

**DESIGNED TO DELIVER  
RELIABILITY AND EFFICIENCY.  
JUST LIKE OUR LUBRICANT  
SOLUTIONS FOR POWER.**

**DESIGNED TO MEET CHALLENGES**



## DESIGNED TO CUT COSTS

Poor lubricants and lubrication practices can mean equipment downtime. In the power industry, you are constantly striving to improve efficiency and operational reliability, and enhance competitiveness by avoiding lost output and reducing maintenance costs. Whether you want to reduce engine maintenance time with extended-life oils, improve efficiency to increase combined-cycle turbine output or increase the reliability of remote wind turbines, Shell has a wide range of lubricants designed to meet your needs.

These products can help to reduce your process and equipment-ownership costs by providing

- enhanced protection
- reduced lubricant consumption
- improved efficiency.

## DELIVERING VALUE

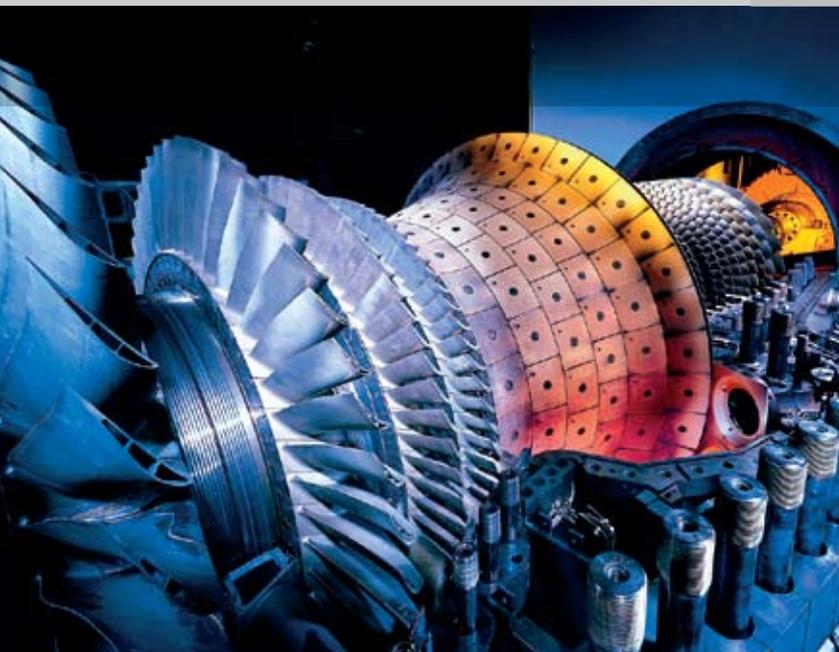
Using the right lubricants can substantially reduce costs by

- cutting unplanned equipment downtime
- lowering maintenance costs
- increasing equipment life and availability.

## TECHNOLOGY WORKING FOR YOU

Shell harnesses technology to deliver value through the creation of solutions, such as energy-efficient and long-life lubricants, in response to customers' needs. It makes a significant investment each year in the research and development of new lubricant products at cutting-edge laboratories in Asia, Europe and North America. All Shell Lubricant products are subjected to rigorous development programmes, and the organisation works closely with equipment manufacturers to ensure that its products are approved for use in your equipment. The benefits of Shell lubricants are then demonstrated in power plants around the world.

**REDUCED MAINTENANCE:** Sudden changes in load were increasing the thrust bearing temperatures in one company's turbines. This resulted in the white metal being stripped from the bearings, which caused the turbines to trip. The company used the Shell LubeAdvisor service and changed to Shell Turbo GT 46 oil. The new oil provided better protection, lower temperatures and extended oil-drain intervals. The company saved a reported \$72,000<sup>1</sup> a year through reduced maintenance costs and less downtime.



INCREASINGLY EFFICIENT PROTECTION >>>

	TURBINE	STATION
	Gas, steam and hydro	Natural, bio gas engines
ADVANCED	<b>Shell Turbo GT</b> <b>SYNTHETIC HEAVY-DUTY GAS TURBINES AND TURBO COMPRESSORS</b> 	
	<b>Shell Turbo CC</b> <b>STEAM, GAS AND COMBINED CYCLE TURBINES</b> 	<b>Shell Mysella</b> <b>EXTRA LIFE</b> 
PREMIUM	<b>Shell Turbo T</b> <b>STEAM, GAS &amp; HYDRO TURBINES AND TURBO COMPRESSORS</b> 	<b>Shell Mysella</b> <b>MEDIUM A</b> 
	<b>Shell Gadus S2 A320</b> 	<b>Shell Mysella</b> <b>LOW ASH</b> 
<b>TRANSFORMER OILS MEETING IEC SPECIFICATIONS</b>		
Shell Diala S2 ZU-I Shell Diala S3 ZX-I		

**ENHANCED PROTECTION:** A steam-turbine power plant operator reports saving an estimated \$128,000<sup>2</sup> by using the Shell LubeAnalyst oil condition monitoring service to protect its facility. It uses the service in 20 applications across the plant to identify potential oil and equipment failures before they become critical.

**EXTENDED OIL LIFE:** High gas prices encouraged one manufacturer to look for ways to cut its operational costs. The company reports saving over \$20,000<sup>1</sup> a year by using Shell Mysella MA 40 oil in its gas-powered engines. The Shell LubeAnalyst oil condition monitoring service demonstrated that the new oil performs for 40% longer than the previous lubricant, which gives Soorty Enterprises the confidence to extend the time between services. Oil consumption is also reduced by 19%.

## PRODUCT SELECTION GUIDE

MARINE ENGINES			WIND	
and landfill	Distillate and liquid biofuel engines	Heavy fuel engines		
			<b>Shell Tellus S4 VX</b>	<b>Shell Gadus S5 T460</b>
			<b>HYDRAULIC FLUID</b> 	<b>SYNTHETIC WIND TURBINE MAIN BEARING</b> 
			<b>Shell Omala S4 GX</b>	<b>Shell Rhodina BBZ</b>
			<b>SYNTHETIC INDUSTRIAL GEAR OIL</b> 	<b>SYNTHETIC TECHNOLOGY BLADE BEARING</b> 
<b>Shell Tellus S4</b>	<b>Shell Gadinia AL</b>	<b>Shell Argina XL</b>		<b>Shell Gadus S3 V460</b>
<b>LOW ASH</b> 	<b>EXTRA PROTECTION</b> 	<b>HIGH SULPHUR FUELS</b> 		<b>MAIN AND YAW BEARINGS</b> 
<b>Shell Tellus MA</b>	<b>Shell Gadinia</b>	<b>Shell Argina X</b>	<b>Shell Tellus S2 V</b>	
<b>ASH/SOUR GAS</b> 		<b>MEDIUM SULPHUR FUELS</b> 	<b>HYDRAULIC FLUID</b> 	
<b>Shell Tellus LA</b>		<b>Shell Argina T</b>	<b>Shell Omala F</b>	
		<b>LOW SULPHUR FUELS/HIGH OIL CONSUMPTION ENGINES</b> 	<b>INDUSTRIAL GEAR OIL</b> 	

 Power station	 Plain bearing	 Construction/mobile applications
 Turbine	 Extreme pressure	 Factory/machine applications
 Turbo compressor	 Natural gas	 Wind turbine
 Long life	 Pipeline	 Roller bearing
 Enclosed gears	 Power engine	 High temperature
 Wet conditions	 Low temperature	 Shock load

### FULL PRODUCT PORTFOLIO

Shell offers a comprehensive product range that is designed to help you easily select the right lubricants for your needs, including oils and greases for

- diesel and gas engines, generators and turbochargers
- coal, gas and combined-cycle turbines
- wind turbines
- transmission and distribution networks.

### WORLD-LEADING SERVICES

The Shell LubeAnalyst oil condition monitoring service is also offered as a health check for your lubricants and machinery. It is designed to reduce costs and add value by

- identifying potential oil or equipment failures before they become critical
- extending lubricant life, thus reducing change-out downtimes and procurement costs
- lowering risks and contributing to safe and reliable operations.





## WORKING WITH INDUSTRY

Modern power-generation equipment is designed to operate for long intervals between services, which puts greater demands on the lubricants. To respond to market needs, Shell is continually developing its products to help you to reduce your fuel consumption and operating costs, and to increase your output and equipment availability.

Shell has long relationships with leading equipment manufacturers. Many of these companies supply their equipment containing a Shell lubricant as an essential component of the machine.

Shell's many equipment manufacturer endorsements across its power-sector product range, include approvals from

- Gamesa
- GE Energy
- MAN Diesel
- Rolls-Royce
- Siemens
- Vestas
- Wärtsilä.

Shell supports the development of new industry performance specifications by working with international organisations such as

- IEC, CIGRE and VDE
- CIMAC, CEC and SEA
- ISO, DIN, BSI, AFNOR, ASTM International and NLGI
- FVA and VDMA.



**SPEAK TO YOUR SHELL LUBRICANTS DISTRIBUTOR FOR MORE INFORMATION.**

## EFFICIENCY FOR YOUR FACILITY

Over many years of working with the world's leading power-generating and transmission companies, Shell lubricant experts have developed a deep understanding of your industry challenges. They use this knowledge and experience to create technology-leading products that can deliver clear benefits, which can be demonstrated at your sites.

<sup>1</sup>"Shell Lubricants" refers to the various Shell companies engaged in the lubricants business.

<sup>2</sup>Savings reported by individual customers. Actual savings may vary, depending on the application, the current oil used, the maintenance procedures and the condition of the equipment.

<sup>3</sup>Calculations based on statistical failure rates.