

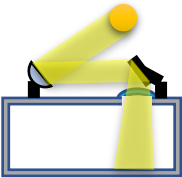




Best Practice	OPTIMISATION OF DAY-LIGHT USE (NATURAL LIGHTING)		LIGH-01
Application	Lighting Systems		
SME sector	All		
SME Sub-sector	All		
Technical description	<p>In general, for industrial buildings the use of natural light is relatively rare.</p> <p>A higher use of natural light can increase the comfort and health of the employee. Moreover, with more openings or windows, the solar heat gain can be improved (resulting in fewer heating needs) and the electricity need for lamps reduced.</p> <p>Before implementing such a measure, the pros and contras must be evaluated carefully. However, natural light use is dependent on time, season, and weather. It is also spatially limited, can cause blinding and overheating in summer.</p>		
Recommendation for optimisation	<div>  <p>Installation of transparent or translucent elements on the vertical structures of the building (windows, transparent doors, transparent garage doors)</p> </div> <div>  <p>Installation of guided light systems (reflective roof, shelves painted in light colors). Transparent components are a prerequisite</p> </div> <div>  <p>Installation of guides for natural light (fireplaces or light pipes)</p> </div>		
Economics	from 35 to 90 EUR/m ² (transparent element systems)		
Energy savings	Energy savings vary and can reach values between 20% and 50% when different measures are applied to lighting.		
Economic savings	Approx. 10-15%		
Average Payback Time	Over 10 years		



Emissions	Decrease in fuel consumption and consequent reduction of CO ₂ emissions.
Environmental benefits	Reduction of CO ₂ emissions due to a reduction in electricity
Main NEBs (Multiple benefits)	<input type="checkbox"/> Environmental benefits <input type="checkbox"/> Increased productivity <input checked="" type="checkbox"/> Work environment/Health/Safety <input type="checkbox"/> Increased competitiveness <input type="checkbox"/> Maintenance
Replicability	Very low
Related measures	<ul style="list-style-type: none"> • LIGH-02: Optimization of light control • LIGH-03: Optimization of room • LIGH-04: Replacement of luminaire, lamps
References	Leitfaden für Energieaudits von Beleuchtungssystemen, klimaaktiv, Austrian Energy Agency, 2017

This Best Practice was developed by the Impawatt Project (GA No. 785041) and adapted for the GEAR@SME Project (GA No. 894356)