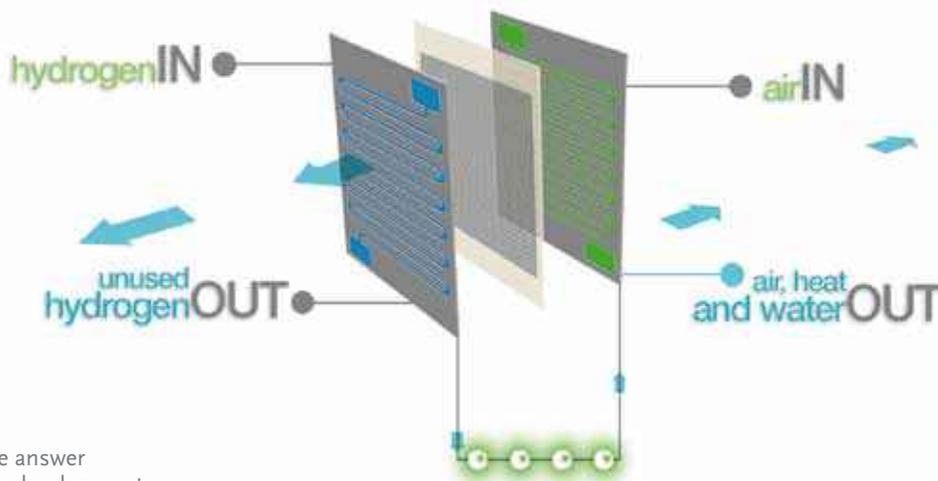


CASE STUDY SOLVAY



Tapping the potential of clean fuel cells



The need for innovation

Fuel cells hold part of the answer to mankind's sustainable development challenges. But size remains a key issue: to promote a broader, more intensive use of this clean technology, we need bigger, more powerful fuel cells.

The response through innovation

Solvay will invest over EUR 5 million in the construction of a test fuel cell with a total electric power of 1 megawatt (MW) at its plant in Lillo near Antwerp, Belgium. The investment is being undertaken in partnership with the Flemish, Dutch and European authorities. The fuel cell will convert hydrogen produced by electrolysis at SolVin's plant into electricity and by doing so increase the energy efficiency of the site's electrolysis.

In fuel cells, hydrogen binds with oxygen into water in a catalytic reaction and this reaction produces electrical energy and heat. The test Proton Exchange Membrane (PEM) fuel cell will be made up of a large number of membrane electrode assemblies combining specialty polymers and platinum electrodes.

This PEM fuel cell will demonstrate that fuel cell technology can be scaled-up to a peak output of 1.7 MW and a generation of 1 MW at steady rate, by using Solvay's innovative specialty polymers and SolviCore's membrane electrode assemblies. The test fuel cell will also be used by WaterstofNet for research and test programs to support and promote the development of the use of hydrogen in the region.

This 1MW test installation will contribute substantially to the development of this promising technology. The fuel cell in the Lillo plant does not only increase the energy efficiency of the electrolysis, but it also creates the possibility to optimize the efficiency of fuel cell technology on an industrial scale.

Further information on this innovation may be found under:
<http://www.solvaypress.com/pressreleases/>