

1. Project description

Siemens Gamesa Renewable Energy (SGRE) is developing a solution to achieve an optimized production chain for hydrogen production close to the wind turbine with a direct link to the end-consumer. The focus is to lower energy conversion losses and enable island mode to build a dedicated facility fit to the end-consumers needed volume and flow requirements. This chain could be set up for both onshore and offshore and would be connected to the customer in such a way that the green molecule can be traced.

This demonstration could be paired with a large industrial site or a prototype hydrogen carrier system including a dedicated pipeline network and storage facility. A key partner would be a large industrial user with the ability to absorb substantial amounts of green hydrogen in a variable output. Ideally such a user could have access to storage facility such as caverns or have a way to blend the green hydrogen into its normal operations at the pace it came. It is also possible that the pairing requires the onshore or offshore wind farm to be an off-grid set-up, where the hydrogen is used at a remote offshore location.

The project would build on SGRE's competences within both onshore and offshore wind power and the ability to install and service new hydrogen producing components into an onshore or offshore wind farm. This would not only be turbine level innovation, but also the holistic innovation level of how a wind farm combined with electrolyzer capacity could be designed.

Please select which part of the value chain for hydrogen your project focuses on (select one or more, where applicable):

Production	Transmission	Industrial application	Mobility	Energy	Housing application	Other
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Partnerships and spillover effects

The key partners to SGRE in this project would be large-scale industrial users of hydrogen or industries that could substitute some current processes with a process that uses green hydrogen.

As the key to the innovation here is to demonstrate efficient set-ups between large-scale onshore or offshore hydrogen production, hydrogen storage and industrial consumption, other key partners would be companies specializing in storage and pipe infrastructure.