

Light pollution/light smog audits, Isère, France

The term “light pollution” denotes the brightening of the night sky caused by artificial lighting whose light is dispersed into the atmosphere. This can have various effects: the growth cycle of plants, for example, may be influenced by an artificially brightened environment. The widespread presence of white light sources with a high proportion of blue in the spectrum can pose serious problems for the navigation or orientation of nocturnal insects as well as for migrating birds.

The sensory organs of nocturnal animals are specially adapted to night-time conditions, which makes them particularly sensitive to artificial light. This is one reason for the large number of night-time accidents involving wildlife. Animals therefore attempt to avoid sources of light, so a well-lit street can therefore constitute a major barrier and contribute to habitat fragmentation.



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In recent years, artificial light sources have greatly increased in number, as various statistics bear out: in the Swiss Alps, for example, the illuminated area doubled in the period from 1992 to 2000, with the intensity of lighting increasing in parallel. In France, the number of light sources has increased by 30% in the past 10 years, and the period of illumination has doubled in municipalities with less than 5000 residents.

Example from Département Isère, France

A large proportion of light pollution comes from poorly constructed or poorly installed light sources and can be avoided without any negative impacts, e.g. on road safety.

The administration of Département Isère supports municipalities which carry out an audit of their public lighting. This involves the use of a prescribed check sheet to ensure the quality of the audit. Around 12 of these audits have been carried out since 2004. The costs amount to between € 2,000 – 10,000, depending on the size of the municipality, the number of light sources, and the availability of data. Subsidies from the public purse may be available up to around 80% of the costs. It is estimated that municipalities can cut their energy costs by 20-40% through targeted investment.

Among other things, the audit involves an analysis of the type and amount of public lighting, mapping of larger light spots, and the development of solutions for problem areas (e.g. illumination of tourist attractions, ski pistes, night clubs, and natural monuments).

Balance

Besides the positive impacts on nocturnal animals, the scheme also has positive effects on human health and achieves cost savings through better thought-out lighting and the avoidance of unnecessary light sources.

Contact and further information

- Contact: ADEME (French Environment and Energy Management Agency)
<http://www2.ademe.fr> (fr, en)
- Comprehensive information on the issue of light pollution is available from the International Dark-Sky Association
<http://www.darksky.org> (en)

Measure

Determination of light pollution

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