

Making Hydrogen affordable to sustainably operate EVERYWH2ERE in European Cities



MISSION

Temporary diesel gensets are used everywhere in our cities (fairs, markets, construction sites, temporary events and concerts...) and non-road diesel engines account for 5-10% of fine-particle pollution in the urban environment. **Fuel cell (FC) can easily replace these technologies as a 0 noise and 0 emission solution for temporary energy generation.** The main objective of EVERYWH2ERE project is to demonstrate at TRL8 easy to transport “plug and play” FC gensets. Demonstration results will be capitalized for replication, business model, environmental and logistic analysis.



PROJECT PARTNERS



FOUNDATION FOR THE DEVELOPMENT OF NEW HYDROGEN TECHNOLOGIES IN ARAGON



FUEL CELLS AND HYDROGEN JOINT UNDERTAKING

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 779606. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme, Hydrogen Europe and Hydrogen Europe research

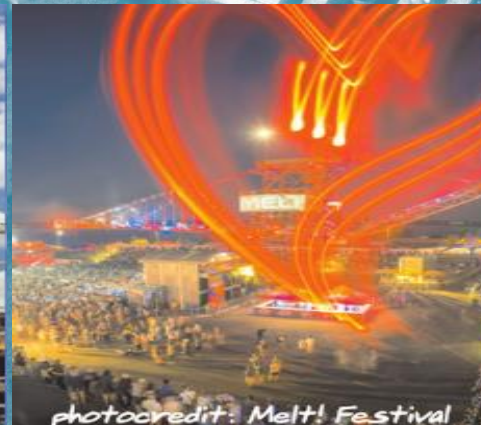


FC GENSET DEMONSTRATION YOUR OPPORTUNITY TO TEST



DEMONSTRATION WILL START in 2020/21

The prototypes (4x25 kW and 4x100 kW) will be tested in construction sites, music festivals and urban public events all around EU. These events will be important showcases to demonstrate FC potentials to a large audience in order to increase their social acceptance and public awareness. Public authorities and industrial stakeholders will be actively involved in dialogues and deployments to explore the upscaling of FC gensets in European cities.



WHY

EVERYWHERE

H2

GENSETS?



The market is currently served by internal combustion engines (fed by diesel, compressed natural gas, propane etc.) and batteries. In direct comparison:

	Fuel cell	Diesel	Battery
Reliability	+	+	+
Extended run time	++	++	--
Emissions	++	-	++
Noise	++	-	++
Efficiency	+	-	++
Ambient condition	+	+	-

Why hydrogen gensets make sense?

- #zeroemission
- #zeronoise
- #fast start up
- #easy to connect and operate
- #low maintenance
- #efficiency above 50%
- #subzero start (-20°C)
- #reduced installation time
- #ATEX and normative compliancy

GENSETS CHARACTERISTICS

- Two gensets sizes manufactured (25 kW and 100 kW)
- “Plug and Play”
- Transportable gensets
- Based on H₂ Fuel cell
- H₂ storage control
- Tested and safe operation
- ATEX Contained Solution

Two-box solution:

- H₂ tanks @350 bar
- FCPS 10 ft ISO-container



ANY COSTS INVOLVED?



EVERYWH2ERE consortium cover high costs of deployment in comparison with diesel engines!

Testers will contribute via....CONTRACTUAL ARRANGEMENTS AND MARKETING ASPECTS

✓ **FULL RENTAL GENSET CONTRACT**

transport + installation + fuel (cost/day). Contribute to the cost for the EVERYWH2ERE genset up to the same cost of a correspondent standard genset.

✓ **MID-RENTAL GENSET CONTRACT**

transport + installation (cost/day). EVERYWH2ERE consortium covers gas supply costs.

REGIONS & CITIES INTEREST GROUP





- Exchange with your peers on designing a successful local hydrogen agenda and benefit from dedicated online meetings on:
 - Hydrogen for a sustainable energy system - Complementary or affordable mainstream?
 - Hydrogen in the urban context – Opportunities from national hydrogen strategies?
 - Building with hydrogen - How can hydrogen gensets make construction more sustainable?
 - Making music with hydrogen – Sustainable festivals with hydrogen gensets?
- Set up a H₂-corner in your city to reach out to citizens
- Contribute to & benefit from the [Logistical and Environmental Decision Support Tool](#)

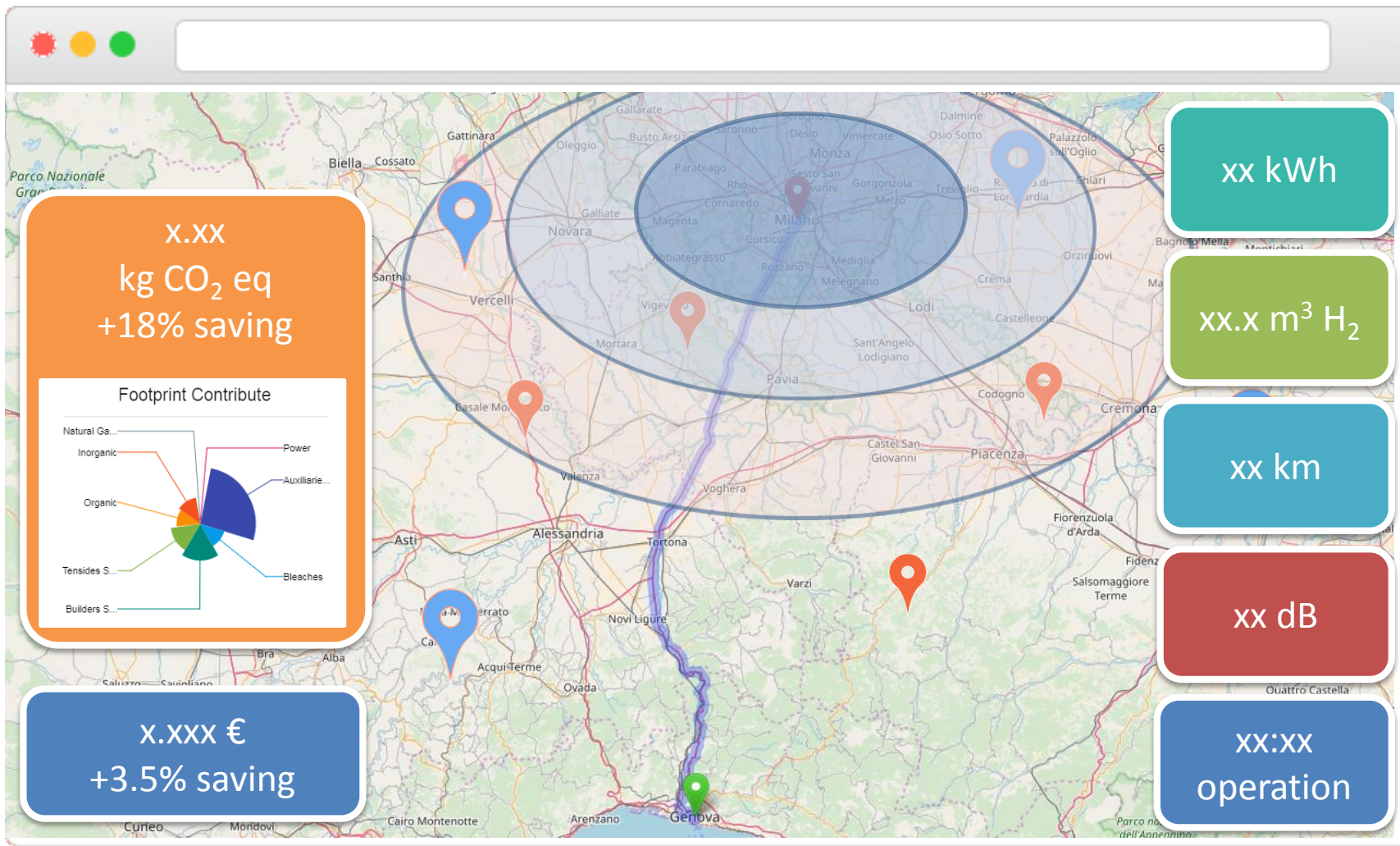


...and you need EVERYWH₂ERE!

Join us and become part of a pan-European demonstration campaign



Support Tool – Easy and Effective!



REGIONS & CITIES INTEREST GROUP



- ✓ **Sign up to our Regions & Cities group** to receive updates on engagement opportunities and to benefit from in-depth coverage on how fellow regions and cities make use of hydrogen gensets
- ✓ **Use opportunities to directly exchange and cooperate with other cities and regions** on innovative policies for zero emissions, zero noise construction sites and other temporary events
- ✓ **Receive feasible and effective policy recommendations** to support your zero-emission targets

HOW TO BENEFIT FROM EVERYWH2ERE



STEP I: GET IN TOUCH WITH US!

www.everywh2ere.eu

Follow us on Twitter, FB, YouTube, LinkedIn

STEP II: JOIN THE REGIONS & CITIES INTEREST GROUP

Fill in our Expression of Interest

STEP III: PARTICIPATE IN PROJECT EVENTS, WEBINARS & GENSET DEMO CAMPAIGNS

Be among the first cities to promote a society powered by Fuel Cells! A unique opportunity to promote your Sustainable Energy and Climate Action Plan and green identity!

PLEASE CONTACT US TO JOIN EVERYWH2ERE!

TECHNIAL SPECIFICATIONS



SPECIFICS	25 kW GENSET	100 kW GENSET
Rated kVA	25	100
Electric out	230/400 Vac 50Hz	230/400 Vac
DC net out at max cont power	234 A ; 153 V (from the stack)	450 A/300 V
Voltage Regulation Method	Off grid inverter	Off grid inverter
Fuel	Pure Hydrogen (10 bar)	Pure Hydrogen (10 bar)
Fuel Cell System @POWERCELL	PCS MS-25 SuSy, S2 stack with 264 cells	PCS MS-100 SuSy, S3 stack with 455 cells
Maximum Gross Weight of the FCS container/part (kg)	Ca. 1800	Ca. 1800
Dimensions L x W x H (mm) of the FCS container/part	10ft container (3050 x 2440 x 2590), about half of space occupied by FCS	10ft container (3050 x 2440 x 2590), about half of space occupied by FCS

H2 STORAGE SPECIFICS@MAYTECH and LINDE integration	25 kW GENSET	100 kW GENSET
Number of tanks in the system	3	9
Total volume of the tank	660L (3 x 220L)	1980 L (9x220 L)
Mass of H2 stored (at 350bar)	15,6kg (3 x 5,2kg) at 15°C	
Maximum refilling pressure	525bar	
Temperature of use	-20°C to +65°C	
Certification	TPED	
Dimensions (single tank)	L 2200mm / diam 488 at the largest	

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