spain

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16:20 **ID234 Ni-GDC doped with Fe as potential cathode material for syngas production in solid oxide electrolysis cell**

Esperanza Ruiz Martínez, M José Escudero Berzal, Isabel Ortiz González, José M Sánchez Hervás

CIEMAT, Madrid, Spain

16:40 **ID55 Development of SOEC Stack Testing Methods for Steam Electrolysis and co-Electrolysis**

Yohei Tanaka

National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

ROOM 3
STATIONARY & OTHER APPLICATIONS

15:00 **ID44 A Medium Power High Efficiency and High-Power Density Integration of Hydrogen Technologies into the Grid**

Alejandro Llop, Igor Baraia-Etxaburu, David Garrido, Kepa Mendibil, Salvador Ceballos

Tecnalia-BRTA, Derio, Spain; University of Mondragon, Mondragon, Spain

15:20 **ID46 Advanced Energy Management Platform for Hydrogen-Based Microgrids considering Multiple Business Models**

Felix Garcia-Torres, Jorge Jimenez, Alvaro Sanchez Sanchez De Puerta, Antonio Enrique Gonzalez Reina, Victor Girona-Garcia

Universidad de Córdoba, Cordoba, Spain

15:40 **ID177 Development of a sizing tool for electrolyzes and their storage in industrial applications**

Ane Lopez Sualdea, Jon Martinez-Rico, Susana López Pérez

Tekniker, Eibar, Spain

16:00 **ID249 Improvement SUDOE PROJECT Conclusions and Results**

Javier Tobajas Blanco, Jesus Martín Perez, Rafael Savariego, Antonio Moreno, Francisco J Alcolea, Javier Vazquez

CNH2, Puertollano, Spain: IDAE, Madrid, Spain; Universidad de Córdoba, Córdoba, Spain; UCLM, Ciudad Real, Spain

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16:20 **ID231 Study on the alloy integrity working under the influence of hydrogen - Case study: rolling bearing steel**

Fernando J López-Uruñuela

Tekniker, Eibar, Spain

16:40 **ID131 Hybrid PV-hydrogen power system for social housing electrical self-sufficiency**

Víctor M Maestre Muñoz, Alfredo Ortiz Sainz De Aja, Inmaculada Ortiz Uribe

Universidad de Cantabria, Santander, Spain

ROOM 4
OTHER ELECTROCHEMICAL & FUEL CELL APPLICATIONS

15:00 **ID196 Bioelectrochemical system for renewable hydrogen production coupled with biogas upgrading**

Pau Bosch-Jimenez, Martí Aliaguilla, Marian Garcia, Jorge Luque, Daniele Molognoni, Eduard Borràs, Ana J Vega De Armas, Juan M Ortiz, Zulema Borjas, David Galí

Leitat, Terrassa, Spain; Imdea, Alcalá De Henares, Spain; Acsa Obras e Infrastructuras, Barcelona, Spain; Hidroquimia, Terrassa, Spain

15:20 **ID329 Design of High-Performance Anion-Exchange Membrane for Fuel Cells and Electrolysers**

Baptiste Bach, Simon Amigues, Frédéric Jaouen, Lionel Ogier, Fannie Alloin, Emilie Planes, Cristina Lojoiu

Université Grenoble Alpes, Grenoble, France; Université Montpellier, Montpellier, France; Eras-Labo, Saint-Nazaire-Les-Eymes, France

15:40 **ID173 Performance evaluation of molten proton conductor fuel cell modules with internal reforming of methanol**

Konstantinos Kappis, Yifan Li, Haibin Li, Dimitrios Vlachos, **George Avgouropoulos**

University of Patras, Patras, Greece; Shanghai Jiao Tong University, Shanghai, China; Pleioni Energy S.A., Athens, Greece

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16:00 **ID257 From Direct use of ammonia in solid oxide fuel cells to the next generation of ammonia fuel cell systems**

Matteo Testi, Chiara Curzel, Werneri Huhtinen, Henrik Lund Fradsen, Stephen Mcphail, Debasish Chakrabortyf, Michael Spirig, Jan Van Herleh, Oliver Woll, Michela Cappoccia, Luca Pratticò, Ilaria Alberti

Bruno Kessler Foundation, Trento, Italy; SolydEra Spa, Mezzolombardo, Italy; VTT Technical Research Center, Espoo, Finland; Technical University of Denmark, Copenaghen, Denmark; Kiwa Nederland BV, Rijswijk, The Netherlands; Alfa Laval technologies, Lund, Sweden; Electrolyser & Fuel Cell Forum, Luzern, Switzerland; École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; Fachhoshschule Zentralschweiz-Hochschule Luzern, Luzern, Switzerland; SAPIO Produzione Idrogeno Ossigeno Srl, Monza, Italy

16:20 **ID192 The participation of H2B2 in the IPCEI Hy2Tech**

África Castro, Javier Brey, Delia Muñoz, Pablo Molina

H2B2, Seville, Spain; Universidad Loyola, Seville, Spain

16:40 **ID229 Global solar hydrogen potential and 2050 carbon neutrality**

Rofice Dickson, **Jay Liu**

Pukyong National University, Busan, South Korea; Lahore University, Lahore, Pakistan

EUROPEAN HYDROGEN ENERGY CONFERENCE

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ROOM AUDITORIO 1
HYDROGEN SYSTEMS MODELLING

17:30 **ID317 Assessing hydrogen value chains with georeferenced data**
Matthias Schlegel
Fichtner, Stuttgart, Germany

17:50 **ID253 The Future of Hydrogen in Ireland: The Scale and Cost of an Island-Wide Hydrogen System Based on Future Demand Scenarios**
Cian Moran, Rory FD Monaghan
University of Galway, Galway, Ireland

18:10 **ID335 SuperP2G-Italy: a Web-Gis tool for the optimization of Power to Gas projects' planning**
Alessandro Guzzini, Giovanni Brunaccini, Marco Pellegrini, Cesare Saccani, Francesco Sergi, Davide Aloisio, Marco Ferraro
University of Bologna, Bologna, Italy; CNR-ITAE, Messina, Italy

18:30 **ID64 Is one year enough? The impact of availability of wind data on optimal wind-to-hydrogen system design**
Arjun Bopaiah, Rory FD Monaghan
University of Galway, Galway, Ireland; Ryan Institute for Marine, Ireland; MaREI-SFI Research Centre for Energy, Galway, Ireland

18:50 **ID159 Calculation tool for calculating the production costs of Offshore-Wind-Hydrogen**
Martin Hayduk, Romy Sommer, Johannes Gulden
University of Applied Sciences Stralsund-IRES, Stralsund, Germany

19:10 **ID102 Assessing far-offshore hydrogen-carrying energy vectors: A techno economic evaluation**
Markel Penalba, **Ricardo Blanco**
Mondragon Goi Eskola Politeknikoa, Arrasate, Spain

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ROOM AUDITORIO 2
LCSA ENVIRONMENTAL & SOCIAL IMPACTS

17:30 **ID75 Prospective evaluation of CO_2 emissions from heat supply and storage: Opportunities and challenges for Hydrogen based solutions**

Patxi Hernandez, **Diego Garcia-Gusano**, Arantza Lopez Romo, Eneko Arrizabalaga, Iñigo Muñoz Mateos, Juan Pedrero, Nekane Hermoso, Beatriz Sanchez-Sarachu, Nora Fernandez, Lara Mabe

Tecnalia-BRTA, Derio, Spain

17:50 **ID273 Hydrogen energy systems life cycle assessment review**

Miguel Simão Coelho, Pedro J Coelho, Ana F Ferreira

Universidade de Lisboa, Lisboa, Portugal; Universidade de Lisboa/IDMEC, Lisboa, Lisboa, Portugal; IDMEC, Lisboa, Portugal

18:10 **ID295 Renewable hydrogen and sustainable development goals**

Celia Martinez De Leon, Carlota Ríos Montoro, Pablo Molina Diaz, Eva Maria Dominguez Muñoz, J Javier Brey Sanchez

Loyola University, Sevilla, Spain

18:30 **ID322 Environmental and social aspects in new H_2 projects**

Javier Barajas Guijarro, **Víctor Del Coso Guerrero**

EHS Techniques, Madrid, Spain

18:50 **ID114 Public acceptance of hydrogen technologies in Spain: The role of trust, perceived benefits, and emotions**

Roser Sala, Lila Gonçalves, Ning Huan, Hitomi Sato, Toshiyuki Yamamoto, Yin Haohui, Dimitrios Tzioutzios

CIEMAT-CISOT, Barcelona, Spain; University of Nagoya, Nagoya, Japan; NTNU, Trondheim, Norway

19:10 **ID323 Global Warming Potential of Production of Green Hydrogen in an Italian Context**

Mehrshad Kolahchian Tabrizi, Jacopo Famiglietti, Davide Bonalumi, Stefano Campanari

Politecnico di Milano, Milano, Italy

EUROPEAN HYDROGEN ENERGY CONFERENCE

THURSDAY, 7TH MARCH **17:30 • 19:30** Parallel Session 4

ROOM 1A
PEM ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

17:30 **ID282 Plasma coating technologies: Unlocking GW-size electrolyser manufacturing capacity in the EU**

Lucia Mendizabal, Antia Villamayor, Oihane Hernandez, Jose A Santiago, Ivan Fernandez

Tekniker, Eibar, Spain; Nano4energy, Madrid, Spain

17:50 **ID48 Industrialization of PEM-Electrolysis Production – Development of a Digital Image as a Tool for Energy System Planning**

Nicolas Mandry, Friedrich-Wilhelm Speckmann, Kai Peter Birke

Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart, Germany

18:10 **ID166 Enhancing energy efficiency in EDEN technology: Assessment of PEMs and feeding configuration**

Justo Lobato, Mahmoud M Gooma, **Iñaki Requena,** Manuel A Rodrigo

UCLM, Ciudad Real, Spain; Faculty of Science, Minia, Egypt

18:30 **ID364 e-LEAF: Pioneering the Future of Hydrogen Fuel Cells and Electrolyzers Through Printed Electronics**

Thi Hai Van Nguyen, **Diogo M Esperança Garcia**, Guilherme Paixâo Da Costa Cadete, Paul Lacharmoise, Claudia Delgado Simao

EURECAT Spain, Mataró, Spain

18:50 **ID368 Correlation between fluoride concentration and release of metal ions under simulated conditions of a PEM electrolyzer**

Anderson Sandoval-Amador, Agata Egea-Corbacho, Mauricio Zurita-Gotor

Universidad Loyola Andalucía, Sevilla, Spain

19:10 **ID379 Analysis of PEM water electrolysis system operation strategies and their impact on iridium catalyst dissolution based on onshore wind data**

Tobias Franz, An Puc Dam, Georgios Papakonstantinou, Kai Sundmacher

Otto von Guericke Universität, Magdeburg, Germany; Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany

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ROOM 1B
PEM FUEL CELLS: MATERIALS, COMPONENTS & STACKS

17:30 **ID68 Testing of a commercial 1.5 kW open-cathode fuel cell system**
Vassili Briodeau, Denis López Cisneros, Tamara Guerrero Cervera, Alfredo Pérez Vega-Leal, Eva M Domínguez Muñoz
Protio Power, Bilbao, Spain; Universidad de Sevilla, Sevilla, Spain; Universidad Loyola, Sevilla, Spain

17:50 **ID36 Predictive Hydrogen Pressure Control for an Automotive Proton Exchange Membrane Fuel Cell System**
Martin Osterhammer, Maximilian K Eisner, Thomas Rauh, Volker Formanski, Marcelo Lobo Heldwein
Technical University Munich, Munich, Germany; BMW Group, Munich, Germany

18:10 **ID267 Impact of atmospheric pollutants on PEMFC for road transport applications**
Sylvie Escribano, Sarah Fayolle, Benjamin Decoopman
CEA, Grenoble, Francia; SYMBIO, Fribourg, Suiza

18:30 **ID82 Development of an accelerated stress test for investigation of the in-situ degradation of bipolar plates in PEM fuel cells**
Katie Mccay
SINTEF AS, Trondheim, Norway

18:50 **ID88 Ex-situ Studies of Aging Effects of Gas Diffusion Layers for High Temperature PEM Fuel Cells**
Nadine Pilinski, Lisa Maria Uhlig, Peter Wagner
DLR, Oldenburg, Germany

19:10 **ID301 Conducting and Robust Hybrid Membranes based on Phosphonate Metal-Organic Framework Doped PES Multiblock Copolymers for Fuel Cells**
Sydonne Swaby, Nieves Ureña, Catalina Biglione, Alejandro Várez, Patricia Horcajada, M Teresa Pérez-Prior, Belén Levenfeld
UC3M, Madrid, Spain; IMDEA Energy Institute, Madrid, Spain

EUROPEAN HYDROGEN ENERGY CONFERENCE

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ROOM 2
ELECTROCATALYSTS & ELECTRODES FOR ELECTROLYZERS & FUEL CELLS

17:30 **ID374 Noble metal-free two-dimensional electrocatalysts for the hydrogen evolution and oxygen reduction reactions**

Elena Pastor. *Universidad de La Laguna, Tenerife, Spain*

17:50 **ID238 $NdMn_{1.5}Ru_{0.5}O_5$ a Ru-Mn Mixed Oxide with High Activity for the Oxygen Evolution Reaction**

Álvaro Tolosana Moranchel, Isabel Rodríguez-García, José L Gómez De La Fuente, Jorge Torrero, Daniel García Sánchez, Mohamed Abdel Salam, José A Alonso, Aldo S Gago, Sergio Rojas, María Retuerto

ICP- CSIC, Madrid, Spain; Institute of Engineering Thermodynamics/ Electrochemical Energy Technology, Stuttgart, Germany; King Abdulaziz University, Jeddah, Saudi Arabia; ICM-CSIC, Madrid, Spain

18:10 **ID77 IrO_2 and $IrRuO_x$ advanced OER supported electrocatalysts for PEM water electrolyzers**

Francisco Alcaide, Hans-Jürgen Grande, **Uxua Huizi-Rayo**, Idoia Urdampilleta

CIDETEC-BRTA, San Sebastián, Spain

18:30 **ID109 Using Co-electrodeposition to prepare Ru-Ir Oxides as Catalyst for Oxygen Evolution Reaction in PEMWE**

Tse-Jui Chen, Tsung-Kuang Yeh, Mei-Ya Wang

National Tsing Hua University, Hsinchu, Taiwan

18:50 **ID318 Low content Ru mixed oxides as efficient and stable anode electrocatalysts for water electrolysis in PEMWE**

Maria Retuerto, Isabel Rodriguez, Dmitry Galyamin, Jorge Torrero, Daniel García-Sanchez, Aldo S Gago, Pilar Ferrer, Jose A Alonso, Sergio Rojas

ICP-CSIC, Madrid, Spain; DLR, Stuttgart, Germany; Diamond Light Source, Oxford, United Kingdom

19:10 **ID293 Ultralow loading Pt electrodes for PEM electrolysis developed by magnetron sputtering**

Antía Villamayor, Lucía Mendizabal, Eva G Berasategui

Tekniker, Eibar, Spain

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ROOM 3
INTEGRATED HYDROGEN SYSTEMS & BUSINESS CASES

17:30 **ID307 Integrating Renewable Energy Technologies for Industrial Applications: Case Studies on Hydrogen-Based Solutions**

Iñigo Bonilla-Campos, Joaquín Erice, Antonio Valles, Ainara Munarriz, Sergio Gomez

AIN, Pamplona, Spain

17:50 **ID149 RES and hydrogen technologies integration assessment in fish farms: A techno-economical model dispatch for an Estonian fish farm**

Aurora García, Yassine Rqiq, Víctor Ballestín

CIRCE, Zaragoza, Spain

18:10 **ID57 Heat pump integration for waste heat recovery from a 20 MWe green H_2 plant to increase global efficiency**

Mercedes Gómez De Arteche, Jon Iturralde, Carlos Funez

Tecnalia-BRTA, Azpeitia, Spain; Iberdrola Clientes, S.A.U, Bilbao, Spain

18:30 **ID110 Partial Power Converters in High Power Electrolysis Applications**

Jon Anzola García, Argiñe Alacano Loiti, Jose M Canales Segade, Iosu Aizpuru Larrañaga, Alain Sanchez Ruiz

Mondragon Unibertsitatea, Bilbao, Spain; Mondragon Unibertsitatea, Hernani, Spain; UPV, Vitoria, Spain

18:50 **ID162 Fresh Water Generation from Electrolizer Waste Heat**

Luciana Mendes

Alfa Laval, Alcobendas, Spain

19:10 **ID51 A Review of Power Converter Topologies for Electrolysis Applications**

Argiñe Alacano, Jon Anzola, Jose M Canales, Laura Oca, Iosu Aizpuru, Manex Barrenetxea

Mondragon Unibertsitatea, Arrasate, Spain

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ROOM 4

OTHER APPLICATIONS OF HYDROGEN: E-FUELS

17:30

ID74 Artificial Intelligence based optimization in a Power-to-Liquid Industrial Process

José Sánchez-Luján, Angel Molina-Garcia, Mathieu Kessler, José J López-Cascales. *Universidad Politécnica de Cartagena, Cartagena, Spain*

17:50

ID201 Effect of Pd-TiO_2 interaction on the structure and activity of PdZn-ZnO/TiO_2 intermetallic catalysts applied to methanol synthesis from CO_2 hydrogenation

Rufino M Navarro Yerga, Carlos Quilis, Noelia Mota, Elena Millán, Barbara Garcia Pawelec

ICP-CSIC, Madrid, Spain

18:10

ID69 Development of Ni/Al_2O_3 aerogel catalysts by scCO_2 for photocatalytic CO_2 methanation

Daniel Estevez, Haritz Etxeberria, V Laura Barrio. *UPV/EHU, Bilbao, Spain*

18:30

ID112 Planned E-Fuels Demonstration Plant: Drop-in transport fuels from CO_2 and green hydrogen

Jeremy Torregrosa Hetland, Iran Charry Prada, Alfonso Garcia De Las Heras

Petronor, Muskiz, Spain; AOC, Paris, France; Techlab Repsol, Madrid, Spain

18:50

ID314 Biogas upgrading intensified by LTA 5A Zeolite and renewable hydrogen in a fluidized bed reactor

Víctor D Mercader, Irene De Matías, Paúl Durán, Pablo Aragüés-Aldea, Eva Francés, Javier Herguido, **José A Peña**

Universidad Zaragoza (I3A-UNIZAR), Zaragoza, Spain

19:10

ID292 Towards an efficient and selective technology for the production of synthetic fuels from renewable H_2 and CO_2 at mild conditions

Eduardo Bernad-Quílez, Vanesa Gil, Jonas Gurauskis, Rafaella Burato, Kiyoharu Tadanaga, Harald Gröger

FHA, Huesca, Spain; ARAID Foundation, Zaragoza, Spain; INMA, Zaragoza, Spain; Hokkaido University, Hokkaido, Japan; Bielefeld University, Bielefeld, Germany

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ROOM AUDITORIO 1
HYDROGEN SYSTEMS MODELLING

11:30 **ID123 Techno-economical comparison of renewable hydrogen production and storage needs**

Simo Pekkinen, Annukka Santasalo-Aarnio

Aalto University, Espoo, Finland

11:50 **ID382 The impact of the energy and hydrogen storage on P2X application for green ammonia**

Carlos E Mata-Torres, Mario Fernandez, Patricia Redondo

Advisian, Madrid, Spain

12:10 **ID81 Calculating potential hydrogen production from waste management systems**

Nicolás Martínez Ramón, Enrique Medina-Martos, Ioan R Istrate, José L Gálvez-Martos, Javier Dufour

IMDEA energy, Móstoles, Spain; Cener, Pamplona, Spain; Leiden university, Leiden, The Netherlands

12:30 **ID65 Hydrogen refuelling stations design and optimization tool considering CAPEX, OPEX and safety criteria**

Iñigo Ortega-Fernández, Pablo Martínez, Ekain Fernández, Iñaki Madinabeitia, Jorge González, Carlos Fúnez, Eva B Prieto, M Eugenia Bereciartua, Mikel Lizarralde

Tecnalia, San Sebastián, Spain; Iberdrola Clientes, Bilbao, Spain; ABC Compressors, Eibar, Spain

12:50 **ID169 SOLARX: Concentrated solar energy for hydrogen, heat, and electricity generation**

Alicia Crespo Gutiérrez, Desideri Regany, Manel Ibañez, Montse Vilarrubi, Ludwig G Frechette, Maxime Darnon, Jose F Gallego, Marina Casanova, Gregor Bern, Maitane Ferreres, Joan I Rosell, Jerome Barrau

INSPIRES Research Centre, Lleida, Spain; LN2-CNRS, Sherbrook, Canada; Acciona Industrial, Madrid, Spain; FRUNHOFER ISE, Freiburg, Germany

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13:10 **ID101 On the Assessment of Green Hydrogen's role on Offshore Renewable Energies Grid Integration**

Markel Penalba, Ricardo Blanco, Manex Martinez, Joanes Berasategi

Mondragon Goi Eskola Politeknikoa, Arrasate, Spain

ROOM AUDITORIO 2
LCSA ENVIRONMENTAL & SOCIAL IMPACTS

11:30 **ID334 Prototype demonstration of innovative and sustainable recycling of materials in polymer electrolyte membrane fuel cells and electrolysis cells**

Mikkel Juul Larsen, Shuang Ma Andersen, Raghunandan Sharma, Swapnil Karade, Lars Christian Larsen, Nikolaj Beyer, **Hakan Yildirim**

IRD Fuel Cells A/S, Odense Sø, Denmark; University of Southern Denmark, Odense M, Denmark; CriMaRec ApS, Middelfart, Denmark

11:50 **ID343 Environmental impacts of ecodesign actions of Proton Exchange Membrane Fuel Cell**

Jure Gramc, Rok Stropnik, Javier Dufour, Diego Iribarren, Felipe Campos-Carriedo, Mitja Mori

University of Ljubljana, Ljubljana, Slovenia; IMDEA Energy, Mostoles, Spain

12:10 **ID119 Prospective eco-efficiency assessment and benchmarking of hydrogen from solid oxide electrolysis coupled with a concentrated solar power plant**

Santiago Abelleira, Felipe Campos-Carriedo, Pedro L Cruz, Christina Wulf, Javier Dufour, Diego Iribarren

IMDEA Energy, Mostoles, Spain; URJC, Mostoles, Spain; Forschungszentrum Jülich, Jülich, Germany

12:30 **ID299 Impact of water usage in the cost of renewable hydrogen**

Carlota Rios Montoro, Pablo Molina Diaz, Celia Martinez De Leon, Eva M Dominguez Muñoz, J Javier Brey Sanchez

Loyola University, Sevilla, Spain

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12:50 **ID332 The Need of Certification and Regulations for Hydrogen and Ammonia Market**

Pablo Cortiguera, Rubén Pozo, Laurence Boisramé

Bureau Veritas, Madrid, Spain; Bureau Veritas, Paris, France

13:10 **ID120 Environmental and social footprints breakdown of underground hydrogen storage from a life cycle assessment perspective**

Rosa G Raluy, Agata Horwacik, Darío Cortés, Jesús Simón

FHA, Huesca, Spain

ROOM 1A
PEM FUEL CELLS & ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

11:30 **ID84 A New Approach to develop Polymer-Based coatings for stainless steel Bipolar Plates**

Katie Mccay, Anita Hamar Reksten, Christelle Denonville, Sigrid Lædre, Luca Ansaloni

SINTEF AS, Trondheim, Norway

11:50 **ID287 Challenges for reuse of effluent water from a PEM electrolyzer operating with static or intermittent loads due to changes in effluent water quality**

Ágata Egea-Corbacho Lopera, Anderson A Sandoval Amador, Daniel Silvestre, Engelhardt Guerrero, Eva M Dominguez Muñoz, Delia Muñoz Alé, J Javier Brey Sanchez, Mauricio Zurita Gotor

Loyola University, Seville, Spain; H2B2, Seville, Spain

12:10 **ID361 Using Seawater and Wastewater to Produce Green Hydrogen: Is Water Scarcity a Barrier to Project Deployment in Spain?**

Arne Ballantine

Ohmium, San Francisco, United States

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12:30 **ID54 Enhancement of durability and performance of bipolar plates in PEM electrolyzers with HiPIMS coatings**

Pablo Díaz-Rodríguez, Iván Fernández, Jose A Santiago, Ambiörn Wennberg, Miguel Panizo, Oihane Hernández, Lucía Mendizabal

Nano4Energy SL, Madrid, Spain; ETSII-UPM, Madrid, Spain; UPM, Madrid, Spain; IK4-Tekniker, Eibar, Spain

12:50 **ID259 Theoretical and experimental assessment of membrane distillation coupled with water electrolysis**

Yair Morales, Eric Pomp Marques, Rebecca Schwantes, Harald Horn, Florencia Saravia

DVGW-Research Center at Engler-Bunte-Institut, Karlsruhe, Germany; SolarSpring GmbH, Freiburg Um Breisgau, Germany; Karlsruhe Institute of Technology, Karlsruhe, Germany

13:10 **ID373 Investigating PEMWE commercial membrane performance using argon-oxygen plasma and ALD-TiO_2 technology**

Hossein Namdar, Nadhira Laidani, Gloria Gottardi, Victor Micheli, Matteo Testi, Rana Erol, Gianluca Gamba, Nicola Pugno

University of Trento, Trento, Italy; Fondazione Bruno Kessler,Center of Sustainable Energy, Trento, Italy; UFI CELL S.r.l, Ala, Italy; University of London, Lonodn, United Kingdom

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ROOM 1B
PEM FUEL CELLS: MATERIALS, COMPONENTS & STACKS

11:30 **ID45 Temperature and current density distributions in 100 cm² PEM Fuel Cell: Effect of flow field design**

Gracia M Cabello González, Baltasar Toharias Góngora, Christian Suárez Soria, Alfredo Iranzo Paricio, Manuel F Rosa Iglesias

Universidad de Sevilla, Sevilla, Spain

11:50 **ID367 Elucidating hydrogen permeation mechanism through graphene and 2D-materials from DFT calculations: application in proton-conducting membranes**

Daniel Bahamon, Fareeha Shadab, Nirpendra Singh, Marcelo Lozada-Hidalgo, Andre K Geim, **Lourdes F Vega**

Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates; University of Manchester, Manchester, United Kingdom; National Graphene Institute, Abu Dhabi, United Arab Emirates

12:10 **ID34 Characterization of Gas Diffusion Layers using Artificial Neural Networks**

Dieter Froning, Eugen Hoppe, Ralf Peters

Forschungszentrum Jülich GmbH, Jülich, Germany

12:30 **ID156 Techno-economic and sustainability analysis of an electric scooter powered by a hydrogen fuel cell**

Ester Diaz-Alvarez, Luis Duque, M Antonia Folgado, Daniel Garrain, Antonio Martínez Chaparro

CIEMAT, Madrid, Spain

12:50 **ID308 Materials Testing in PEM Fuel cells and Electrolyzers – Challenges, Requirements, Solutions**

Aleksander Koprivc; **Chen Cao**

ZwickRoell GmbH & Co KG, Ulm, Germany

13:10 **ID321 Printing Methodologies as a Key Enabling Technology for Green H_2**

Guilherme Paixão Da Costa, Diogo M Garcia, Van Nguyen, Paul Lacharmoise, Claudia Simão

Eurecat Centre Tecnològic, Barcelona, Spain

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ROOM 2

ELECTROCATALYSTS & ELECTRODES FOR ELECTROLYZERS & FUEL CELLS

11:30 **ID164 NiFeCrMn oxide-based electrocatalyst for low-cost green hydrogen production via Anion Exchange Membrane Seawater Splitting**

Praveen Kumar Selvam, Muhammad Sohail Riaz, Pau Farras Costa

University of Galway, Galway, Ireland

11:50 **ID243 Polyol-Synthesized NiMSex (M=Fe) Electrocatalyst for Oxygen evolution reaction (OER): Paving a Greener Future through Anion Exchange Membrane Water Electrolysis**

Muhammad Sohail Riaz, Praveen Kumar, Pau Farras

University of Galway, Galway, Ireland

12:10 **ID218 The influence of doping in the electrocatalytic properties of Ni and Fe-based nitrides for water splitting in alkaline media**

José A Coca Clemente, José L Gómez Fuentes, Pilar Ocón Esteban, María Retuerto Millán, Sergio Rojas Muñoz

ICP-CSIC, Madrid, Spain; UAM, Madrid, Spain

12:30 **ID256 Enhancing the electrocatalytic oxygen evolution reaction by phosphorus incorporation into CoFe (oxy)hydroxides**

M Victoria Martínez Huerta, Santiago Estebaranz, Pablo Arévalo-Cid, Jose M Luque-Centeno, Pedro Napal, David Sebastian, M Jesus Lázaro

ICP-CSIC, Madrid, Spain; IC-CSIC, Zaragoza, Spain

12:50 **ID99 High entropy materials as robust catalysts for water splitting in a wide range of Ph conditions**

Jonathan Ruiz Esquius, Victoria García Rocha, Clara Blanco, Ricardo Santamaria Ramirez

INCAR-CSIC, Oviedo, Spain

13:10 **ID365 In search of efficient and stable platinum catalysts for the electrooxidation of isopropanol**

Jesus González-Cobos, Rohib Rohib, Essyllt Louarn, Antoinette Boreave, Valérie Meille, Mathieu Prévot, Philippe Vernoux

CNRS, Villeurbanne, France

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ROOM 3
INTEGRATED HYDROGEN SYSTEMS & BUSINESS CASES

11:30

ID228 The TeStack H_2 project

Delia Muñoz, África Castro, Javier Brey, Pablo Molina

H2B2, Sevilla, Spain; Universidad Loyola, Sevilla, Spain

11:50

ID79 Techno-Economic Analyses on MW-Scale Water Electrolyzers for Green Hydrogen Production in South Korea

Woohyun Kim, Kosan Roh, Jung Yoon Seo, Hongjun Jeon, Kyoung Soo Kang

Korea Institute of Energy Research, Daejeon, South Korea; Chungnam National University, Daejeon, South Korea

12:10

ID289 Techno-economic Assessment of PROMET-H_2 Electrolyser

Sara Martínez Casasnovas, Darío Cortés García, Christina Mennemann, Ankit Patel

FHA, Huesca, Spain; Air Liquide, Frankfurt, Germany

12:30

ID91 Addressing the challenges of green hydrogen production using system simulation

David Jimenez Mena, Patrice Montaland

Siemens DI Software, Lyon, France

12:50

ID150 Hydrogen storage materials as novel fillers for high performance separation membranes

Gonzalo Moral, Alfredo Ortiz, Eugenio D Gorri, Inmaculada Ortiz

University of Cantabria, Santander, Spain

13:10

ID248 Techno-economic model for optimal dispatch of green hydrogen and ammonia plants considering EU regulatory constraints: a case of study in Spain

Oussama Elhouiti, Guillermo Matute, Jules Smeets, Miguel Sierra

DNV GL France, Paris, France; DNV GL Spain, Zaragoza, Spain; DNV GL SE, Dubai, United Arab Emirates; DNV GL Spain, Madrid, Spain

EUROPEAN HYDROGEN ENERGY CONFERENCE

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ROOM 4
SAFETY & INSURANCES

11:30 **ID190 Optic Fiber-Based Hydrogen Leak Control Systems (OPTHYCS)**

Amelie Louvat, Violeta Bescós, Cristina Lopez, Santiago Domínguez-Meister, Alberto García-Luis, Manuel Muñoz, **Juan L García**, Andrés Ferreyra, Paula Barbero, Mathieu Champion, Miguel Villar, Miguel Ballesteros

GRTgaz RICE, Paris, France; Enagas Transporte SAU, Madrid, Spain; Tecnalia, Madrid, Spain; Lumiker, Madrid, Spain; FHA, Aragon, Spain; FEBUS Optics, Pau, France; GERG, Brussels, Belgium

11:50 **ID245 Comparison of different QRA based approaches for the calculation of safety distances for hydrogen filling stations**

Fernando Morente, **Alain Villanueva**, Ramón Ugartetxe, Mikel Minguez

Tecnalia Research & Innovation, Derio, Spain

12:10 **ID247 Prediction of self-ignition for high-pressure hydrogen leakage**

Marc Le Boursicaud, Song Zhao, Jean L Consalvi, Pierre Boivin

M2P2, Marseille, France; IUSTI, Marseille, France

12:30 **ID272 Simulation analysis and optimization of protective wall against hydrogen combustion from liquified hydrogen storage tank on the offshore launching platform**

Cheng Lin Pua, Po Hu, Shuwei Zhai, Changcheng Ji, Zhiqiang Zhu, Bai Zheng

Shanghai Jiao Tong University, Shanghai, China; Shanghai Aerospace Equipment Manufacturer Co., Shanghai, China

12:50 **ID226 Impact of hydrogen blending on the formation of flammable atmospheres in enclosed spaces due to gas leaks**

Javier Ballester, Pilar Remacha, Eduardo Tizné, Antonio Pina, Jorge Barroso, Álvaro Muelas, Gerard Ballesté, Francisco Muñoz

LIFEn - I3A / University of Zaragoza, Zaragoza, Spain; University of Zaragoza, Zaragoza, Spain; Nedgia Catalunya S.A., Barcelona, Spain

13:10 **ID135 The role of Insurance in accelerating the Energy Transition**

Jose A Pagola. *Aon, Barcelona, Spain*

POSTERS
COMMUNICATIONS

HYDROGEN PRODUCTION: THERMOCHEMICAL & BIO-PROCESSES

P1 **ID124 A digital Twin to produce green H_2 via electrolyzer**

Cristina Aguilar García, Francisco Pérez Herrero

Repsol, Móstoles, Spain

P2 **ID202 CeO_2 incorporation to Co/SBA-15 to improve its catalytic performance in the oxidative steam reforming of acetic acid**

Carlos A Chirinos, Pedro J Megía, Arturo J Vizcaíno, José A Calles, Alicia Carrero

URJC, Móstoles, Spain

P3 **ID227 Non-stoichiometric oxides for thermochemical green hydrogen production**

Alejandro Pérez Domínguez, Elisa Díaz Correas, M Orfila Del Hoyo, María Linares Serrano, Raúl Sanz Martín, Javier Marugán Aguado, Raul Molina Gil, Juan A Botas Echevarría

URJC, Móstoles, Spain

P4 **ID230 Thermocatalytic process for Hydrogen production without CO_2 emissions**

Susana Pérez-Gil

Tecnalia, Miñano, Spain

P5 **ID242 Improvement of the H_2 production by oxidative steam reforming of acetic acid over Ni catalysts supported on mesostructured CeO_2**

Alvaro Moreno, Pedro J Megía, Arturo J Vizcaíno, José A Calles, Alicia Carrero

URJC, Móstoles, Spain

P6 **ID340 Green hydrogen production via circular economy: Zeppelin project**

José Sánchez Luján, Carmen Jiménez Borja, Diego Úbeda Romero, Inmaculada Moraleda Núñez, Juan L Carreras Muñoz, Carolina Fernández-Caballero Redondo, Ernesto Simón Camacho, Germán Monjas López, Elisa Alcolea Coronel

Técnicas Reunidas, Madrid, Spain

P7 **ID353 Hydrogen generation by methane dry reforming versus partial oxidation using perovskites as catalysts**

María Romay, David P Serrano, José M Escola, Patricia Pizarro

IMDEA Energy, Móstoles, Spain; UAM, Madrid, Spain; URJC, Móstoles, Spain

P8 **ID360 Renewable hydrogen production by sorption enhanced steam reforming of syngas streams within biorefineries**

Alejandra Vega Rodríguez, Fernando Rubiera González, Covadonga Pevida García, M Victoria Gil Matellanes

INCAR-CSIC, Oviedo, Spain

P9 **ID393 Approach of the technology of conical Spouted Bed to combustion of H_2 from treatment of wastes**

María J San José, Sonia Alvarez, Raquel López, Francisco J Peñas

UPV/EHU, Bilbao, Spain; Universidad de Navarra, Pamplona, Spain

HYDROGEN PRODUCTION: SOLAR PROCESSES

P10 **ID87 Direct DC-Coupling of PV to a Modular Scalable Alkaline Electrolyzer System**

Albert Bos, Ahmadreza Rahbari, Quinten Doornbos

XINTC, Eerbeek, The Netherlands

P11 **ID98 Pilot-scale solar photocatalytic hydrogen production from waste waters**

Laura C Valencia, Kevin A Simbaña, Monika Haponska, **Alberto Puga**

Universitat Rovira i Virgili, Tarragona, Spain

INTEGRATED HYDROGEN SYSTEMS

P12 **ID66 Detailed chemical kinetics simulation of hydrogen generation via ammonia thermal partial oxidation in a counter-current microchannel-based reactor**

Daniel Fernández-Galisteo, Eduardo Fernández-Tarrazo, Carmen Jiménez, Vadim Kurdyumov

CIEMAT, Madrid, Spain; UC3M, Madrid, Spain

P13 **ID157 Modeling hydrogen production from small-scale hydropower, a case study**

Liina Sangolt

HVL, Haugesund, Norway; UIB, Bergen, Norway

P14 **ID262 Optimizing Total Cost of Ownership in Power Conversion for Large-Scale Green Hydrogen Production**

Andreas Becker, **Alberto Pascual,** Eduardo Lopez De Armentia, Andreas Emmert

AEG Power Solcutions, Warstein-Belecke, Germany; AEG Power Solutions, Vitoria, Spain

P15 **ID283 Impact of electrolyte membranes on hydrogen production efficiency in SO_2 depolarized electrolyser**

Pragya Narayana Prasad, Neha Garg, Annukka Santasalo Aarnio

Aalto University, Espoo, Finland

P16 **ID354 Energy management system for the operational optimization of elements in the generation of renewable hydrogen by electrolysis, storage and supply in Hydrogen Refueling Stations to heavy vehicles**

David González, Alexander Misol, Javier González, David De Miguel, César Merino

Instituto Tecnológico de Castilla y León, Burgos, Spain

ALKALINE ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

P17 **ID168 NORDEX IPCEI project: Development and Production of Hydrogen Generation Technology**

Rojas Nuria, Amores Ernesto, Sánchez-Molina Margarita, Sevilla Gema, Gutiérrez Nuria, González Hector, Abad David, García Luis D, Fernández Oscar, San Martín Adolfo, Ollacarizqueta Aitor, Fernández De Manzanos Javier, Ramirez Francisco J

Nordex Electrolyzers, Puertollano, Spain; Acciona Nordex Green Hydrogen, Pamplona, Spain

P18 **ID383 Assembly and sealing strategies for alkaline water electrolyzers**

Ernesto Amores, Gema Sevilla, Margarita Sánchez, Nuria Rojas, Héctor Gónzalez, Nuria Gutierrez, David Abad, Óscar Fernández, Aitor Ollacarizqueta, Luis D García, Javier Fernández De Manzanos

Nordex Electrolyzers, Puertollano; Nordex Electrolyzers, Barásoain, Spain

P19 **ID388 Overview of the ELEKWIND project: manufacture and testing of advanced electrodes for alkaline electrolysis with wind power**

Margarita Sánchez-Molina, Nuria Rojas, Ernesto Amores, Gema Sevilla, Héctor González, Nuria Gutiérrez, David Abad, Luis D García, Javier Fernández De Manzanos

Nordex Electrolyzers, Puertollano, Spain; Nordex Electrolyzers, Barásoain, Spain

AEM ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

P20 **ID260 Development of PGM-free electrodes by Electrodeposition for the Anion Exchange Membrane Electrolyser (AEMWE)**

Mila Manolova, Joachim Hildebrand, Miriam Hesse, Ivan Radev, Seniz Soergel

FEM, Schwäbisch Gmünd, Germany; ZBT, Duisburg, Germany; FEM, Duisburg, Germany

P21 **ID387 Environmental and Material Criticality Performance of Hydrogen Production via Anion Exchange Membrane Water Electrolysis**

Elke Schropp, Felipe Campos-Carriedo, Diego Iribarren, Gabriel Naumann, Christian Bernäcker, Matthias Gaderer, Javier Dufour

Technical University of Munich, Straubing, Germany; IMDEA Energy, Móstoles, Spain, IFAM, Dresden, Germany

PEM ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

P21B **ID78 Numerical methodology to evaluate the impact of H_2-based zero-emission blends in fuel flow-regulators for domestic and industrial combustion applications**

Joanes Berasategi, **Ricardo Blanco-Aguilera**, Markel Penalba, Manex Martinez-Agirre

Mondragon Unibertsitatea, Mondragon, Spain; Ikerbasque, Bilbao, Spain

SOEC ELECTROLYZERS: MATERIALS, COMPONENTS & STACKS

P22 **ID53 SOEC for Highly Efficient Hydrogen and E-Fuel Production**

Bernd Reiter, Maria Segura

AVL List GmbH, Graz, Austria

P23 **ID125 Cost-effective and large-scale H_2 and NH_3 production technologies: an introduction to HYDROGENi FME**

Marie-Laure Fontaine

SINTEF, Oslo, Norway

P24 **ID152 An Open-Source Modeling Tool for Alkaline (AEL), Proton Exchange Membrane (PEMEL), and Solid Oxide (SOEL) Water Electrolysis Systems**

Jan Hollmann, Alexander Rex, Jan Witte, David Härter, Patrick Trinke, Boris Bensmann, Andreas Lindermeir, Stephan Kabelac, Richard Hanke-Rauschenbach, Thomas Turek

Leibniz University Hannover, Hannover, Germany; CUTEC, Clausthal, Germany

CATALYST FOR HYDROGEN PRODUCTION

P25 **ID85 Synthesis gas by catalytic steam reforming of biomass**

Sergio Rapagnà, Alessandro A Papa, Andrea Di Carlo

University of Teramo, Teramo, Italy; University of L'Aquila, L'Aquila, Italy

P26 **ID160 Hydrodynamic characteristics of CNT agglomerates in the gas-solid fluidized beds for hydrogen extraction from methane**

DongHyun Lee

Sungkyunkwan University, Suwon, South Korea

P27 **ID211 On the photocatalytic activity for hydrogen production of $BaSrTa_2O_7$ and $Sr_2Ta_2O_7$ layered compounds**

Marianela Gómez-Toledo, Khalid Boulahya, Laura Collado, Victor De La Peña O'shea, **Elena Arroyo-De Dompablo**

UCM, Madrid, Spain; IMDEA Energy, Madrid, Spain

P28 **ID277 Perovskites as precursors of Nickel based catalysts for greed hydrogen generation from biogas**

Juan Alcañiz-Monge, **Gema Gil-Muñoz**, M José Illán-Gómez

Universidad de Alicante, Alicante, Spain

P29 **ID281 Effects of Nb doping into $LaNiO_3$ based perovskites for the dry reforming of methane**

Juan Alcañiz-Monge, Gema Gil-Muñoz, M José Illán-Gómez

Universidad de Alicante, Alicante, Spain

P30 **ID284 Biohydrogen production by the aqueous phase reforming of bio-glycerol over Ni/Al-Ca catalysts**

Raquel Raso, Eduardo Abad, Lucía García, Joaquín Ruiz, Miriam Oliva, Jesús Arauzo

Universidad de Zaragoza, Zaragoza, Spain

P31 **ID303 Exploring Transition Metal Doped on CdS Photocatalyst for Hydrogen Evolution by Density Functional Theory**

Yuting Li, Daniel Bahamon Garcia, Lourdes F Vega

Khalifa University, Abu Dhabi, United Arab Emirates

P32 **ID369 Ni and Co catalysts supported on sepiolite to produce hydrogen by steam reforming of ethanol**

Alvaro Miralles-Martínez, Javier F Da Costa-Serra, Ana Nieto, Jorge Carrero, Carmen Jimenez-Borja, Antonio Chica

UPV-CSIC, Valencia, Spain; Técnicas Reunidas S.A., Madrid, Spain

P33 **ID372 Exploring Ni-Al and Co-Al Spinel Catalysts for Enhanced Biogas Reforming: Assessing Synthesis Techniques and K Incorporation Effects on Catalyst Activity, Selectivity, and Stability**

Sofía Peña Fernández-Pacheco, Javier F Da Costa-Serra, Camen Jiménez-Borja, Diego Úbeda, Jose Sánchez-Luján, Antonio Chica

UPV-CSIC, Valencia, Spain; Técnicas Reunidas S.A., Madrid, Spain

ELECTROCATALYSTS / ELECTRODES FOR ELECTROLYZERS & FUEL CELLS

P34 **ID183 Electronic descriptors for the OER activity: analysis of the O2p-band center in complex transition metal oxides**

Marianela Gómez-Toledo, **Elena Arroyo-De Dompablo**

UCM, Madrid, Spain

P35 **ID187 Synthesis and characterization of new Ruddlesden-Popper phases for the OER process in alkaline electrolyzers**

Khalid Boulahya, Bruno Marín, Jorge González-Morales, Mario Aparicio, Jadra Mosa, **Elena Arroyo-De Dompablo**

UCM, Madrid, Spain; ICV-CSIC, Madrid, Spain

P36 **ID232 Carbon nanofibers as Ni-N-C catalyst matrix for oxygen evolution in anion exchange membrane water electrolysis**

Carlos Serrano-Alcalde, Sara Pérez-Rodríguez, M Jesús Lázaro, **David Sebastián**

ICB-CSIC, Zaragoza, Spain

P37 **ID241 Electrocatalyst derived from Ni-based polymer with high performance for the hydrogen oxidation reaction**

Álvaro Tolosana Moranchel, Isabel Rodríguez García, José L Gómez De La Fuente, María Retuerto, Sergio Rojas

ICP- CSIC, Madrid, Spain

P38 **ID274 NiFeCr-Mo coatings characteristics as an electrocatalyst for alkaline water electrolysis**

Marya Baloch, Maite Redin Azcona, Beatriz Navarcorena Ilarregui, Jonathan Fernandez De Ara, Jose Fernandez Palacio, **Gonzalo Garcia Fuentes**

AIN, Cordovilla, Navarra, Spain

P39 **ID349 Transformation of $CoFe_2O_4$ spinel structure into active and robust CoFe alloy/N-doped carbon electrocatalyst for oxygen evolution reaction**

Gebrehiwet Abrham Gebreslase, M Victoria Martínez Huerta, **David Sebastián**, M Jesús Lazaro Elorri

ICB-CSIC, Zaragoza, Spain; ICP-CSIC, Zaragoza, Spain

HYDROGEN STORAGE: CARRIERS

P40 **ID49 Efficiency enhancement of hydrogenation/dehydrogenation reactions of the toluene/methylcyclohexane pair as potential LOHCs through two different set-ups:
A onepot batch and a continuous catalytic millireactor**

Sergio Santos Moreno, Susana Pérez Gil

Tecnalia, Vitoria-Gasteiz, Spain

P41 **ID60 A demonstration of solid-state hydrogen storage system based on $NaAlH_4$**

Moon-Sun Chung

Korea Institute of Energy Research, Daejeon, South Korea

P42 **ID71 Biobased furanic molecules as potential LOHCs: catalytic dehydrogenation of tetrahydrofuran**

Isabel Prieto, Salvador Ordóñez

University of Oviedo, Oviedo, Spain

P43 **ID185 High Capacity Polymer-Based Hydrogen Carriers for Mobile Applications**

Mohammadhossein Sharifian, Wolfgang Kern, Gisbert Riess

Montanuniversität Leoben, Leoben, Austria

P44 **ID200 Screening of platinum based bi-metallic catalyst for perhydro-benzyltoluene dehydrogenation**

Alvaro Martínez, Fátima Mariño, V Laura Barrio

UPV-EHU, Bilbao, Spain

P45 **ID255 Promising liquid organic hydrogen carriers based on ionic liquids**

Jonatan Perez Arce, Estefania Estalayo, Sergio Santos Moreno, Laura Sanchez Cupido, Eduardo J García Suarez

CIC energiGUNE, Vitoria-Gasteiz, Spain; Tecnalia, San-Sebastian, Spain; Tecnalia, Vitoria-Gasteiz, Spain

P46 **ID344 Molecular modeling for ammonia as a potential hydrogen carrier for the hydrogen age**

Ismail II Alkhatib, Dimitrios C Kyritsis, Lourdes F Vega, **Daniel Bahamon**

Khalifa University, Abu Dhabi, United Arab Emirates

P47 **ID345 Assessment of Maritime Options for International Hydrogen Shipments: Selection of Transport Systems**

Marc Cochrane, William Nuttall, Stephen Burnley

The Open University, Milton Keynes, United Kingdom

P48 **ID355 Computational and experimental studies in nanostructured carbon and metal hydride-based hydrogen storage systems**

Iyajutti Kombiah, Suraya Vj, Karthigeyan Annamalai, Kawazoe Y

SRM Institute of Science and Technology, Chennai, India; Tohoku University, Sendai, Japan

HYDROGEN STORAGE: GAS / LIQUID

P49 **ID67 Novel low-pressure cryogenic liquid hydrogen storage for aviation (Overleaf)**

Natalia Pons Puig, Adolfo Benedito

AIMPLAS, Paterna, Spain

P50 **ID141 H2MAT – Hybrid multilayer metal structures to be used in contact with hydrogen**

Iñaki Hurtado, Gorka Plata, Nerea Burgos, Iban Vicario, Teresa Guraya, Fernando Santos, Beatriz Calleja, Borja Escauriaza, Nerea Guinea

Mondragon Unibertsitatea, Arrasate-Mondragon, Spain; CEIT, San Sebastian, Spain; Tecnalia, Derio, Spain; EHU/UPV, Bilbao, Spain; Azterlan, Durango, Spain; Tubacex Innovación, Derio, Spain; Sidenor I+D, Basauri, Spain; Basque Energy Cluster, Bilbao, Spain

P51 **ID384 Biomass-derived activated carbon as efficient hydrogen adsorbent**

Jaroslaw Serafin, Bartosz Dziejarski, Carlos Solis, Narcis Homs, **Pilar Ramírez De La Piscina**

UB, Barcelona, Spain; Wroclaw University of Science and Technology, Wroclaw, Poland; Chalmers University of Technology, Gothenburg, Sweden; IREC, Barcelona, Spain

HYDROGEN INFRASTRUCTURE FOR TRANSPORT, DISTRIBUTION & DISPENSING

P52 **ID76 Modeling and cost analysis of H_2 refueling protocols for fuel cell vehicles**

Iban Vicente, Francisco J Sanchez, Jose L Calvo

Tecnalia, Derio, Spain

P53 **ID167 Effect of hydrogen environments on the physical and mechanical properties of elastomers**

Natalia Cano Murillo, Andreas Kaiser, Winoj Balasooriya, Andreas Hausberger, Geraldine Theiler

BAM, Berlin, Germany; Arlanxeo Deutschland GmbH, Dormagen, Germany; Polymer Competence Center Leoben GmbH, Leoben, Austria

P54 **ID204 Chance-constrained model predictive control for green and grid-connected hydrogen refueling stations**

Pol Cardona, Luis Valiño, Carlos Ocampo-Martinez, **Maria Serra**

CSIC-UPC, Barcelona, Spain; ESAII-UPC - BarcelonaTECH, Barcelona, Spain; ICB-CSIC, Zaragoza, Spain

P55 **ID351 High-pressure hydrogen valves components materials review**

Enric Palau Forte

Universitat Rovira i Virgili, Tarragona, Spain; Redfluid, Terrassa, Spain

P56 **ID357 Energy analysis of hydrogen refueling stations**

Guillermo Griñan, Tomas Gomez-Acebo

University of Navarra, San Sebastian, Spain

PEM FUEL CELLS: MATERIALS, COMPONENTS & STACKS

P57 **ID39 Development of sustainable electrodes using carbon materials from biomass for proton exchange membrane fuel cells (PEMFC)**

María Porcel-Valenzuela, Alejandro Ortega-Murcia, Iván Esteve-Adell, Mayte Gil-Agustí, Vicente Fuster-Roig, Alfredo Quijano-López, Marta García-Pellicer

ITE, Paterna, Valencia, Spain; UPV, Valencia, Spain.

P59 **ID184 Development of a proton exchange membrane capable of operating durably in a 95°C PEMFC**

Lysandre Hourdin, Emilie Planes, Laure Lavernot, Rodrigo Schneider, Sara Cavaliere, Deborah Jones, Cristina Iojoiu

Laboratoire Électrochimie et Physicochimie des Matériaux et des Interfaces, Grenoble - Chambéry, France; CNRS-Université de Montpellier-ENSCM, Montpellier, France

SOLID OXIDE FUEL CELLS: MATERIALS, COMPONENTS & STACKS

P60 **ID279 Solid Oxide fuel cells for direct biogas valorizations: challenges and opportunities**

Adriana Morales-Marín, Javier Sánchez-Laínez, Laura Abadía, Vanesa Gil, Stefan Wuttke, Roberto Fernández De Luis, Roberto Campana, Jonas Gurauskis

FHA, Huesca, Spain; ARAID Foundation, Zaragoza, Spain; BCMaterials, Leioa, Spain; CNH2, Puertollano, Spain; Instituto de Nanociencia y Materiales de Aragon, Zaragoza, Spain

OTHER FUEL CELLS: MATERIALS, COMPONENTS & STACKS

P61 **ID153 The role of fuel cells in the energy transition of Argentina's residential sector**

Adrián E Gonnet, Carlos A Mainetti

Facultad Regional Bahía Blanca, Bahía Blanca, Argentina

P62 **ID390 Structural investigation of the orthoborate based electrolytic materials for fuel cell applications**

Jaroslaw Milewski, Piotr Rys, Anna Krzton-Maziopa, Grazyna Zukowska, Karolina Majewska, Magdalena Zybert, Jacek Kowalczyk, Maciej Siekierski

Faculty of Power and Aeronautical Engineering, Warsaw, Poland; Warsaw University of Technology, Warsaw, Poland

HYDROGEN COMBUSTION

P63 **ID78 Numerical methodology to evaluate the impact of H_2-based zero-emission blends in fuel flow-regulators for domestic and industrial combustion applications**

Joanes Berasategi, **Ricardo Blanco-Aguilera**, Markel Penalba, Manex Martinez-Agirre

Mondragon Unibertsitatea, Mondragon, Spain; Ikerbasque, Bilbao, Spain

TRANSPORTATION & AEROSPACE APPLICATIONS

P64 **ID142 The revolution of hydrogen fuel cells in recreational boats**

Juan De La Torre, Asier Alonso, Eneko Otaloa, Carlos Orive, Javier Barahona, Pablo Prieto

Tecnalia, Bilbao, Spain; Limitless Marine Design, Madrid, Spain; Abervian, Castellón, Spain

P66 **ID288 Efficient and Innovative Hydrogen Tank Design for a Lightweight Hydrogen-Powered Drone**

Nick Kachelriess, Kieran Quaine, Julian Bialas, Christian Schmid, Niusha Shakibi Nia, Eva Wernig, Christian Neuner, Gernot Mariacher, Mario Döller, Nikolaus Fleischhacker

FEN Research, Innsbruck, Austria; FH Kufstein, Kufstein, Austria; TWINS GmbH, Innsbruck, Austria; WOLFTANK Adisa GmbH, Innsbruck, Austria

STATIONARY APPLICATIONS

P67 **ID118 Economic analysis of hydrogen use to decarbonise cement supply chains - A case study in Ireland**

Ahmad Rafiee, Paul Monaghan, Rory Monaghan

University of Galway, Galway, Ireland; Mannok Build, Derrylin, UK

P68 **ID127 Effects of pressurized operation on the overall efficiency of hydrogen PEM fuel cell power plants: Update from the Grasshopper project**

Javier Navarro Hinojosa, Germán Nieto Cantero, Belén Sarmiento Marrón

Abengoa, Seville, Spain; Nedstack Fuel Cell Technology BV, Arnhem, The Netherlands

OTHER APPLICATIONS OF HYDROGEN

P69 **ID47 Swagelok value proposition: The Anatomy of a Hydrogen Fitting**

Jordi Díaz

Swagelok Ibérica, Cervelló, Spain

P70 **ID63 Non-noble metal-based transformations of (hetero)arenes**

Kathrin Junge, Johannes Fessler, Veronica Papa, Haijun Jiao, Matthias Beller

Leibniz-Institute for Catalysis, Rostock, Germany

P71 **ID89 The role of syngas and its derivatives to improve the sustainability aspects of our industry**

Herminio Sanchez

Thyssenkrupp Uhde GmbH, Oviedo, Spain

P72 **ID115 Design and implementation of a green hydrogen production plant to decarbonize different industrial processes in Cantabria**

Fabián Musy Palacio, Carlos Sánchez Narbona, Victor M Maestre Muñoz, Alfredo Ortiz Sainz De Aja, Inmaculada Ortiz Uribe

Universidad de Cantabria, Santander, Spain

OTHER APPLICATIONS OF HYDROGEN

P73 **ID193 Hydrogen purification and quality analysis**

Pablo Molina, África Castro, Javier Brey, Delia Muñoz

H2B2, Seville, Spain; Universidad Loyola, Seville, Spain

P74 **ID215 Evaluation of available thermophysical models for H_2/N_2 mixtures oriented to the design and optimization of compression process for ammonia synthesis**

Iza Martinez, Fatemeh Pazoki, Daniel Lozano, Jorge Velasco, Alfonso Horrillo, Andrés Díaz, Cesar Chamorro

Universidad de Valladolid, Valladolid, Spain; CIDAUT Foundation, Boecillo-Valladolid, Spain; Universidad de Burgos, Burgos, Spain

P75 **ID265 Biogas upgrading by CO_2 methanation in a distributed feeding fixed bed reactor. Parametric analysis through simulation**

Pablo Aragüés-Aldea, Paúl Durán, Víctor Dl Mercader Plou, Eva Francés, **José A Peña**, Javier Herguido

I3A, Zaragoza, Spain; Universidad de Zaragoza, Zaragoza, Spain

P76 **ID266 Biogas upgrading in a distributed fixed-bed reactor: Influence of space velocity in the methanation performance**

Pablo Aragüés-Aldea, Rodrigo González-Pizarro, Paúl Durán, Víctor D Mercader Plou, Eva Francés, **José A Peña**, Javier Herguido

I3A, Zaragoza, Spain; Universidad de Zaragoza, Zaragoza, Spain

P77 **ID291 Experimental optimization of a hydrogasification lab-scale set-up for the valorization of heterogeneous solid wastes**

M Beatrice Falasconi, Sara Tatarelli, Alberto Giaconia, Giampaolo Caputo, Pietro Colucci, Vincenzo Piemonte

University Campus Bio-Medico of Rome, Roma, Italy; ENEA, Roma, Italy

P78 **ID296 Two-step single biogas separation unit for CO_2 gas stream purification and use as feedstock in the synthesis of renewable methanol**

Lidia Martínez-Izquierdo, Vanesa Gil, **Eduardo Bernad-Quílez**, Javier Sánchez-Laínez, Adriana Morales-Marín, Pedro L Arias, Iker Aguirrezabal, Roberto Fernández De Luis, Stefan Wuttke, Adrián Quindimil, Mohamed Yahia, Dalia Refaat, Joaquín Coronas, Jonas Gurauskis

FHA, Huesca, Spain; ARAID Foundation, Zaragoza, Spain; EHU, Bilbao, Spain; BCMaterials, Leioa, Spain; INMA, Zaragoza, Spain; University of Zaragoza, Zaragoza, Spain

SAFETY

P79 **ID306 Green hydrogen production and storage - risk awareness and ensured plant safety**

Víctor Gimeno, Iván Ruiz, Tjerk Raske

Dräger Hispania S.A.U., Madrid, Spain; Dräger, Lübeck, Germany

P80 **ID310 Hydrogen risk management: recognizing and stemming risks to ensure plant safety**

Víctor Gimeno

Dräger Hispania S.A.U., Madrid, Spain

P81 **ID312 Hydrogen plant safety with a detection matrix**
Víctor Gimeno
Dräger Hispania S.A.U., Madrid, Spain

P82 **ID331 Case study: Safety distances comparative in hydrogen refueling station located in Spain using different methodologies, regulations and standards**
Pablo Cortiguera, Rubén Pozo
Bureau Veritas, Madrid, Spain

LCSA ENVIRONMENTAL & SOCIAL IMPACTS

P83 **ID198 First results on the Life Cycle Assessment of MacGhyver Project for green hydrogen production**
Carmen María Fernández-Marchante, Cristina Sáez, Pablo Cañizares, Sergio J Pérez-Luque, Engracia Lacasa, Manuel Andrés Rodrigo, **Justo Lobato**
University of Castilla-La Mancha, Ciudad Real, Spain

P84 **ID251 Evaluation of Externalities in the Production and Use of Green Hydrogen: An Economic Assessment of Industrial Hydrogen Accidents**
Luis Segui, **Sergi Contelles**, Victoria Iglesias, Rubi Medina, Maria Ruiz
Universidad Internacional de la Rioja, Logroño, Spain; DEKRA Services SAU, Madrid, Spain; EAE Business School, Tarragona, Spain

HYDROGEN SYSTEMS MODELLING

P85 **ID52 Thermal management in fuel cell vehicles**
Iban Vicente, Francisco J Sanchez, Jose L Calvo, Jon Iturralde
Tecnalia, Derio, Spain

P86 **ID106 Advancing Island of Ireland's green transition: A techno-economic assessment of hydrogen fueled gas turbines**
Thuso Booth Mogorosi, Ahmad Rafiee, Rory FD Monaghan
University of Galway, Galway, Ireland

P87 **ID117 Optimization design and operation of an electrolysis plant account for modularity and non-linear performance whilst meeting demand fluctuations**

Santiago Serna Zuluaga, Rafael Cossent Arín, Timo Gerres

Universidad Pontificia Comillas, Madrid, Spain

P88 **ID137 Thermal-photovoltaic concentrating solar receiver for highly efficient green hydrogen production**

Desideri Regany, Alicia Crespo, Montse Vilarrubí, Jaume Camarasa, Manel Ibañez, Josep Illa, Ferran Badia, Jérôme Barrau, Joan I Rosell

University of Lleida, Lleida, Spain

ROAD MAPS, STRATEGIES & NETWORKS

P89 **ID171 Green Hydrogen production in Namibia and Morocco – a game changer for global defossilization?**

Daniel Frank, Chokri Boumrifak, **Andrés Lucht Uribe**

Dechema e.V., Frankfurt Am Main, Germany; Dechema e.V, Frankfurt, Germany

P90 **ID391 Hydrogen and fuel cell research community at the Universidad Politécnica de Madrid: A multidisciplinary technical university into the challenge of developing the hydrogen economy**

Teresa J Leo, Alberto Abánades, Marcelo F Ortega, Enrique Alcalá, Isabel Carrillo

UPM, Madrid, Spain

BUSINESS CASES

P91 **ID116 Pricing mechanisms in H_2 and derivative product markets**

Tim Hard

Argus Media, London, United Kingdom

P92 **ID319 Up-to-date hydrogen production costs and their sensitivity to key parameter variations**

Joseph Walton, Robert Steinberger-Wilckens

University of Birmingham, Birmingham, United Kingdo

SIDE EVENTS

PROMETH2

WEDNESDAY MARCH 6TH
15:30 - 19:30 · **ROOM 5**

PROMET-H2 Workshop. Drastic reduction of CRM and costs in PEMWE. Approach from EU project PROMET-H2.

PROMET-H2 is a European project intended to reducing the cost and enabling a more sustainable green hydrogen production. This workshop will present the main PROMET-H2 achievements in the development of a PEMWE stack with a reduction in the capital cost by means of the drastic reduction of Ir loading in the electrodes, the replacement of titanium by stainless steel as base material for manufacturing PTL and the development of a novel versatile and environmentally friendly recycling procedures using hydrometallurgical process.

instituto IMDEA energía

SH2E

THURSDAY MARCH 7TH
09:30 - 13:30 · **ATRIO ROOM**

SH2E Symposium

SH2E and eGHOST have joined forces for the celebration of this event to present the main outcomes of both EU-funded projects. The SH2E Symposium is addressed to present the SH2E guidelines for environmental, economic, social and sustainability life cycle assessment of FCH systems, illustrate two case-studies (PEMFC and SOEC) and showcase the software tool developed in the project

EUROPEAN HYDROGEN ENERGY CONFERENCE

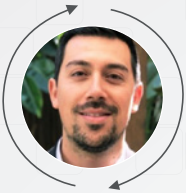
SIDE EVENTS

THURSDAY MARCH 7TH
09:30 - 13:30 · **ROOM 5**

Proper framework to materialize the development of renewable and sustainable hydrogen in Chile.

Since the publication of the Hydrogen National Strategy, several institutions have been promoting the production and use of hydrogen to its full potential. Thanks to that, the framework for the hydrogen industry is strengthened. This side event will consist of an exposition of the initiatives from Chilean state agents to foster the development of renewable and sustainable hydrogen, promoting an innovative and inclusive industry and materializing the potential of renewable hydrogen production, both for domestic use and exportation. It will review the initiatives to promote innovation, public participation, multi-ministerial coordination, long-term agreements and international cooperation

SPEAKERS:



Gabriel Guggisberg,
Director of the Economic Department of Chile in Spain – ProChile

Ana Maria Frías Ruz
Green Hydrogen Committee
Corfo, Chile

Pablo Tello Guerra
GIZ, Chile

Bárbara Eguiguren
Ministry of Energy, Chile

SIDE EVENTS

THURSDAY MARCH 7TH
15:30 - 19:30 · **ATRIO ROOM**

eGhost Symposium

In the eGHOST Symposium, the eco-design methodology developed in the project will be presented, concluding the event with two presentations on the development of product concepts for PEMFC and SOEC and the assessment of re-designed products

THURSDAY MARCH 7TH
15:30 - 19:30 · **TORRE ROOM**

Challenges and Opportunities of the H2 Sector in Europe and Latin America

This session will feature representatives from national hydrogen associations across various European and Latin American countries, each delivering insightful presentations that showcase the current realities of the hydrogen sector in their respective nations. This high-profile event will serve as a platform for these key stakeholders to share valuable insights into the unique challenges, opportunities, and advancements within their country's hydrogen industry. From infrastructure development and policy frameworks to market dynamics and technological innovations, attendees will gain comprehensive insights into the diverse landscape of hydrogen across Europe and Latin America. Through these presentations, participants will not only gain a deeper understanding of the regional nuances but also identify potential areas for collaboration, knowledge exchange, and strategic partnerships to drive the sustainable growth of the H2 sector world-wide.

EUROPEAN HYDROGEN ENERGY CONFERENCE

SIDE EVENTS

AêH2 SPANISH HYDROGEN ASSOCIATION

THURSDAY MARCH 7TH
15:30 - 19:30 · **TORRE ROOM**

SPEAKERS:

Jóse Ysmael Verde Gómez
Sociedad Mexicana del Hidrógeno / TECNM-ITCancún

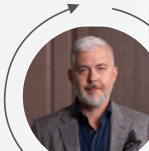
Javier Bonilla Herrera
Asociación Costarricense de Hidrógeno, Costa Rica

Mónica Gasca Rojas
Directora Asociación Hidrógeno Colombia

Pablo Navacerrada
Coordinador de proyectos del Programa Global para el Hidrógeno en la Industria

Bert De Colvenaer
CEO of Waterstofnet & Representative at the Belgian Hydrogen Council

Alice Krekt
NLHydrogen
The Netherlands



Oleksandr Riepkin
Energy Association "Ukrainian Hydrogen Council", Ukraine

Cristelle Werquin
France Hydrogène General Delegate, France

EUROPEAN HYDROGEN ENERGY CONFERENCE

SIDE EVENTS

PTe H2
PLATAFORMA TECNOLÓGICA ESPAÑOLA DEL HIDRÓGENO

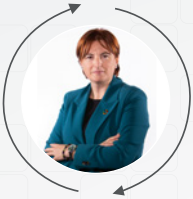
FRIDAY MARCH 8TH
11:30 - 13:15 · **ROOM 8**

Spanish Hydrogen Technology Platform.
A great example of public-private collaboration in Spain.

Hydrogen is a key factor without which the decarbonisation objectives cannot be achieved. Due to the cross-cutting nature of hydrogen technology, its development and deployment requires collaboration between public and private entities from all sectors that participate in the hydrogen value chain. The Spanish Hydrogen Technology Platform (PTe H2) is one of the best examples for other countries to follow for public-private collaboration in the field of research, development and innovation.

SPEAKERS:

Antonio González García-Conde
Director of the Flight Physics Department at the National Institute of Aerospace Technology (INTA)



África Castro Rosende
H2B2 Strategy, Business Development, and Communication Director

tecnalia
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

EKARRIH2

FRIDAY MARCH 8TH
09:30 - 11:00 · **ROOM 5**

Key technologies for liquid hydrogen carriers

The workshop will start with a keynote presentation by Exolum (TBC) and show the main results of the research project EKARRIH2, coordinated by Tecnalia, which aims to develop advanced liquid hydrogen carriers as well as hydrogenation and dehydrogenation technologies suitable to transport hydrogen at competitive costs and in an environmentally sustainable way. If interested in attending, please register (places are limited).

UNIVERGY HIDRÓGENO

Neuwalme H2
Hidrógeno Verde

Hy five

Hy.Five Hydrogen S.L. (HyFive) is a vertically integrated industrial company, focusing on green hydrogen and derivatives as e-methanol, SAF and ammonia. HyFive is 100% owned by White Summit Capital A.G. (WSC), a Swiss based investor and asset manager, specialising in deploying capital into superior risk return opportunities with strong decarbonisation and sustainability vectors.

HyFive serves the full value chain from hydrogen production to commercialization, active in every project phase from origination to operation; including development, permitting, engineering and execution.

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NOTES

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NOTES

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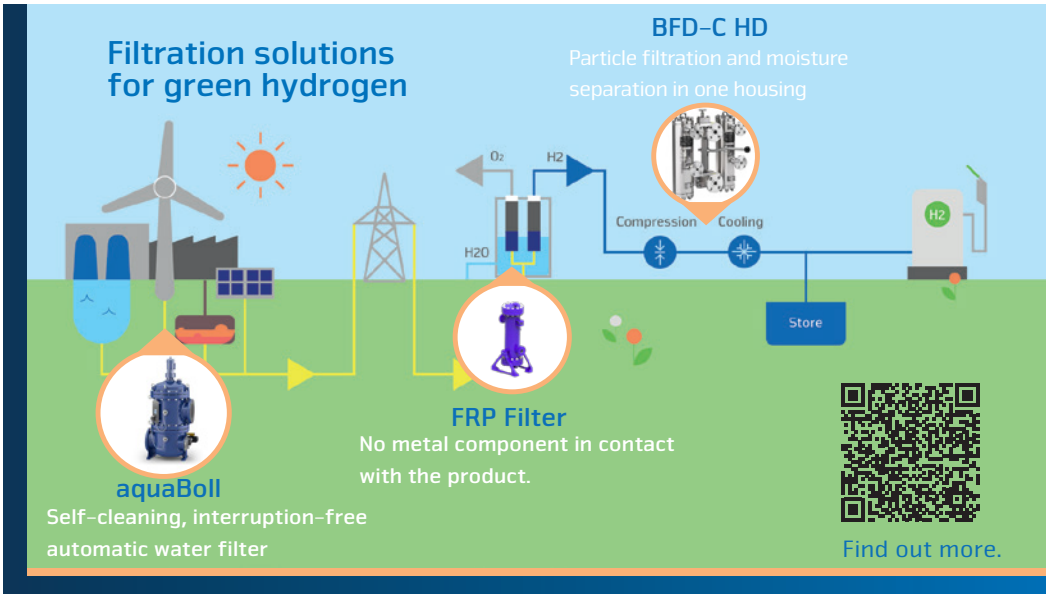


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2026
EUROPEAN HYDROGEN ENERGY CONFERENCE
AëH2
SPANISH HYDROGEN ASSOCIATION
2026
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SEVILLE!

6th-8th March, 2024
Bilbao Exhibition Centre (BEC)
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THE FAST TRACK TO THE HYDROGEN ECONOMY

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