



## CASE STUDY

# LEEUWARDEN ENERGY KNOWLEDGE CENTRE

The Leeuwarden Energy Knowledge Centre is built on the former Skinkeskâns waste disposal site to the west of Leeuwarden in the Netherlands. This innovative office building is part of an Energy Campus and will house a wide range of research and knowledge institutions in the field of sustainability and is architecturally integrated into the landscape. The Centre has an adjustable foundation and was built with circularity at the forefront of its design and choice of materials.

Bart Cilissen of Achterbosch Architects has described their approach to circularity... *"The main guiding principle was: use your logical mind and don't get bogged down in the 'swamp' of sustainability certificates. The focus*

*was on the right choice of building materials and their application. Make circularity visible, that's how you could describe it. As architects, we try to think circularly as much as possible in every project. In the design phase, you also need to think about the reuse of the building materials that have been used. When the building is finally dismantled, the fully galvanized steel structure can be unbolted."*

The architects' motivation for the choice of galvanized steel throughout the structure was strongly focused on its simplicity and sympathy with the surroundings... *"We have deliberately chosen galvanizing instead of powder coating, so that you stay as pure as possible with the material. People are*

Above

**The centre was built with circularity at the forefront of its design and choice of materials**



*initially surprised that the steel is not “dyed”, but when you tell the story behind it they are immediately with it. I love that grey shade that fits perfectly with the aging wood of the slat façade. In addition, we also had considerable discussions with the residents in the neighbouring village who feared that this building would rise as a kind of lampion on top of the mound. That’s why we chose a wooden façade that is ageing over time. The galvanized steel reflects to some extent a light or dark day and absorbs the colour of the surroundings” says Bart Cilissen.*

The architects sought prefabricated solutions wherever possible. The galvanized steel was assembled like meccano, the floor and façades are

filled with timber frame elements and the ceiling consists of perforated profiles.

Another objective was the lightest possible building. Building on a rubbish dump was a particular challenge. The waste below is covered with a foil that could not be damaged so heavy foundations were out of the question.

The building floats on slabs placed on the foil in a sand bed. The 108 steel columns were placed freely with each column on its own concrete slab. For a light and circular building a combination of steel and wood were obvious choices. Concrete was avoided for the building structure.



Image credits: Tristan Fopma

## Learn more about galvanized steel and the circular economy

The galvanizing industry is moving forwards - keeping galvanized steel at the forefront of solutions for tackling climate change and delivering the circular economy.

Galvanized steel can provide innovative solutions that optimise durability and facilitate circularity of steel structures and components. These solutions can be easily implemented using this well-established and simple method of protecting steel.

Learn more at [www.galvanizingeurope.org](http://www.galvanizingeurope.org)