

Eco-innovation

Did you know...

The Luxembourg building Solarwind stands out as the spearhead of sustainable construction. The building is based, a world-first, on a triple environmental certification. It meets the highest sustainable development and eco-citizenship standards, and incorporates key renewable energy sources: biomass, solar, wind, geothermal and water.

Turning innovation into business

Luxembourg is home to a significant number of CleanTech companies specialised in **renewable energy, waste management, water treatment and eco-construction**. Luxembourg provides an attractive economic environment to entrepreneurs keen to add value and generate growth by optimising the use of materials, resources and energy, whilst focusing on three critical areas: the **circular economy, sustainable construction and mobility**.

6-10 minutes

Luxembourg will be the test arena for a leading sustainable transportation project with Volvo. A fleet of Volvo Plug-in Hybrid buses, recharging from electricity grids via a collector installed on the roof, will be tested in Luxembourg. The plug-in buses have a large battery package, making it possible to drive quietly and free from emissions. The batteries are charged at the bus terminus between six and ten minutes.

1st

In Luxembourg, we have developed the first 100% bio-based paint for interior. Verdello® is made from tall oil and is a colour of vegetable origin.

Leading the way in circularity

Luxembourg is gradually demonstrating its leadership in terms of circular economy initiatives ranging from healthy interiors to the leasing of steel and building materials substitution, with knowledge-based ICT and leasing industries driving circularity logistics and services. The commitment to circular models impacts traditional industries such as construction, manufacturing, retail and logistics as well as the tech sector in ICT and 3D manufacturing.

Even the Luxembourg financial sector is developing new financing models supporting this disruptive approach. The Environmental Research and Innovation (ERIN) department of the Luxembourg Institute of Science and Technology (LIST) develops technologies and tools to better monitor, assess, use and safeguard natural and renewable resources alongside industrial partners. The University of Luxembourg also conducts specific projects for the CleanTech sector, particularly in photovoltaic engineering and sustainable energy.

International success stories

- **Apateq:** winner of the 2014 European Technology Leadership Award, is specialised in oil-water separation that can be used in fracking applications. Without using chemicals in the treatment process, Apateq's OilPaq has an estimated total cost of ownership between 50 cents to less than \$1 per barrel whereas current market solutions cost between \$3 and \$30.
- **Carbon process and plant engineering:** specialist technology provider of air pollution control processes (turnkey plants) for the removal of sulphur oxides, nitrogen oxides and carbon dioxides.
- **Solartec:** manufacturer of decentralised independent power systems based on renewable energies.

Sustainable construction for the future

Sustainable development is one of the major challenges for the construction sector and Neobuild is the first innovation cluster in sustainable construction that set up its own modular building to **test new technologies under real life conditions**.

The company's 2,200 m² net-zero energy headquarters constructed with over 100 building materials, products and systems, are also used as a laboratory to promote innovation in the construction sector and to coach innovative construction start-ups and projects. Neobuild is a public-private partnership supported by the Ministry of Economy.