

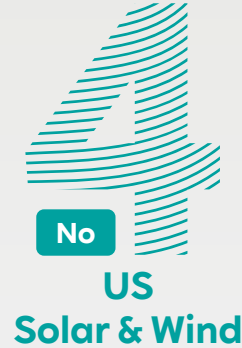


Driving Monitoring Forward

The Industry Perspective

Monitoring Biodiversity at Sea
GINGR webinar
25.06.25

RWE is one of the world's leading renewable energy companies.



Our business

Offshore Wind



- Global offshore activities



Onshore Wind/Solar



- Onshore, solar and storage activities in
 - Europe & Australia
 - Americas



Flexible Generation



- Hydro, biomass and gas-fired power plants in Germany, UK, NL
- Hydrogen projects



Supply & Trading



- Trading/origination
- Gas & LNG
- Commodity solutions
- Gas storage



Phaseout technologies

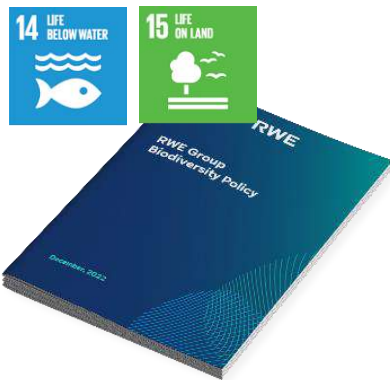
Coal & Nuclear

- German lignite operations (exit by 2030)
- German nuclear power plants (dismantling)

Note: Offshore market excluding China.

At RWE we are shaping Offshore wind through commitments to nature, people and net-zero targets

Biodiversity Policy¹ December 2022



- For new assets we aim to achieve a **positive impact on biodiversity**
- We adhere to the **mitigation hierarchy** principles of avoid, minimise, regenerate/re-store and if necessary compensate for potential biodiversity impacts.
- We **build knowledge on impacts** on biodiversity and wildlife coming from the energy sector and promote collective learning and knowledge transfer.
- We follow **best practice guidance in science-based target** setting like from Science-Based Targets for Nature (SBTN).
- We **contribute to the UN Sustainable Development Goals 14 and 15** on 'Life below water' and 'Life on land'.

Other relevant sustainability policies in RWE

Circular Economy Policy March 2023



Community Engagement Policy December 2023



Updated Climate Targets January 2025



¹Biodiversity Policy

Different environmental monitoring requirements across markets hampers an harmonised approach

Environmental monitoring is **pivotal to understand the interactions** of offshore wind **with the marine environment**. However, the **regulatory framework is fragmented**, and it is currently not possible to use a unique approach in all countries.

Lack of harmonization leads to:

- **Difficult integration of data** for modelling or cumulative impact assessment
- **Lack of data** to map movements and distributions of species at a regional scale
- **Limited understanding** of wind farms' life cycle
- **Divergences** in the technologies used and missed opportunities to sustain innovation

Examples of regulatory requirements in RWE major markets



- Protocols and duration of the monitoring dictated by the EIA, and variable from site to site.
 - Data must be shared on a portal ([Marine Data Exchange](#)) and are freely available
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- Protocols and duration of the monitoring are rigidly described in the StUK4 standard protocol and only minimal variations are accepted
 - Data must be shared with the regulator but there are restrictions to share data externally
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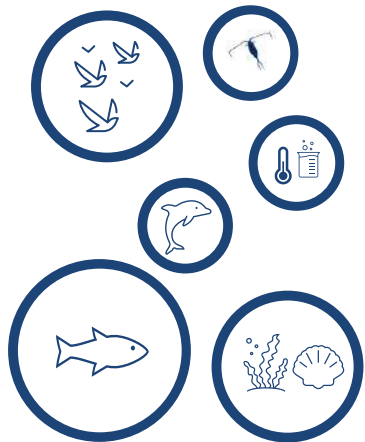
- Protocols and duration of the monitoring dictated by the EIA and other general concerns, situation variable from site to site.
- Currently data should be shared publicly, but ongoing conversations on what platform to use.



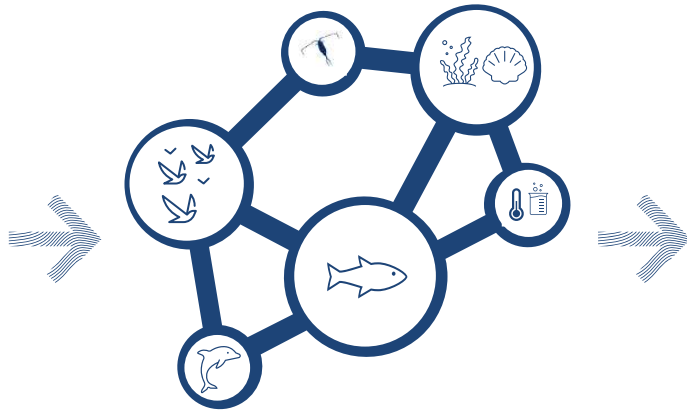
Sustainable ecosystem approach in monitoring the Marine environment

SeaMe aims to assess the status of the whole ecosystem by combining data that are simultaneously collected

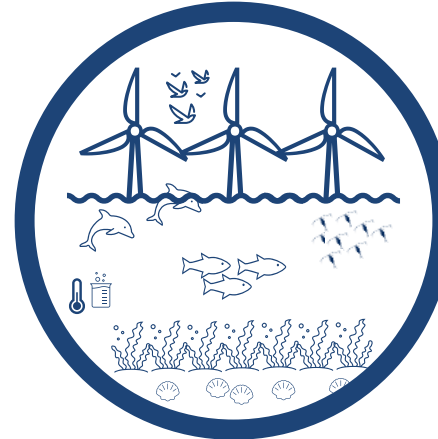
Data on **individual**
species or physical
parameters



Data **simultaneously**
collected and
integrated



Data **combined** to
achieve an **ecosystem**
approach



Expected benefits

Not-invasive techniques and reduced impact on environment during monitoring

Holistic approach to include all ecosystem components included (e.g. plankton)

Simultaneous data collection and combined data analysis and interpretation

Sampling from CTV to reduce planes and vessels to reduce emissions and HSE risks

SeaMe transforms marine monitoring to become more sustainable, frequent and cost-efficient



Birds and mammals



Current method

- **Planes and boats**
- High CO2 emissions

SeaMe

- **Drones**
- Lower CO2 emissions (90% reduction)



Benthos community



Current method

- **Grabs** + taxonomic analysis
- Invasive/destructive

SeaMe

- **eDNA** analysis from water samples
- Potential to detect regional diversity



Fish community



Current method

- **Fishing nets (trawlers)** + taxonomic analysis
- Invasive/destructive

SeaMe

- **Cameras** on stationary/moving (AUV) platforms



Additional innovations

SeaMe will also include

- Simultaneous monitoring
- Plankton analysis
- AUV for physical parameter
- Videos/pictures analysis with AI
- Effective data management



Monitoring to be improved to express its full potential through leveraging three aspects

Innovation

New technologies could enable more efficient monitoring with better data, greater frequency, and reduced costs and emissions. Fast official approval of new technologies required. Better information may also be used to improve mitigations whilst increasing operational performance (e.g. reducing curtailment).



Collaboration

Sea basin protection is a communal effort that need to involve several stakeholders. Monitoring on large scale (for example to detect cumulative effects) requires effective collaboration, with the implementation of knowledge and data sharing platforms.



Harmonisation

Harmonised, science-based regulatory requirements and guidelines for monitoring would enable the collection of a consistent 'core datasets' and the contribution to regional scale analysis. Flexibility in protocols is required to reflect local priorities.



RWE

Questions?

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