Introduction
In recent years there has been a significant increase in the number of offshore wind farms installed across many North Sea regions. Although these offshore wind farms are located within the same region, disparities exist between the marking and lighting concepts required within the respective Exclusive Economic Zones (EEZs).

Concepts in Germany and the UK
Marking and lighting requirements in German waters can be characterised as rule-based, and relatively prescriptive. Compliance mechanisms are also well developed, which provides a high degree of certainty.

More widely across Europe, including within the EEZ’s of France and Belgium, there are inconsistent requirements for: colouring of offshore wind turbine transition pieces, towers and blades; banding/marking of blades, nacelles and towers; and lit helicopter corridors (leading to offshore substations). Requirements are currently being formulated for the nascent offshore wind markets that are emerging in Taiwanese and US waters.

Harmonisation in the future?
Inconsistent marking and lighting requirements have implications for offshore wind farm developers and their suppliers. These same inconsistencies also have implications for those using the navigation systems. International mariners and aviators may, for example, perceive a cluster of two or more wind farms as a single group of turbines, and so expect to observe consistent marking and lighting.

WIND Europe have proposed areas for harmonization, including:
- Only the transition piece to be marked in yellow (not the tower).
- No marking of tower and nacelle with a red/orange stripe.
- Blades to be marked with red/orange stripes.
- Consistent inspection method, and interval (e.g. initial inspection, 4 years and then every 2 years).
- Consistent format, typeface, and size for the alphanumeric characters used to identify individual turbines.

References