Finish Thompson Pumps Deliver Key Resources for Renewable Energy Applications

13.7 million. That's the number of people employed in renewable energy worldwide as of 2023.
1.7 trillion. That's the number of dollars invested each year on zero-carbon technologies worldwide.

These statistics from Renewable Energy World emphasize an important trend toward renewable energy sources. As the demands for electricity and mobility continue to grow, businesses, municipalities and nations are looking to sustainable solutions for the future.

The Right Components for the Right Solutions

Well before 2050, the costs of solar and wind resources are expected to fall below coal and gas costs, and, by 2050, Europe is expected to be nearly fossil fuel-free.

This global shift toward renewable resources is only possible with a reliable infrastructure, including wind turbines, solar panels and other systems. Finish Thompson pumps play a vital role in maintaining system integrity in a variety of sustainable applications.

Wind Turbines

The wind industry currently employs 1.2 million people worldwide. Roughly a tenth of those jobs are in the U.S., where utility-scale wind power is installed in 41 states.

Wind turbines are the main vehicle involved in this process. Due to their size, location and the sheer number of turbines, it's essential that the maintenance on these machines is kept to a minimum. Finish Thompson, designer and manufacturer of sealless centrifugal pumps for harsh-duty applications, is the perfect partner for this renewable energy source.

Pete Scantlebury, VP of Development for Finish Thompson, notes, "We found that when mechanically sealed pumps are used in wind turbine systems, system reliability suffers because those pumps frequently leak coolant. When this happens, someone has to travel to the site and replace

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the seal or the pump, costing much in labor, parts and lost energy production. Because many turbines are in remote locations, the travel required to reach the sites further increases the cost of repairs and the downtime."

Finish Thompson manufactures an effective solution to make wind turbines more reliable and efficient. Their mag-drive pumps eliminate the use of a mechanical seal. Once installed, these sealless pumps can continue to run for years without any maintenance or concern for leaks.

Solar Panels

Solar power is one of the most reliable renewable energy sources available. It accounts for 33% of the renewable energy workflow worldwide.

However, this source is only practical if the right tools are available to harness it. The manufacture of solar cells requires reliable fume scrubbers to neutralize the chemicals used in the process and then safely vent them. To operate, these scrubbers require heavy-duty pumps.

"If a pump quits due to a seal failure or other malfunction, the fume scrubber stops, and the solar cell manufacturing tool shuts down to prevent the toxic chemicals from being released untreated," explains Scantlebury. "This results in extremely costly downtime while the pump is being repaired or replaced."

To prevent this occurrence, many of these scrubbers use Finish Thompson mag-drive pumps. Their outstanding corrosion resistance and proven mag-drive reliability make them ideal for this application.

DB Series Sealless Magnetic Drive Pumps

Sealless centrifugal DB Series pumps offer the best efficiency of any pumps in their class and will run dry for hours when equipped with a carbon bushing. Designed to handle a wide range of corrosive fluids, they are available in polypropylene or PVDF corrosion-resistant construction.

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Flow Batteries

"Flow batteries help solve the problem of what to do with excess power that is generated by renewable sources," notes Scantlebury. "They store electrical charge in tanks of liquid electrolyte that is pumped through electrodes to extract the electrons; the spent electrolyte returns to the tank."

Scantlebury further explains, "Some of the materials are very corrosive, and most are carrying an electrical charge. This makes metal pumps generally not suitable for use in this application."

Finish Thompson has been supplying pumps for flow batteries for more than twenty years. Several characteristics make Finish Thompson pumps the best choice for this application:

- Outstanding chemical resistance
- Non-conductive materials
- Wide range of pump models to fit different size batteries
- Mag drive technology that eliminates mechanical seals
- Proven reliability

UC Series ANSI Dimensional Pumps

ULTRAChem® pumps are engineered for extreme reliability in the most extreme chemical processing applications. These sealless centrifugal pumps are constructed from tough ductile iron and have an ETFE lining for superior corrosion resistance.

Ethanol

Ethanol is used to oxygenate gasoline. This allows the fuel to burn more completely, producing cleaner emissions.

In the United States, corn is a commonly used in the production of ethanol. Other biomass materials are also being used or evaluated to produce ethanol including corn stalks, sugar cane and even specialized algae. The production of this resource requires the pumping of a variety of harsh materials.

"Finish Thompson mag-drive pumps are used to pump enzymes, sodium hydroxide, acids and other corrosive fluids used in the manufacture of fuel-grade ethanol," reports Scantlebury. "This is another renewable resource application where these proven workhorse pumps can handle the harsh materials and conditions involved in the process."

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Biodiesel

Biodiesel came into use as part of the 2005 Congressionally mandated Renewable Fuel Standard program. This fuel is used in place of standard petroleum-based diesel fuel and is manufactured from oils, such as soybean, and fats, such as chicken fat, that come from renewable sources.

During the manufacturing process, a catalyst is added to the fat or oil. But because the catalyst has a high pH, the resulting biodiesel must be washed with a water/acid mixture to neutralize it.

"Both the catalyst and the acid wash materials are extremely corrosive, so biodiesel applications require pumps that can withstand these conditions," Scantlebury notes. "Finish Thompson mag-drive pumps are ideal."

Sustainable Solutions, Cleaner Environment

Energy savings. Eco-friendly choices. Renewable solutions. As businesses are looking to make smart, clean choices for the future, Finish Thompson supports those choices with tough-duty, corrosion-resistant pumps designed to offer longevity and efficiency for clean-energy systems.

Scantlebury reports, "As a leader in innovative pump solutions, Finish Thompson is proud to partner with our customers to provide dependable products for a sustainable future."

Finish Thompson Inc. designs and manufactures pumps for the safe transfer of a wide variety of corrosive fluids. Products include sealless mag-drive centrifugal pumps with run-dry capability, mechanically sealed pumps, drum/barrel pumps, vertical mag-drive pumps, multi-stage pumps and the FTI Air line of air operated double diaphragm (AODD) pumps.

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