DEPARTMENTS

Where the Jobs Are: 2012

In a warming job market, the hottest sector is power

By PRACHI PATEL / SEPTEMBER 2012

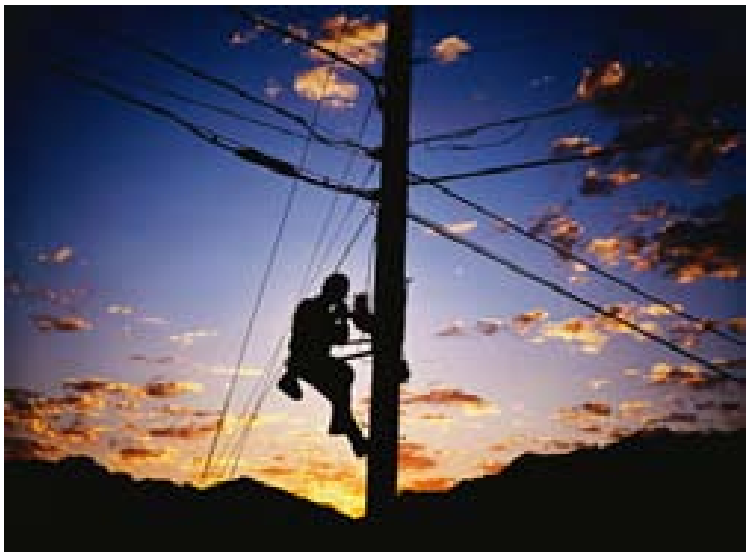

Photo: Getty Images

New electrical and computer engineers stepping out into the real world this year might not get the multiple job offers and off-the-charts starting pay of the precrash days, but they can rest assured that their skills will be put to good use. Hiring is up by 10 percent over last year, and pay has increased slightly for electrical and computer engineers of the class of 2012.

EEs looking for stable jobs and high salaries should consider the power sector in particular. In the United States, millions of government and industry dollars are now flowing into a reviving utility industry. Renewables and the smart grid are about to breathe new life into a rusty power transmission and distribution system, while half of the workforce is expected to retire in the next 5 to 10 years, creating thousands of jobs. The U.S. utility industry hired 120 000 new bachelor's graduates this year across majors, and it paid the highest starting salaries—averaging US $64 000—among all industries, according to the National Association of Colleges and Employers (NACE) in Bethlehem, Pa. Gregory Reed, director of the Power & Energy Initiative at the University of Pittsburgh, says that EE masters graduates with a power engineering concentration are starting at around $80 000, while recent Ph.D.s are making over $90 000.

Meanwhile, in China and India, the power grid is nascent, and all energy sectors, from coal and nuclear to solar and wind, are undergoing prolific growth. "They need engineers more than ever," Reed says.

"I don't think there's anything more exciting than this career right now," says Wanda Reder, a vice president at S&C Electric Company, in Chicago. "There are a lot of empty seats due to attrition. At the same time, there's a lot of new technology coming in. We need really good minds to figure out how to integrate those technologies and operate the power system better, more efficiently, and cleaner than has been possible in the past."

The energy jobs outlook in Europe is more mixed. Utilities there face the same aging workforce issues as in the United States: Between 19 and 38 percent of workers at eight major European electricity companies are due to retire within the next decade. However, not all those positions will need to be filled, and many of them will require different skills, says Charlotte Renaud, a policy officer at the electricity industry association Eurelectric, in Belgium. That's mainly because of a phaseout of nuclear power in many EU countries and an increasing switch to renewables. "You need less people to run windmills than a nuclear power plant," she says.

Outside the power industry, salary offers to engineering grads haven't changed much in a year overall, according to NACE. Among engineers, computer and aerospace engineers are the top earners, bringing in median offers of $67 800 and $64 200. And as was the case a year ago, electrical engineers saw the biggest jump in starting salaries—2.2 percent over last year—to reach $57 300.

The profusion of smartphones and tablets, the health-care industry's increasing use of computer systems, and concerns about cybersecurity are all keeping software engineers in high demand, according to the U.S. Bureau of Labor Statistics. The median salary of new computer-science grads went up by 2.4 percent to $56 383, with new graduates being hired in the information sector making an impressive $64 400, according to NACE. According to the Bureau of Labor Statistics, employment for software developers should grow by 30 percent in the decade leading up to 2020: The average growth rate for all occupations is 14 percent.

About the Author

Prachi Patel is a contributing editor to *IEEE Spectrum*; her June 2012 piece was "The $10 000 College Degree." Patel, who holds a master's in electrical engineering from Princeton, has written for *Discover* and the websites of *Scientific American* and *Technology Review*. You can also hear her on *Spectrum* Radio and Public Radio International's "Living on Earth."

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