

Key strategies to link economic development and smart urban lighting

Besides energy savings, smart lighting can support the transition towards long-term sustainable economic development of cities.

Three Economic Strategies



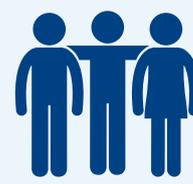
Sustain and grow the scale of smart urban lighting investments

There is a lot of unused potential for economic benefits and energy savings and the current low interest rate context is ideal to leverage your city's available capital.



Use smart urban lighting to put energy transition economics at the core of your city's climate action strategy.

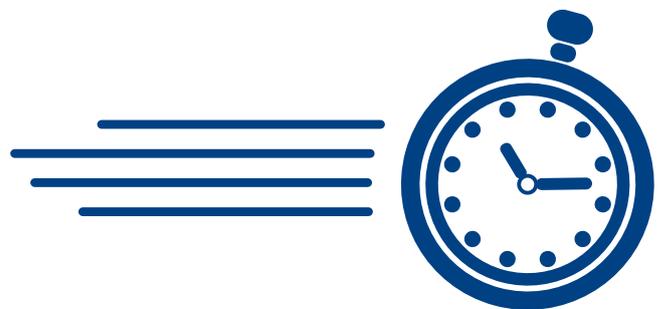
Smart urban lighting combines several key themes for the long-term sustainability success of your city: energy and digital transitions and climate action.



Double your city efforts towards empowering citizens and building new collaboration structures.

The urban digital revolution enables data and government transparency as new tools to improve the city economy (e.g. municipal services), but the city economic strategy must actively put these goals at the centre of management and define best practices (e.g. citizen data sovereignty).¹

There is an urgency to act, as investments in energy efficient technologies and adoption rates remain below the optimal level², preventing us from achieving the EU commitment of zero net carbon emissions by 2040. Improving energy efficiency is considered the most cost-efficient way to face rising economic risks, such as energy price and security.



See next page for more information >

Energy transition and the rising price of electricity

As the era of cheap energy is ending, the sustainability paradigm implies that more efforts from governments and society will be needed in relation to energy production and consumption, because we are transitioning to renewable energy sources that are less efficient.³



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Urban lighting: energy and maintenance savings

Street lighting typically accounts for more than half of a city's electricity bill, and savings from implementing full smart LED are considered to be 75–90% of baseline costs.⁴ However, in mature markets such as Finland, cost savings from energy efficiency are taken for granted, and achieving savings in maintenance cost is the argument that is driving the implementation of smart lighting projects.



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Decarbonization of lighting: scenarios vs. roadmap

One easy way to combine economic planning, carbon emission reduction objectives, and smart urban lighting goals is through creating economic plans for different adoption rates scenarios.

Yet, a better framing strategy might be to draw a roadmap towards rapid decarbonization, as it is argued that model-based and scenario assessments often fail to account for the non-linear change typical of innovative disruptions and human behaviour.⁵

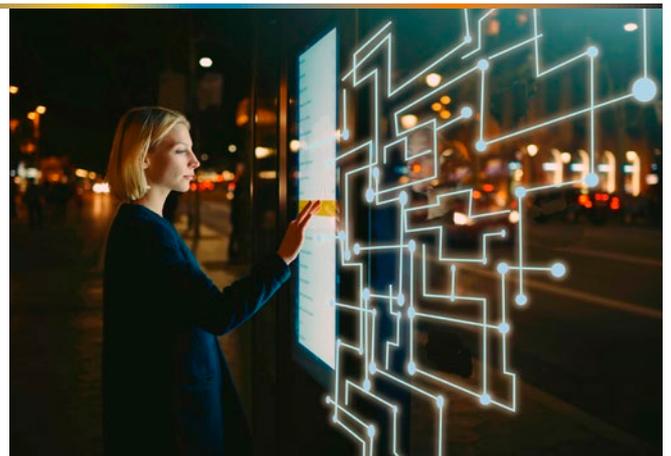


Photo: Shutterstock

References:

- 1 About digital strategy and citizen engagement, see online: Barcelona Digital City Plan 2015–2019: Putting technology at the service of people, Adjuntament de Barcelona.
- 2 IEA, International Energy Agency 2014: Capturing the Multiple Benefits of Energy Efficiency and IEA 2013: Tracking Clean Energy Progress.
- 3 Järvensivu, Paavo et al. Governance of economic transition. Global Sustainable Development Report 2019. BIOS research group, Helsinki. Available online: https://bios.fi/bios-governance_of_economic_transition.pdf
- 4 U.S. Department of Energy: Energy Savings Forecast of Solid-State Lighting in General Illumination Applications. 2016.
- 5 Rockström, J. et al. A roadmap for rapid decarbonization. Science, 2017, vol 355, issue 6331.