

SUMMARY

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WIND ENGINES IN FRIESLAND

Rise and decline of the wind engine in the Dutch province of Friesland

For a long time the Americans had been waiting for the invention of Daniel Halladay in 1854. He designed a windmill, which was capable of pumping deep ground water. This invention was therefore extremely suitable for water supply on the prairies, where pioneers were cultivating large tracts of rural land. From that moment on they were no longer bound to the few areas where surface water was available. The wind engine has become a big success in America.

Soon companies were erected for producing wind engines and barely met the demand. They were busy experimenting with the mills to make them more robust, more sophisticated and more varied in their application. Halladay's wind engine was almost entirely of wood with four longitudinal rotating blades. Wind engines soon appeared on the market with wind wheel and vanes and a corresponding higher return. These were, among others, used to power various machines such as lathes, churning and feeding silos. In addition, many copies were placed along the railway tracks to fill the reservoirs, which in turn provided water for steam trains. Also for generating electricity by wind, the wind engine proved to be successful. Soon the U.S. companies were not only restricted to the domestic market. They also delivered to countries such as Australia, Argentina, Germany and South Africa. The wind engine was distributed almost around the whole world but not yet in the Netherlands. There was no shortage of water and The Netherlands had also its own wooden windmills for centuries, which did great work.

When two brothers from IJlst, at some point, imported some steel wind engines and converted these engines for drainage, the Dutch were convinced about their usefulness. The performances of the wind engines were in fact significantly better than the wooden windmills, furthermore they can function without constant supervision of a miller. Because steam- and electrical engines for drainage were still in their infancy and lacked an extensive electricity network, the Bakker brothers were very busy after 1900 with producing their Record wind engine. Almost simultaneously the German Herkules Metallicus wind motor was placed on the market by the Rotterdam trades 'R.S. Stokvis en Zonen Ltd.', which was very popular especially among the larger water board districts.

In Friesland, the steel mill was by far the most assessed. A number of reasons were ascribable. Firstly, the province had a highly fragmented structure with many private polders. It contained many small wooden polder mills, which could be replaced for a few cents more with a much more maintenance friendly steel mill. Secondly, the province did not accept new technological developments so easily which had not been shown to be successful. A third reason was, that wind engines were most profitable in polders with a limited depth, so that the required pumping head was limited. This is the case everywhere in Friesland.

Finally around the turn of the nineteenth century the district water board formation in the province began. Often this involved an optimization of the drainage and, especially before 1925, switching to wind engines regularly took place. They were mostly farmers who bought the smaller versions, which often were built by Dutch producers. The main suppliers of these mills, which often had a centrifugal pump as a water-lifting machine, were the Bakker brothers from IJlst with the brand called 'Record', Joseph J. Mous with the 'Mous-Balk' brand and on a smaller and more regional scale Slager in Wolvega, Van der Laan from Garijp and the Adema's from Wirdum with the same brand wind engines.

However German companies, which also made larger wind engines and always equipped their mills with an Archimedes screw, supplied mainly the larger district water boards due to the larger sizes of the drainage areas and the higher price of these wind engines. Especially the "Vereinigte Windturbinen-Werke A.G." from Dresden, transported many wind engines to The Netherlands through 'R.S. Stokvis en Zonen Ltd.', which in Friesland were assembled and equipped with an Archimedes screw by the company 'Koelstra en Dölle' from Balk. In addition, the 'Edmund Kletzsch Windturbinebau' from Coswig sold through 'N.V. Nederlandse IJzerhandel' section 'Hartelust Leeuwarden' several tens of steel engines with the brand 'Energy' in Friesland.

Around the Second World War the number of steel wind engines in Friesland reached its maximum. Approximately 1000 steel wind engines were spread over almost the entire province. Only on the islands and in Gaasterland, the communities Oost and West Dongeradeel and the extreme southeast of Friesland the steel wind engines were hardly found. The smaller mills with a wind wheel of up to 6 meters were in the majority, they usually drained only several acres. But, particularly in the west of Friesland, there were also many large specimens in use in large water board districts. Such mills may have had drainage areas of over 500 hectares.

After the Second World War the wind motor went downhill fast. After electric pumping plants became payable, water board districts and farmers would rather choose for electric pumping plants. They were only running when necessary, while a windmill, by contrast, depends on the unpredictable wind.

Water board districts generated a second wave of foundation, where the drainage was centralized and automated. Some steel mills stretched their lives, because they were being equipped with an auxiliary engine, which was used during the lack of wind. It was often a stay of execution because in practice on the long run only the electrical engine was used. Sooner or later the steel superstructure would disappear.

The real blow came when the land consolidation started. Friesland became consolidated and the intricate polder structure disappeared in favor of the scale. There was no place for wind engines anymore, indeed, in some cases even the original location in the landscape could not be found anymore. During the 1970's and 1980's a real demolition unfolded. Enthusiasts became sad to see this happen and a few of them actually intervened. In this way, an occasional metal wind engine was saved from destruction.

Only in the 1990's the maintaining of the wind engine started. Especially the larger Herkules Metallicus wind engines in the province, which often represent a great landscape value, were restored with the help of conservation grants. Thankfully, the number of smaller units being maintained is now increasing, so it must be possible to keep reasonably varied wind engine examples for posterity.

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