

Germany has more than 28,000 wind turbines — but many are old and by 2023 more than a third must be decommissioned. Disposing of them is a huge environmental problem. Expert Jan Tessmer tells DW he's optimistic.

DW: Dr Tessmer, disposing of wind turbines is extremely difficult. Their concrete bases go as deep as 30 meters into the ground, and are hard to fully remove, while the rotor blades contain glass and carbon fibers — they give off dust and toxic gases so burning them isn't an option. Some environmentalists say this problem is being swept under the carpet, what do you think?

Jan Tessmer: I actually think everything is relative. Of course it is an issue and of course you don't get anything for free, but you always have to see it in relation, what are the values you get out of the wind turbine and I think yes, some efforts have to be made to efficiently, and also without environmental damage, get turbines recycled or out of the ground.

There are huge concrete foundations that have to be gotten out but I don't see there being any principal problem that could not be overcome. It will probably be a challenge for technology. It will really be an issue over the next years and decades probably to get old turbines off the field, so I expect industry will find technologies to cope with it.

Is the difficulty in disposing of wind turbines hurting wind energy's reputation as a green power source?

Yes, sure. I actually think it is important that we find good technologies for recycling, because wind turbines are pioneers in green energy technologies, and it would be a pity if we also cannot find green and environmentally-friendly technologies for recycling them. But as I said, I think it's only a matter of time to develop them and I'm quite confident that the image of wind turbines can be kept as a green technology.

Do you think the next generation of wind turbines will be more eco-friendly?

I would probably think that the most modern turbines are made more with the goal to have more energy production and that then 20 years later, when these turbines are at the end of their life, then the researchers find the right technologies for their recycling. I think this is just the natural way. But I don't think in principle that the modern turbines are more environmentally-friendly than the older ones. I don't think so, but it's just an opinion.

Do you think wind energy is the greenest technology we currently have?

This is very difficult. I think it really is one of the most environmentally-friendly technologies I'm aware of. I must admit that I don't know all the other possibilities in detail, but actually I also don't know of any energy production technology that is more environmentally-friendly than wind energy. I mean, if you think about water energy, of course that sounds at first glance perhaps more green.

But on the other hand if you have huge dams, this is also a lot of material put directly into nature. And if you compare it with PV — photovoltaic — for example, I think there is a lot more chemical energy put inside before they can go active, so yes, I think wind energy is quite efficient.

The very easy calculation is how much energy do I have to put in the production process of a turbine combined with how much energy I have to put into the production process of solar cells, for example, and the comparisons there are very good for wind energy, meaning that we need only very little energy to produce a wind turbine and the maturation is quite quick. How do you assess the German government's appetite currently for wind energy?

It's a difficult question to answer because it can always be more. I think the government is pushing this technology, I think they know quite well that this is a technology that can help us in Germany be in front of development, and they really want us to keep up that tradition. On the other hand, there are always issues where we complain and we see possibilities that the government could push it even more. But in comparison to other countries, I think the German government does quite a good job.

Do you think that environmentalists are still mostly pro wind energy or do you think there's been a pushback regarding the difficulties in disposing of wind turbines?

I think we have more and more problems with the issue of acceptance. I wouldn't say it's because of the disposal issue, I think it's more on issues like noise or the lightning effects during the night, that people feel disturbed. I don't think people think so much about the disposal issue, although it might be important and I also think that we have to address this issue.

From my point of view, what I feel from the publicity, I don't get much pressure on that fact [disposing of wind turbines]. We don't have any projects on that, and in fact it's a mirror of the situation of the need that is communicated. If people would think it's a very necessary task to do [research on wind turbine disposal], then they would ask us for projects to do so and then we would do that. We are a publically-funded research organization and we feel it is our mission to work on topics that are asked for. But since this issue is not so much addressed, we haven't done anything there yet. That might change.

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