



RDRWind e.V.

Repowering, Demontage und Recycling

DIN SPEC 4866 – Industry standard for dismantling, disassembly, recycling and recovery of wind turbines

5th European Resources Forum, 03.11.2020

Martin Westbomke, RDRWind e.V.





Industrial Association for Repowering, Dismantling and Recycling of Wind Turbines (RDRWind e.V.)

- Founded 12/2018
- 48 Members (10/2020)
- Cooperation:
 - VGB PowerTech (Germany)
 - AD3R (France)
 - WAB (Germany)
- The **aim** of the industry association is to promote professional and innovative applications and **processes, standards and norms** in the fields of repowering, dismantling and recycling of wind turbines through networking, public relations and support of R&D.

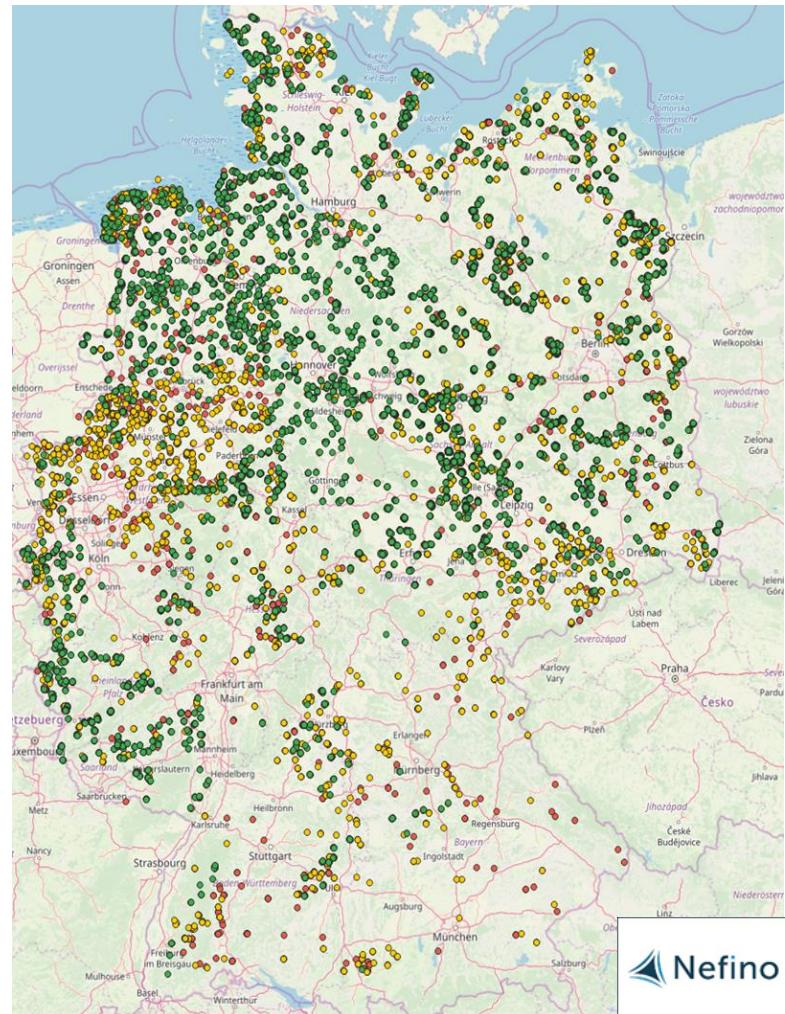




Why we need a standard for sustainable dismantling, disassembly, recycling and recovery of wind turbines?

17.030 wind turbines are older then 10 years in Germany

- Continued operation (58,85%)
- Dismantling (17,52%)
- Repowering (23,63%)
- The number of dismantling projects will increase in the coming years
- Although all technologies for sustainable dismantling and recycling are available, they are not always applied.





The main challenges for a sustainable dismantling, disassembly, recycling and recovery of wind turbines

Lack of information about:

- the weights and contents of a specific wind turbine
- the available dismantling and recycling technologies
- the risks of unprofessional dismantling and recycling
- the necessary requirements for tender documents
- potentials for further use of the entire wind turbine or components

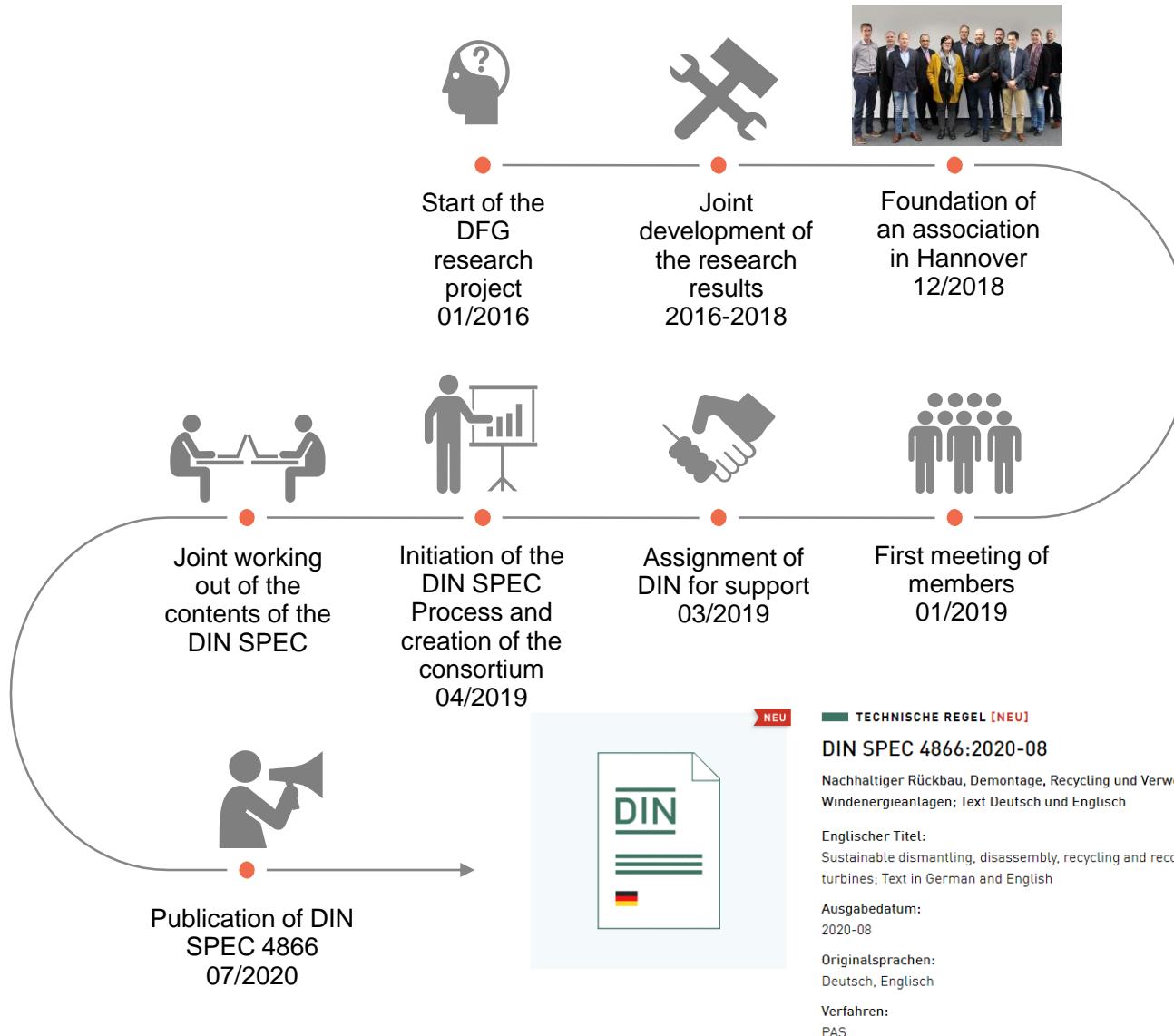
We, the members of RDRWind e.V., have realized that some of these challenges can be solved by an **industry standard**.



Source: Andrea Aschemeyer



Our way to an industry standard





DIN SPEC 4866: Sustainable dismantling, disassembly, recycling and recovery of wind turbines

Why we choose the DIN SPEC?

- Established network, approved and DIN has organized the entire DIN SPEC project. This saves time to concentrate on content so the DIN SPEC can be created and published within a few month

What is the Scope?

- This DIN SPEC defines requirements for the **dismantling preparation, dismantling and recycling** of wind turbines, considering cost aspects and existing environmental and safety aspects.
- For the dismantling, the DIN SPEC specifies instructions for action and qualification requirements for dismantling work, considering the existing regulations on occupational safety and environmental protection and provides an overview of the associated official approvals.
- The DIN SPEC does not determine the economic or political specifications for dismantling, continued operation or repowering of a wind turbine.
- The DIN SPEC does not define environmentally relevant guidelines and technical procedures for recycling.



Photo: neowa GmbH



Photo: Hagedorn Abbruchservice GmbH



DIN SPEC 4866: Sustainable dismantling, disassembly, recycling and recovery of wind turbines

What is content of the DIN SPEC 4866?

- Scope
- Normative references
- Terms and definitions
- Principle
- Dismantling and disassembly
- Re-use, recycling and recovery
- Overview of official permits
- Research and development on the recovery of rotor blades

Exemplary extract from DIN SPEC 4866:

5.4.2 Preparation of a dismantling and waste management concept

A dismantling and waste management concept shall be prepared before the start of work. The dismantling and waste management concept is based on information from the manufacturer and operator and on local conditions. In addition, the following information should also be included as completely as possible:

- specification of work processes on site, including information about equipment and personnel deployed;
- emissions caused and avoidance or reduction of same;
- list of substances and components to be re-used;
- list of substances and components to be disposed of with waste codes in accordance with the German Waste Catalogue Ordinance (AVV, de: Abfallverzeichnisverordnung) and planned whereabouts;
- suggestions for documentation (photo documentation, proofs of whereabouts).



Next steps

Networking

- Further networking to promote and disseminate the developed DIN SPEC 4866
- Information events for interested authorities, companies and research institutions

Support innovation

- Cooperation and support of various research and standardization projects

Extension of the Scope

- Support of the project to develop a standard for the dismantling of offshore wind turbines

You find the DIN SPEC 4866 here:

<https://www.beuth.de/de/technische-regel/din-spec-4866/326469199>



Contact us: RDRWind e.V.

Martin Westbomke

Industrievereinigung für Repowering, Demontage und Recycling von Windenergieanlagen e. V.
RDRWind e.V.
Hollerithallee 6
30419 Hannover



+49 (0)511 27976-888



info@RDRWind.de



www.RDRWind.de