News Release



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Advanced lubrication solutions: Helping the steel industry achieve more with less

Population growth and economic expansion are increasing the demand for energy, goods and services. The industrial sector—heavy industries, including steel, in particular—provides the goods and builds the infrastructure underpinning this. That's why, at ExxonMobil¹ we expect industry energy demand to grow by nearly 20% by 2050².

Meanwhile, pressure is growing to reduce GHG emissions. The industrial sector currently accounts for a quarter of global energy-related CO2 emissions, with steel alone accounting for about 8%³. Moving to low-carbon technologies involves high upfront costs and infrastructure changes, against a backdrop of supply chain challenges. That is why we believe in a portfolio of short and long-term solutions: the 'big bets' like carbon capture and storage and low carbon hydrogen, as well as products and solutions optimised to make a difference, today.

Protecting your equipment and productivity

At a time when productivity demands have never been greater, steel equipment requires lubricants that perform in the harshest environments. However, not all lubricants are created equal. In a cost-conscious industry like steel, it is more common to choose conventional, lower-cost solutions. What many customers aren't aware of, is the additional value to be gained by using higher-performance solutions.

Our Mobil[™] engineers typically recommend more advanced lubrication technology where there is a specific problem to be solved. Where in your hydraulics, gears or circulating systems, for example, resolving a performance issue can translate into direct monetary savings in terms of maintenance and replacement costs. They do this by offering enhanced resistance against several challenges inherent in steel making, including oil degradation under high temperatures, heavy loads and shock forces, moisture and contamination.

As an example, when a leading European wire rod mill's circulation oil was underperforming, causing corrosion, bearing failures and downtime, we recommended Mobil Vacuoline[™] 525. The product's superior wettability, extra oil retention and thin film protection helped reduce bearing failures by 48%/year, saving up to €80,000 annually.

Helping the steel industry achieve more with less

In a context where steel operators need their machines to run efficiently and with reduced environmental impact, we often find that customers haven't considered the additional benefits that

¹ The term "ExxonMobil" used in this communication refers to ExxonMobil Petroleum and Chemical BV and/or other relevant ExxonMobil selling affiliate. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility for local action and accountability remains with the relevant local ExxonMobil-affiliate entities.

² <u>https://corporate.exxonmobil.com/sustainability-and-reports/global-outlook/energy-demand-trend</u>

³ <u>https://corporate.exxonmobil.com/news/viewpoints/helping-steelmakers-reduce-emissions</u>

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advanced lubrication solutions can offer in terms of helping them get more with less from existing equipment⁴. We call these 'in-use' efficiencies – additional advantages gained by using advanced lubricants with the potential to help operators enhance efficiency while helping reduce their energy use, waste and human machine interaction.

Lower energy use

According to World Steel Industry data, energy costs constitute 20-40% of operational expenses in steel production⁵. As such, reducing energy use has a clear cost benefit while directly contributing to lower greenhouse gas (GHG) emissions. Meanwhile, governments are implementing increasingly stringent regulations, compliance with which often requires improved energy efficiency. The good news is that high-performance lubricants can help.

Industrial gearboxes, for example, operate under highly challenging conditions. Many modern gearboxes also need to operate with reduced oil volumes – a factor which can generate higher operating temperatures and increased stress. This is why we recommend advanced formulations for critical applications which use the most energy. The efficiency benefit mainly stems from their lower traction coefficient, allowing you to run your equipment at a lower temperature, avoiding energy dispersion. As an example, switching from a conventional gear oil to synthetic Mobil SHC Gear[™] 320 helped a European manufacturer improve energy efficiency by 2.4%*, saving ≈€285,000/year.

Less waste

Metal processors need a large volume of oils and greases to keep their machines running smoothly. In this context, the use of long-life oils and grease can help optimise maintenance requirements while enhancing waste management. As an illustration, by switching to Mobil Centaur XHP[™] 461 for its continuous casting machine bearings, a European steel mill was able to reduce grease consumption by 40%, eliminating bearing failures and significantly reducing grease leakage.

Improved safety

Linked to the above, lubrication-related interventions can be reduced significantly by extending oil drain and service intervals with the use of high-performance solutions. These can potentially be extended even further with the support of experienced field engineers and a regular oil condition monitoring programme. When a plant using mineral oil in its cooling tower gearboxes, wanted to reduce regular, labour-intensive oil changes, we recommended switching to Mobil SHC [™] 630 for its excellent resistance to oxidation and deposit formation. As a result, oil drain intervals were extended by four times, and maintenance hours were cut by 84 hours.

The value of long-term support

To conclude, there are 3 key ways to achieve more with less in your operation with the help of advanced lubrication solutions:

- 1. **Contact a lubrication field engineering specialist** to review and advise on priority applications for high-performance solutions
- 2. Apply those solutions where a problem needs solving or sustainability benefits are desired. But don't just put it in and forget about it...

⁴ To find out more about the potential in-use efficiencies offered by Mobil[™] lubricants visit <u>https://www.mobil.eu/en-gb/sustainability</u> ⁵ <u>https://worldsteel.org/wp-content/uploads/Fact-sheet-Energy-use-in-the-steel-industry.pdf</u>





3. **Collaborate with your supplier throughout the life of your oil and equipment** to help ensure you get the full benefit.

To find out more about Mobil[™] lubrication solutions for the steel industry, visit <u>www.mobil.eu</u> or follow <u>Mobil Lubricants Europe</u>.