

## Electricity storage to maximize RES penetration Leading the way to a renewables powered future

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**Company profile** 

#### Siemens Gamesa, global footprint to ensure customer proximity and competitiveness









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# Electricity storage integration with renewable generation



Hybrid Systems

#### **GW-h scale storage solutions**





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### **BESS offering: Store, Siemens Gamesa proprietary BESS solution**





#### Hornsdale. Worldwide largest stationary storage co-located to Siemens Gamesa wind farm





### Bulgana. Green power hub. A large scale pioneering project with BESS





#### **ETES.** Pioneering storage technology





#### From electricity...to green hydrogen: the opportunity

The opportunity	<ul> <li>Why:</li> <li>Green Hydrogen is called to be "game changer" and the driver to decarbonize the world economy.</li> <li>Most hydrogen is produced from gas in dedicated facilities, and the current share from renewables is small</li> <li>How: <ul> <li>Replacing grey by green hydrogen on present uses cases mainly in three key industries, fertilizers, refineries and methanol.</li> <li>Replacing present fuels by green fuels using green hydrogen production from renewables (transportation and gas networks).</li> </ul> </li> <li>Challenges: <ul> <li>Mid-term market consolidation, expected to take off around 2030.</li> <li>Renewables LCoE required between 20-30€/MWh without government incentives.</li> <li>Maturity/cost of electrolyzer technology.</li> <li>Development of distribution network and consumers demand.</li> </ul> </li> </ul>

You get the same amount of energy in hydrogen from one litre of water as you do with one litre of petrol. It's almost magical



#### From electricity... to green hydrogen: wind farm integration





## Carbon-free future with green hydrogen



- First pilot project in the world to connect a wind turbine to an electrolyzer with the ability to operate in 'island mode', i.e. driving an electrolysis rig with no link to an electricity grid.
- It includes a 3 MW Siemens Gamesa wind turbine owned by local partner Uhre Windpower, that will produce clean electricity to power a 400 kW electrolyzer.
- Just 1% of that hydrogen is generated from green energy sources. Replacing the 99% current polluting consumption would require 820 GW of wind generating capacity, 26% more than the current global installed wind capacity.



#### First pilot project in the world to connect a wind turbine to an electrolyzer





# Σας ευχαριστώ πολύ!

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