

A FOUR-STEP PATH TO NATURE-INCLUSIVE OFFSHORE WIND AND GRIDS

Offshore wind and grid projects achieve the greatest benefits when they deliver clean energy as well as protect nature. Considering nature from planning through to decommissioning supports conservation and helps reduce costs. Developers follow this approach, working with ecological experts throughout the project cycle to align conservation and energy goals. **The following four steps are closely connected and most effective when applied as a coherent process.**

1. ENVIRONMENTAL IMPACT ASSESSMENTS (EIAs)

EIAs are a key step in informing the design of offshore wind and grid infrastructure as they:

- Collect data through **environmental surveys** to set the baseline for project sites
- Provide information on the status of ecosystems
- Estimate potential project impacts on species, habitats and ecosystems
- Inform design of mitigation measures to avoid, minimise, restore and offset project environmental impacts

2. MITIGATION OBJECTIVES

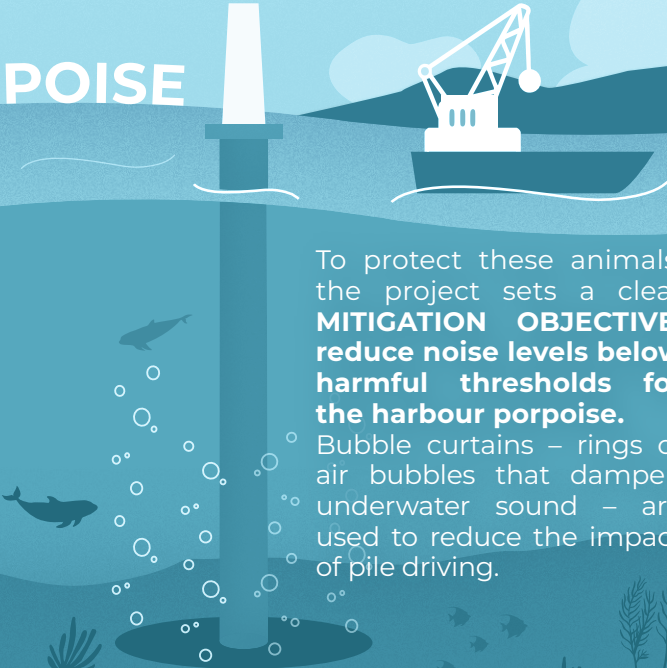
Mitigation objectives are specific, measurable goals set to reduce impacts on species, habitats, or ecosystems. These should:

- Be identified based on the **results of the EIA**.
- Comply with national or regional legislation and priorities (when applicable)
- Be **SMART** (Specific, Measurable, Achievable, Relevant, Time-bound)

AN EXAMPLE WITH PORPOISE



Beneath the surface, developers prepare for a new offshore wind project. Through **EIA**, they discover that noise from pile-driving could significantly affect a sensitive resident – the **harbour porpoise**.



To protect these animals, the project sets a clear **MITIGATION OBJECTIVE: reduce noise levels below harmful thresholds for the harbour porpoise.**

Bubble curtains – rings of air bubbles that dampen underwater sound – are used to reduce the impact of pile driving.

3. ENVIRONMENTAL MONITORING

Monitoring is essential to assess the effectiveness of measures, track progress towards set objectives, and **detect potential positive/negative impacts**.

In the case of offshore wind and grid infrastructure, environmental monitoring:

- Measures the actual impact of mitigation on species, habitats and ecosystems
- Relies on robust indicators and standardised protocols to ensure sound, consistent monitoring across projects

ENVIRONMENTAL MONITORING

to detect underwater noise is deployed during construction. A strict implementation of site-specific mitigation measures enables the operator to stay below harmful noise threshold levels. Hearing damage in harbour porpoises associated with the construction of the offshore wind farm has been successfully prevented.

4. ADAPTIVE MANAGEMENT

Adaptive management **uses monitoring results to adjust project activities** when possible and promote continual improvement through learning.

Adaptive management can be implemented by industry stakeholders as well as regulators, and it is therefore relevant at different scales.

To promote adaptive management, assess the effectiveness of mitigation measures, and foster innovation, it is crucial to ensure both the high quality and quantity of data, as well as its sharing across the industry and relevant stakeholders.

Using monitoring data, developers adjust operational noise to below the agreed threshold and share data with regulators. When these lessons are shared more widely, their impact multiplies, informing future projects, improving collective understanding, and demonstrating **ADAPTIVE MANAGEMENT** in action beneath the waves.

