

LEED CERTIFICATION SYSTEM AND THE TUZLA TECHNOLOGY AND OPERATIONS CENTER (TUTOM)

LEED (Leadership in Energy and Environmental Design) was developed by the U.S. Green Building Council (USGBC) and put into practice in 1998 to characterize and evaluate green buildings in the sustainable building industry. LEED was created to conform with all types of buildings including commercial buildings, schools, hospitals, residences, and so on. LEED is a green building rating system that evaluates green sites according to the materials used, indoor air quality, CO2 emissions levels, environmental impact of construction activities, and operating costs for energy efficiency. Ratings are made in the following seven categories:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation in Design
- Regional Priority

SUSTAINABLE SITES

To encourage employees to travel by public transportation. The site was located in the vicinity of bus and minibus stops.

The installation of 304 bike stands promoted cycling instead of driving. Employees were urged to use shuttle vehicles.

Charging docks were mounted in the parking lot to prevent an increase in environmental pollution.

WATER EFFICIENCY

TUTOM used collected rain water to reduce demand and increase the efficient use of water.

Low-flush toilets and highly efficient batteries with sensors made for additional water efficiency.

Local plants with low water consumption rates were chosen for landscaping.

ENERGY AND ATMOSPHERE

Low energy consuming products and fixtures were preferred for environmental and indoor lighting.

Optimal building envelope and glass performance values conformed with American ASHRAE Standards.

Maximum sunlight reception further reduced electricity consumption.

An hourly simulation of all of the building's energy consumption showed an 18 percent greater efficiency rate than a building at ASHRAE 90.1–2007 standard.

MATERIALS AND RESOURCES

Construction materials used local and recyclable materials.

Specific decomposition methods according to type enhances waste recycling.

INDOOR ENVIRONMENTAL QUALITY

Doormats at building entrances minimize the amount of coarse dirt and dust getting inside the building.

Paint and construction materials with low-volatile organic compound values were used and solvent-based products were avoided. Minimizing employees' exposure to chemicals ensured that they can breathe easily.

In order to improve indoor environmental air quality, smoking inside the building or within 8 meters of air inlets was prohibited.

Compliance with ASHRAE 62.1–2007 standards ensured a sufficient amount of ventilation for the staff.

A sunlight simulation proved that employees receive a sufficient amount of sunlight, thus increasing productivity.

INNOVATION IN DESIGN

TUTOM demonstrates outstanding performance in the use of local and recycled materials.

REGIONAL PRIORITY

TUTOM's design requirements place the highest priority on energy and rain water management standards as determined by the USGBC for Turkey.

TUZLA TECHNOLOGY & OPERATION CENTER LEED GOLD CERTIFICATION

Tuzla Technology and Operation Center project was awarded the LEED (Leadership in Energy and Environmental Design) certification, the world's most prestigious green building endorsement developed by the U.S. Green Building Council (USGBC). Evaluated on the basis of a number of criteria including "Sustainable Sites", "Water Efficiency", "Energy & Atmosphere", "Materials & Resources", "Indoor Environmental Quality", "Innovation" and "Regional Priority", the project earned a gold LEED certification.