

Increasing sustainability in public spaces.



Why focus on public spaces?

Public spaces - parks, streets, public buildings, and community infrastructure - are central to everyday life. Making them energy-efficient and climate-resilient is critical for sustainable urban living.

Cities face rising energy costs, climate pressures, and growing expectations for healthier, more liveable public spaces.

Acting now allows local authorities to reduce emissions and costs quickly while using proven technologies that can be scaled and adapted to local needs.

Did you know?



Public lighting can account for up to 40% of a city's electricity use.

However by switching to smart LED systems energy consumption can be cut by as much as 80%, while also improving safety [[Source](#)]



Photo credit: [Jw. on Unsplash](#)

Why implement energy-efficient public infrastructure?

- Reduces operational costs for municipalities.
- Supports climate neutrality goals.
- Demonstrates public leadership in the energy transition.
- Enhances citizen well-being and urban resilience.

By exploring a range of interventions, local authorities can select solutions that are both cost-effective and suited to their context. Private developers can also contribute to upgrading public spaces.



Funded by
the European Union

This factsheet is part of the [Increasing sustainability in public places](#) case study produced by the [Every1 project](#), funded by the European Union's (EU) Horizon Programme for Research and Innovation (2021-2027), grant No. 101075596. Responsibility for this material's content lies solely with Every1 and does not necessarily reflect the opinion of the EU. The material is licensed [CC BY-SA 4.0](#), unless stated otherwise. Icons used (aside from the Every1 logo, funded by the EU logo and related images) are used according to Canva licensing terms: <https://www.canva.com/policies/content-license-agreement/>.

Increasing sustainability in public spaces.



Key technologies for energy-efficient public spaces

Smart greening and nature-based cooling

Urban greenery can substantially lower surface and air temperatures. Smart irrigation systems using soil moisture sensors help manage water efficiently. Sensor data can also track cooling effects and optimise plant health.

Smart lighting systems

Street lighting is one of the largest sources of energy consumption and emissions under the direct control of cities. For example, [Cloudworks](#) report that in Barcelona (Spain), LED lighting with sensor networks has replaced older lamps, significantly cutting consumption. Sensors track temperature, pollution, humidity, and pedestrian presence, adjusting lighting accordingly. A central street unit coordinates the lights and supports other services like fibre optic cabling, Wi-Fi, and EV charging stations.

Smart waste management

Internet of Things (IoT) bins signal when full, optimising collection routes and cutting fuel use, with some linked to community composting.

Digital shared mobility

App-connected e-scooters and bikes offer convenient, low-carbon options for short trips, while real-time public transport apps help passengers navigate networks more easily and reduce waiting times. Smart traffic lights that respond to congestion and give priority to emergency vehicles make journeys smoother and safer.

Best practice examples show how these innovations scale in real life.

- [Ridedott](#), Europe's leading shared micromobility provider, has already enabled over 400 million rides on e-scooters and e-bikes, with the ambition to reach 1 billion rides in more than 400 cities. Their vision is clear: create emission-free cities designed for people, not cars.
- [Free2Move](#) takes a broader approach, offering car sharing, short-term rentals, subscription services, and parking solutions — all through a single app. Operating in cities such as Paris, Madrid, Washington D.C., and Lisbon, the company aims to make urban mobility more convenient, cost-effective, and sustainable.