

Practice to be assessed and included in the Guidelines

Number/code: OM/SM5

Title: OPTIMIZED LIGHT MANAGEMENT (e.g. LED LIGHTS INSTALLATION)

Guidelines section:

<input type="checkbox"/>	Governance	<input checked="" type="checkbox"/>	Operational management		
		<input type="checkbox"/>	<i>Context of the event</i>	<input type="checkbox"/>	<i>Procurement</i>
		<input type="checkbox"/>	<i>Event</i>	<input type="checkbox"/>	<i>Mobility and logistics</i>
		<input checked="" type="checkbox"/>	<i>Stadium management</i>	<input type="checkbox"/>	

Description:

The implementation of energy-saving light bulbs or other practices related to lighting systems in football stadiums provides a great contribution to reduce energy consumption.

Examples:

- 1) In the stadium of Leverkusen, in the VIP area, 500 50w halogen spotlights were replaced by 3.9w led spotlights, while 270 50w halogen spotlights were replaced by 10.0w led spotlights

- 2) FIFA World Cup Germany 2006: Around 20 % of the electricity used in stadiums in World Cup stadiums is accounted for by lighting. Energy-saving light bulbs and detector alarms as well as time and twilight switches to shorten the duration of lighting contribute in all stadiums, if to a varied degree, to reducing demand for electricity. In Kaiserslautern and Stuttgart, for example, the latest fluorescent lamps (T5 technology) were used, which save up to 20% compared to previous models. In Dortmund, the number of lights was reduced as a result of measurements of illumination intensity.

- 3) Among other practices, Guidelines of Frech Ministry of the Sport simply suggest to install presence detectors in the in-locker rooms, washrooms and other places where presence detectors or timers pass to prevent the lighting of different spaces from being lit during periods of inactivity.

- 4) Fédération Française de Rugby: Generalize the installation of detectors presence / timers in the buildings of the FFR

- 5) USTA Centre: The USTA Billie Jean King national tennis center, is an American stadium complex and home of the US Open Grand Slam tennis tournament that works with eco evolutions llc, Green Sport Alliance and more generally with venues and teams in order to expand its sustainability program that involve, among others, some green initiatives related to the installation of LED lights. Regarding the environmental benefits, the use of LED lights in the different stadiums of the centre allows to reduce the level of energy consumption respect to standard solutions.
- 6) Yankee Stadium: The Yankee Stadium is the stadium of the New York Yankees, club of Major League Baseball. It is considered a very state-of-art from a sustainable point of view, thanks, among others, to its solutions in terms of LED field lighting that allow a better energy system. Regarding the environmental benefits, The LED field lighting is 40% more efficient than standard and consequently allows to reduce the impact on the environment.
- 7) Major League Baseball: The Major League Baseball along with the MLB network and MLB advanced media are part of a variety of sustainability efforts that include initiatives such as 'Green Team' activations during MLB All-Star Week, front office volunteer efforts and those operated by MLB clubs. In particular, many MLB clubs are working on energy efficient practices through the implementation of LED field lighting along with solar panels in the stadiums.
- 8) Twickenham Stadium (rugby) has new LED low energy floodlights and two new big screens at either end of the stadium.
- 9) In preparation for the FIFA 2010 in South Africa, LED technology substituted fluorescent tubes on the emergency lighting circuit and reduced the electricity load. This translated into energy saving of 56% or 2,119,482 kWh per annum (i.e. 21,120 tCO₂e over their lifetime). Replacing old stadium floodlights with energy-efficient floodlights reduced the total electricity load from 315,7 kW to 126 kW. This translates into an energy saving of 12,096 kWh per annum, i.e. 151 tCo₂e over their 15-year lifetime.

Environmental benefits:

One of the examples given above achieved electricity savings for 74,130 kwh/year, which means an ecological saving of approximately 26,612 kg CO₂ per year. Another positive aspect according to the producer of the LED lights is that their life-span is four times longer than that of halogen lights.

Economic benefits:

The economic benefit depends on the savings, in any case the time to see the investment returned could be very low.

Applicability and replicability potential

The measure could be replicated in every stadium that adopts the same centralised system: the investment would be swiftly repaid thanks to the electricity lower consumption.

Source

[Women Football World Cup Germany 2011 \(p. 28\)](#)

[Mercedes-Benz Stadium](#)

[Mercedes-Benz Stadium](#)

[USTA Centre](#)

[Yankee Stadium](#)

[Major League Baseball](#)

[FIFA World Cup Germany 2006 \(p. 64\)](#)

[Guidelines of French Ministry of Sport \(p.15\)](#)

[France's strategy for sustainable development \(p.11\)](#)

[Twickenham Stadium \(rugby\)](#)

[UN Environment Programme \(UNEP\) report on the environmental performance of South Africa 2010 \(p.27\)](#)

[FIFA 2010 South Africa](#)