

- **Local materials** – About 20 percent (by cost) of the materials were manufactured within 500 miles of the building, reducing pollution and energy consumption from long-distance transportation.
- **Storage and collection of recyclable items** – Tenants of the building recycle paper, cardboard, bottles, cans, magazines and newspapers.
- **Construction waste management** – About 90 percent of the construction, demolition and land clearing debris was recycled.
- **Certified wood** – At least 50 percent of the wood-based materials are from forests that are certified in accordance with Forest Stewardship Council guidelines.
- **Recycled content of building materials** – Approximately 50 percent of the material (by cost) used in the building has high-recycled content. Some examples include structural steel, gypsum board, ceiling tile, carpeting, cork flooring, MDF wood products and pre-cast concrete.
- **Low-emitting materials** – Paint, adhesives, sealants, carpet and wood composites were selected to reduce the quantity of odorous or potentially irritating indoor air contaminants.
- **Indoor chemical and pollutant source control** – Rooms and areas of the building with potential contaminants are designed with separate exhaust and plumbing systems to minimize cross-contamination of regularly occupied areas. These rooms and areas include janitorial closets, rooms with copiers and work/storage areas in the basement or on the first floor.
- **Measurement and verification of energy and water consumption:** Extensive modeling has been performed to predict energy and water savings. The building includes equipment to measure energy and water performance. There is an extensive verification plan to compare predicted savings to those actually achieved.

The Plaza at PPL Center has been awarded a gold rating under the LEED (Leadership in Energy and Environmental Design) program of the U.S. Green Building Council. The LEED program provides standards to ensure buildings are environmentally responsible, economically efficient and healthy places to work.



## The Plaza at PPL Center



# A showcase of environmentally friendly building features

The Plaza at PPL Center is a showcase of environmentally friendly building features that save water and energy, minimize the building's impact on the environment and make it a pleasant and healthy place to work.

Here is a list of some of the environmental features of The Plaza at PPL Center, PPL's new office building in Allentown:

- **Winter gardens** – The two glassed-in “winter gardens” at the front of the building provide a buffer from direct southern exposure. These plant-filled areas help to reduce the energy consumption of the cooling system, and improve indoor air quality.
- **Daylight and views** – The building is designed to maximize daylight and views. Outside walls of the office space are constructed of floor-to-ceiling high-performance glass. More than 90 percent of all space on the office floors has direct line-of-sight vision to an outside window, providing a “connection” between indoor space and outdoor environment. This also increases natural light, which reduces electricity usage.
- **Ice storage system** – The system in the basement of the building makes ice at night when electricity demand is low, and uses the ice during the peak daytime periods to “pre-cool” the cooling air, saving energy.
- **“Green” power** – The building's electricity supplier, PPL EnergyPlus, is a certified “Green-e” provider. Electricity used by the building is generated from renewable sources such as low-impact hydroelectric, biomass, geothermal, solar or wind.
- **Ventilation** – Adequate ventilation enhances indoor air quality, contributing to the health and well-being of the occupants.
- **Bicycle storage** – There are bike lockers behind the building. Locker rooms are provided for employees who bike to work.
- **Energy-saving light controls** – High-efficiency lighting reduces electricity usage by approximately 50 percent. As daylight increases, interior lights are lowered automatically to maintain a constant lighting level. Sensors in offices and conference rooms automatically turn off lights if rooms are unoccupied.

# The Plaza at PPL Center

- **Vegetative roof** – This unique roof, covering part of the seventh floor, absorbs and filters rainwater, which reduces runoff. The roof provides exceptional insulation to reduce the energy consumption for cooling and heating. The roof lasts longer than a conventional roof, which reduces the dependence on man-made materials. It's also pleasing to look at.
- **High-performance glass** – The glass reduces heat gain and loss for the building, which cuts energy consumption of heating and cooling systems.
- **Reduced light pollution** – Building lighting is designed to ensure no direct-beam illumination leaves the building site. This reduces the impact on nocturnal environments and improves the ability to see the night sky.
- **High-performance heating and air conditioning system** – The building is designed to reduce yearly energy cost by 25 percent compared to high-performance building standards (which already exceed conventional building performance by 20 to 40 percent). Energy savings are expected to be approximately 6 million kilowatt-hours per year – enough electricity to power 600 homes.
- **Site selection** – Redeveloping an urban area makes use of existing infrastructure; helps preserve open space, habitat and natural resources; and provides access to public transportation to reduce pollution from automobiles.
- **Thermal comfort** – Close monitoring and careful control of indoor temperature and humidity ensure a comfortable work environment.
- **HCFC-free** – Hydrochlorofluorocarbons deplete the atmosphere's ozone layer, which shields humans from harmful solar radiation. Heating and air conditioning systems and other building equipment do not contain HCFCs.
- **Carbon dioxide monitoring** – Carbon dioxide sensors adjust building ventilation with outside air to ensure indoor carbon dioxide levels are within acceptable limits.
- **Smoke-free building** – Smoking is prohibited throughout the building.
- **Water-saving fixtures** – Waterless urinals and water-efficient toilets and sinks reduce the burden on municipal water supply and wastewater systems. These fixtures will save at least 500,000 gallons of water per year.
- **Water-efficient landscaping** – Landscaping for the street plaza and vegetative roof includes native plants selected specifically to eliminate the need for regular irrigation.

- **Storm water retention and filtration** – The building is designed to minimize storm water runoff and contaminants. The vegetative roof and plants in the street plaza reduce storm water runoff by 25 percent. Special filters at ground level remove 80 percent of suspended solids, grease and oil from the storm water before it enters the city streets and storm sewers.
- **Street plaza** – The three-quarter-acre plaza creates open space for employees, tenants and the public; provides some shade; and creates a buffer from neighboring structures to increase the amount of natural light entering the building.
- **Erosion and sedimentation control during construction** – Construction crews were careful to minimize storm water runoff and contaminants during the building period, preventing silt and debris from washing into city streets and storm sewers.
- **High-performance roof** – The light-colored roof on the eighth floor reflects sunlight to reduce the energy consumption of the air conditioning system.
- **Bris soleils and canopy** – The horizontal bris soleils (metal "fins") and canopy on the front of the building shield windows from some of the summer sun's rays, which reduces the energy consumption of the air conditioning system.

