

Air Liquide obtains its first "Efficient Solution" labels from the Solar Impulse Foundation

The Solar Impulse Foundation, created by Bertrand Piccard, has handed out four "Solar Impulse Efficient Solution" labels to reward solutions that are profitable as well as environmentally friendly. Three of these solutions were developed by Air Liquide – Nexelia™, Eco Chiller, and an energy recovery solution – the fourth label being awarded to Wagabox® by Waga Energy, a spin-off of the Group.

The purpose of the Solar Impulse Foundation is to select and promote **1,000 profitable and environmentally friendly solutions**. The "Solar Impulse Efficient Solution" label is awarded to innovations that combine criteria of technical feasibility, positive socio-environmental impact, and economic viability. Air Liquide has been supporting the Solar Impulse adventure since 2013, so it naturally backed Bertrand Piccard when he created the Solar Impulse Foundation in 2017. As part of this partnership, the Group has made available the know-how and expertise of a team of several dozen experts in many fields, from energy, to water and materials.

Air Liquide has submitted several solutions developed or supported by the Group for certification, in order to help improve air quality and fight climate change. **Four of these solutions have now received the "Solar Impulse Efficient Solution" label:**

- ❖ The **Nexelia™ solution for metal fusion includes connected oxygen lances** that make it possible to automatically control and adjust oxygen injection in the blast furnace during the production of cast iron. This new digital technology enables energy savings by **automatically adapting the flow of oxygen in real time** to keep the temperature steady throughout the furnace.
- ❖ The **Eco Chiller** is a device that makes it possible to **reuse the cold** generated during phase changes from liquid to gas. The immediate use of the energy recovered allows substantial **cost savings as well as reducing CO₂ emissions**.
- ❖ **Air Liquide's cryogenics-based energy recovery solution makes it possible to recover energy lost when gas is converted** from high-pressure in pipelines to lower pressure for their ultimate industrial use. This recovered energy is then converted into liquid hydrogen and/or liquefied natural gas.
- ❖ The **Wagabox®** is an innovative purification unit developed by the Grenoble-based start-up, Waga Energy (with the support of ALIAD – Air Liquide Venture Capital). It **purifies and valorizes the biogas** produced spontaneously by the decomposition of stored or buried waste in order to produce **biomethane**, which is then injected into the natural gas grid.

The Solar Impulse Foundation

Following the success of the first solar flight around the world, the Solar Impulse Foundation is dedicated to improving the quality of life on Earth by fast-tracking the implementation of clean and profitable solutions and help governments officials go beyond compromise and adopt modern legal frameworks to allow clean economic growth.

World Alliance for Efficient Solutions

The World Alliance for Efficient Solutions is a non-profit organization initiated by the Solar Impulse Foundation. Launched at the Bonn Climate Conference in November 2017, it brings together the main actors in the field of clean technologies. Members include innovators, investors, public institutions, innovation seekers and corporates committed to making our future sustainable. The World Alliance aims to federate and create synergies between its members to fast-track the implementation of clean and profitable solutions that have the potential to address the environmental challenges of today.