



# WindEnergy

NETWORK

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COMMUNICATION HUB FOR THE WIND ENERGY INDUSTRY

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# Ecology

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# ENGINEERING HIGH PERFORMANCE LUBRICANTS FOR THE WIND SECTOR

## FOR WIND TURBINE OPERATORS, THE IMPORTANCE OF USING BALANCED FORMULATED LUBRICANTS CANNOT BE OVERSTATED

Wind turbines are highly engineered and sophisticated pieces of machinery that must operate in some of the most demanding conditions. They are vulnerable to wear, water contamination, rust and corrosion. Given the costs associated with routine maintenance trips, in-service lubricants must last as long as possible, with some operators looking for lubricants that deliver oil drain intervals up to and beyond five years.

To be sure they choose lubricants that can operate for such extended periods, wind turbine operators need to look for lubricants that provide exceptional 'overall' performance to maximise productivity and extend oil life.

### DEVELOPING NEXT GENERATION LUBRICANTS

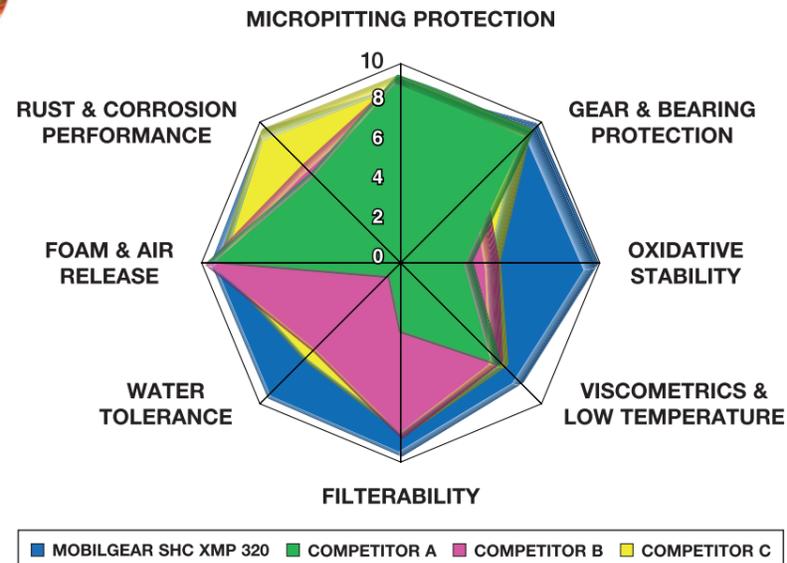
ExxonMobil helped pioneer synthetic lubricant technology, and continues to devote significant resources to product research and development. No wonder that the company develops lubricants that deliver exceptional performance across a wide range of critical parameters, including oxidative stability, component wear protection, corrosion control, filterability, shear stability and extreme temperature performance.

### IMPORTANCE OF BALANCED FORMULATIONS

To best protect vital wind turbine components, such as the main gearbox, it is essential to use a balanced formulated lubricant, such as the high-performance synthetic gear oil, Mobilgear SHCTM XMP 320. To help maximise productivity and reduce unscheduled downtime, this oil has been formulated to offer high levels of performance in wind turbine gearboxes.

As part of the research and development programme for the product, the company undertook a series of standard tests to assess the 'overall' performance of Mobilgear SHC XMP 320 against other synthetic gear oils available in the marketplace. While XMP 320 delivered exceptional performance across all critical areas, the chart featured shows some competing synthetic gear oils are formulated specifically to deliver exceptional results in one area, but often sacrifice performance in other areas. Only by selecting an oil with a balanced formulation can operators expect to maximise productivity across all parameters.

### EXXONMOBIL RESEARCH & ENGINEERING



### BALANCED FORMULATION

Today, Mobilgear SHC XMP 320 is used to protect more than 40,000 wind turbine gearboxes worldwide and is the initial fill gear oil of choice for the majority of the world's top wind turbine builders. Even when it is not the initial-fill gear oil, wind turbine operators frequently choose it for second-fill applications when the initial turbine warranty is up, usually after three to five years.

It's the expertly balanced formulation of this oil which delivers balanced performance and offers real value to wind turbine operators, supporting their efforts to reduce the total cost of operations and increase productivity.

In addition to Mobilgear SHC XMP 320, ExxonMobil offers a wide range of lubricants that are formulated to deliver exceptional protection for all parts of a wind turbine, including synthetic greases to lubricate bearings and hydraulic oils that help pitch rotor blades.

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