



WORKING TOGETHER TO RESOLVE ENVIRONMENTAL EFFECTS OF WIND ENERGY

ABOUT WREN

Working Together To Resolve Environmental Effects of Wind Energy (**WREN**), also known as Task 34, was established in 2012 by the International Energy Agency Wind Technology Collaboration Programme to address environmental issues associated with commercial development of land-based and offshore wind energy projects. As the operating agent for WREN, the United States leads this effort with support from the U.S. Department of Energy's Wind Energy Technologies Office, National Renewable Energy Laboratory, and the Pacific Northwest National Laboratory.

Reducing the impact of wind energy development on wildlife requires scientifically robust, cost-effective solutions for monitoring and mitigation strategies to inform sound wind siting, construction, operations, and decommissioning decisions. The global nature of the wind industry, combined with the understanding that many affected species cross jurisdictional boundaries, highlights the need to collaborate internationally.

WREN ACTIVITIES

WREN facilitates international cooperation that advances global understanding of the environmental effects of land-based and offshore wind energy development and creates a shared knowledge base of recommended practices for monitoring and mitigation that meet both conservation and energy production objectives. To help accomplish this, WREN:

- Maintains a knowledge base of recommended practices for monitoring and mitigation to conserve wildlife and advance wind energy deployment.
- Develops recommended practices for species protection in the context of wind energy development.
- Conducts outreach to key stakeholder groups within regulatory agencies, the wind energy industry, conservation organizations, and researchers.

One of WREN's major initiatives, the **Horizon Scan**, aims to systematically identify emerging and priority issues for land-based and offshore wind energy development based on perspectives within the international community. Results from the initiative will be publicly disseminated to help facilitate knowledge transfer and collaboration.





The harbor porpoise and other marine mammals may experience disturbances when exposed to the construction and operation of wind farms at sea. *Photo by Ecomare*

WREN'S 4-YEAR STRATEGY

Between 2021-2025, WREN will:

- 1) Ensure the global community has access to the latest information on the technical readiness of existing monitoring and mitigation technologies, their state of development, and related research on their effectiveness.

Expected impact: Dissemination of research and recommended practices to government agencies and wind developers/operators helps drive wider wind energy deployment while protecting species.

- 2) Collect and analyze data on high-priority issues, and coordinate among international collaborators to disseminate information to critical stakeholders across sectors.

Expected impact: This effort helps expand international collaboration within WREN and among non-WREN nations, and link efforts by other organizations.

- 3) Identify key stressors (e.g., noise or collision) and receptors (e.g., marine mammals or birds), relevant methodologies, and technologies used in species impact assessment studies, and recommended practices to resolve environmental barriers to wind

energy deployment. In so doing, the group can tackle emerging issues associated with further advancements in wind turbine technology, deployment locations, and scale of development.

Expected impact: WREN's research helps create and maintain a global monitoring and mitigation database as a reference of available strategies for reducing the environmental effects of wind energy development.

FIND MORE INFORMATION

Tethys is a web-based knowledge management system that supports WREN by facilitating data sharing among nations. Documents are collected, curated, and disseminated on the Tethys Knowledge Base. The Tethys platform is also used to promote engagement among users through weekly Tethys Blasts, Tethys Stories, and collaborations with WREN, such as environmental webinars and white papers.

For more information about WREN and upcoming meetings, visit <https://iea-wind.org/task34/>. For access to WREN documents and related publications, visit the Tethys Knowledge Base at <https://tethys.pnnl.gov>

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