



Best Practice	OPTIMISATION OF LIGHTING-CONTROL	LIGH-02
Application	Lighting Systems	
SME sector	All	
SME Sub-sector	All	
Technical description	Depending on room usage (e.g., production or storage room), natural light input (which changes during the day) and human presence (when nobody is in the room the light is not used), the artificial light needs, and quality are varying and can in most cases be optimised.	
Recommendation for optimisation	<p>Different lighting control measures can be implemented to reduce energy needs of lighting systems:</p> <ul style="list-style-type: none"> • Sensitisation of employees • Simple timers • Occupancy sensors • Daylight detection 	
Schemes and diagrams	<p>Diagram of a twilight sensor</p>	
Economics	<p>Costs related to sensors ranging from a few tens up 100 EUR</p> <p>The cost of installation should also be considered.</p>	
Energy savings	Energy savings may vary depending on the type of control installed and the type of location:	



	<ul style="list-style-type: none"> • Open plan office: 20-28% • Single office: 13-50% • Corridor: 30-80% • Warehouse and toilets: 45-80%
Economic savings	Approx. 10%
Average Payback Time	3-6 years
Emissions	The emission alone is indirectly caused by the electricity involved.
Environmental benefits	Reducing CO ₂ emissions
Main NEBs (Multiple benefits)	<input type="checkbox"/> Environmental benefits <input type="checkbox"/> Increased productivity <input type="checkbox"/> Work environment/Health/Safety <input type="checkbox"/> Increased competitiveness <input checked="" type="checkbox"/> Maintenance
Replicability	Very low
Related measures	<ul style="list-style-type: none"> • LIGH-01: Optimization of day-light use • LIGH-03: Optimization of room • LIGH-04: Replacement of luminaire, lamps
Case study	<p>Replacement of lamps and installation of occupancy sensors (Switzerland, 2019)</p> <ul style="list-style-type: none"> • Initial Situation: A storage room with 18 T5 fluorescent tube (80 W) has manual switches. • Description of the optimisation: Installation of an occupancy sensor allows to reduce the consumption by 20%, hence saving more than 500 kWh per year • Implementation costs: 500 EUR • Payback Time: 6.3 years
References	Leitfaden für Energieaudits von Beleuchtungssystemen, klimaaktiv, Austrian Energy Agency, 2017

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