

## Το σύστημα ADLS σε χώρες της ΕΕ και το Ηνωμένο Βασίλειο

Πηγή: <https://light-guard.com/en/adls/#track-record>

### ADLS in the UK

The United Kingdom is the sixth largest country in the world in terms of installed wind power capacity with 28.5 GW in 2023. For the first time, wind became the main source for electricity in May 2023.

Despite this, there is still no proper legislation on ADLS in the UK, but discussions have been initiated. The relevant entity is the *Civil Aviation Authority (CAA)*, which is the statutory corporation that oversees and regulates all aspects of civil aviation in the United Kingdom.

It is believed that Aviation Detection Lighting Systems will be an issue in the coming years. The company ScottishPower Renewables wrote a [proposal to the CAA](#) in 2021 to mitigate the visual impact by obstacle lighting of wind farms. This proposal also contained the possibility of installing transponder-based ADLS.

The CAA responded to the proposal with a letter, explicitly citing Germany's legislation as a model for the future. Therefore, a regulation on transponder-based ADLS can be expected in edition 7 of *CAP 764: CAA Policy and Guidelines on Wind Turbines*.

Operators and project planners in the United Kingdom who are interested in reducing visual impact and raising acceptance for their projects can contact us to get a head start on this.

### ADLS in Germany

Germany has been the pioneer in the field of Aircraft Detection Lighting Systems. With some companies operating as early as 2008, the first mandatory regulations were adopted in the Renewable Energy Sources Act (*EEG in German*) in 2019. This law states the obligation for all wind turbines that measure over 100 meters in height and have been put into operation after 2005 to be equipped with a transponder-based ADLS. Since then, the deadline has been postponed four times and eventually has come into effect as of January 1, 2025.

Due to this regulation, nearly all existing wind turbines in Germany have been equipped with an ADL system and most are already dark at nighttime.

Of course, the requirement for ADLS also applies to new wind turbines. Project planners and operators must therefore have the topic of ADLS on the agenda even before the construction of a new wind farm. ADLS providers and turbine manufacturers have optimized their processes for this in recent years. Some manufacturers can deliver the ADLS components directly from the factory so that ADLS is also available when the wind farm is commissioned.

Light:Guard already monitors almost the entire German airspace and covers one seventh of the area of Germany. In these areas, new ADLS systems can be put into operation almost immediately.

If you are a project planner with upcoming wind farm projects in Germany, do not hesitate to contact us. We will be happy to support you with our experience from over 700 wind farms equipped with the light:guard system.

## ADLS in the Netherlands

The Netherlands is a pioneer in many fields, wind energy and ADLS being no exception. After Germany, the country has been one of the early adopters, giving it the name “*Naderingsdetectie*”. As opposed to their eastern neighbors, Dutch wind farm operators are not obliged to equip their turbines with ADLS.

It is however, encouraged, to avoid nuisance through light pollution for residents and raise acceptance for wind energy. Hence, provinces are being supported by subsidizing the installation of Aircraft Detection Lighting Systems.

Light:Guard has joint forces with [Topwind BV](#), which exclusively distributes the light:guard system in the Netherlands. The system has been tested and approved by the responsible authority *Inspectie Leefomgeving en Transport (ILT)*. The most notable of many successful projects was the implementation of the light:guard-system at [Windplan Groen, leading to over 97% lights-off-time](#).

## ADLS in Austria

Austria introduced Aircraft Detection Lighting Systems (ADLS) for wind turbines in 2024. The corresponding law was [was passed by the Federal Council in April](#). In June, the Federal Ministry for Climate Protection announced that demand-based night-time identification would initially be introduced on a voluntary basis. Originally, there was talk of an obligation as in Germany.

In Austria, however, it is regulated differently. In Germany, each wind farm obtains its own ADLS system from a provider. In Austria, Austro Control will be centrally responsible. It monitors Austrian airspace and delivers the ADLS signals to the wind farm. A fee is charged for this. The wind farm must be able to receive and process the signal in order to control the suppression of the lighting.

As an experienced ADLS expert with many systems in use, Light:Guard has worked out a turn-key solution specialized for Austrian operators. The offer includes:

- Upgrade of the **wind farm infrastructure** and ADLS-capable fires in coordination with the OEMs
- Takeover of the **application process**
- Installation of the ADLS server (**LCU-T**) in the wind farm as an Interface to the Austro Control API
- Recording of all **operating conditions** and creation of **reports** about the light:guard system

Our Light Control Unit (LCU-T) works with all turbine types and is offered as a standard ADLS interface by Nordex, for example.

## **ADLS in Norway**

On January 1, 2024, the Norwegian Civil Aviation Authority introduced the “Regulation on reporting, registration and marking of aviation obstacles“. These regulations establish clear guidelines for systems designed to manage the activation of warning lights on wind turbine structures, ensuring they are only illuminated when necessary. The goal is to minimize light pollution while maintaining the highest standards of safety for aviation.

One of the standout features of the new regulation is the requirement for a dual detection system that combines Primary Surveillance Radar (PSR) and Secondary Surveillance Radar (SSR) with transponder interrogation. This combination ensures comprehensive detection of all aircraft, including those not equipped with transponders, providing an additional layer of safety.

By leveraging this technology, wind farms can effectively balance aviation safety with environmental and community considerations, addressing concerns about continuous nighttime illumination from obstacle lights, which can be disruptive to residents and wildlife.

For several years, the Norwegian Civil Aviation Authority, Luftfartstilsynet, has approved the use of ADLS on a case-by-case basis. With the publication of formal requirements in 2024, ADLS is now expected to become a more common feature of wind farm developments across Norway.

By adhering to these new regulations, the wind energy sector in Norway can ensure that growth in renewable energy does not come at the expense of safety or quality of life. This balance is essential for fostering public support and ensuring the long-term success of wind energy initiatives.

Light:Guard’s sister company, Senture GmbH, is currently developing several ADLS projects in Norway. Senture’s ADL systems meet the stringent national requirements, and they bring valuable experience and expertise to these developments.

Visit their website [adls.org](https://adls.org) to learn more about regulations in Norway and how they can help you with their experience.