Is the haemorrhaging of European generators over?—Perry Sioshansi's Letter From America

While the worst may be over, the future looks bleak.

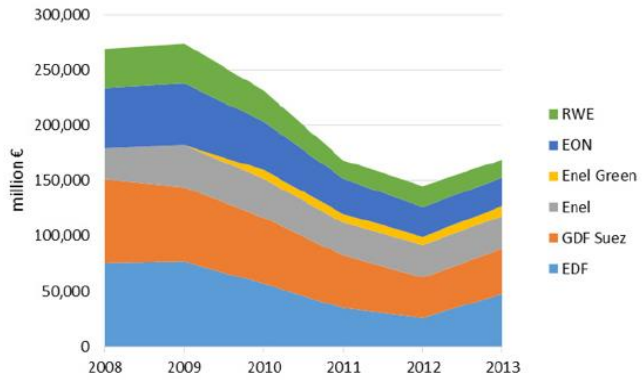
Europe provides rich material for anyone interested in a study of the rapid metamorphosis of the power sector. Following decades of enjoying stable demand growth and healthy returns, large European generators went through a rough period in the past few years. With the fall in demand following the 2008 global financial crisis, their investment in new thermal generation plants became uneconomic with the fall in wholesale prices and the rapid growth of renewable generation. No wonder their share prices took a nose dive.

The EU's 5 largest power generators—France's EDF, GDF Suez, Italy's Enel, and Germany's E.ON and RWE—who collectively account for roughly 60% of generation in Europe, lost considerable value, measured in market capitalisation, between 2008-13. How much? An estimated €100bn ($108bn), roughly 37% of their pre-2008 value from 2008-13. While economies of the Eurozone also took a dive during the same period, Germany's stock market experienced an 18% rise in value over the same time. It has been an unpleasant experience for European generators, to put it mildly.

The big five, plus every other generator in Europe, have had to take drastic action to turn things around with E.ON taking the most drastic step to break itself into two companies, the new E.ON plus the old company, jokingly referred to as E.OFF. While the jury is still out on how their turnaround strategies will pan out, indications are that the massive haemorrhaging of 2008-13 may indeed be over. A recent report by Carbon Tracker, for example, suggests that a turnaround is already underway (*see graph below*), good news for stockholders and/or government treasuries—in cases where companies are partially or mostly state-owned, such as in France.

End of haemorrhaging?

Market capitalisation of surveyed utilities



Source: Carbon Tracker

Despite the apparent turnaround, it is premature to say that they are out of the water yet. The market fundamentals are stacked against them. Demand remains sluggish due to rising retail tariffs—which in countries like Germany, Spain and Italy are heavily burdened with taxes and levies. Customer self-generation and energy efficiency are up, and the continued flood of renewables eats away the revenues of thermal generators.

In the case of Germany, the mid-day peak prices, when thermal generators historically made good money, has all but disappeared due to the continued growth of renewables mandated by government decree. The same phenomenon is becoming pronounced in California, Australia and elsewhere as the rapid growth of renewables, energy efficiency and distributed generation is eating into the livelihood of incumbent thermal generators to different degrees. In the meantime, rising retail tariffs plus the falling cost of solar PVs means that as time goes on more consumers will find rooftop PVs a good investment.

The future of power generation in Europe is even bleaker than the US for conventional thermal plants. According to the European Wind Energy Association (EWEA), during the 2000-13 period, there has been a *net* reduction in installed nuclear, coal and oil capacity with no indication that any of these trends will stop or reverse any time soon.

In fact, most observers believe that coming out of the Paris COP this December, EU members will commit to further reductions in their greenhouse gas emissions, which means even less coal, oil and even gas-fired generation for the future.

Other indications are equally bleak for thermal generation, particularly coal, which is the most carbon-intensive—the central message of the Carbon Tracker report.

As elsewhere within OECD economies, electricity demand growth across Europe is on a decidedly downward trend and no amount of wishful thinking is likely to turn that around. The simple explanation is the gradual decoupling of economic growth from energy-intensive industry and manufacturing.

In this environment, thermal generators will increasingly be competing with renewables whose marginal cost is zero. Their role will increasingly evolve into one of balancing intermittent renewables—a highly valuable function but without significant remuneration under current market rules where generators predominantly get paid by volume.

Which is one reason for the current debate to introduce capacity payment mechanisms, which may very well be needed to keep thermal plants, especially those with rapid ramping capabilities, in the black.

The situation is so serious that even nuclear plants, whose marginal fuel costs are virtually nil, are having a hard time, both in the US and in parts of Europe. Several nuclear plants in the US have asked for special privileges to remain solvent.

Bloomberg recently reported that EDF's sale of nuclear energy to its *rivals*, as dictated by regulation, for the second half of the year has sunk to a fraction of what it was in 2014, suggesting that even in France, nuclear energy may be losing competitiveness. According to CRE, the French energy regulator, the state-controlled EDF sold a quarter of its output, roughly 4TWhrs, to its competitors. The 12.3TWh sold for the first half was also less than half the 34.6TWh for the second half of 2014, according to Bloomberg.

These are among the challenges facing EDF's new CEO Jean-Bernard Levy, who is pushing for higher prices to help pay for tens of billions of euros of maintenance and safety upgrades on EDF's aging fleet of nuclear reactors, which account for three-quarters of the country's electricity production.

EDF, the world's biggest nuclear operator, is required to offer about a quarter of its annual nuclear output to *rivals* under a regulated system known as ARENH that's aimed at increasing competition on the French domestic market. Under this scheme, the rivals can buy power at the current price of €42/MWh ($47/MWh) or buy from the wholesale market if prices are lower. French electricity is bought and sold in the market on a year-ahead basis for €38.15/MWh, or 9.2% below the ARENH price, according to Bloomberg. The government is reviewing how it calculates the rates charged for ARENH nuclear power.

EDF has warned that selling at less than €42/MWh could eat into the company's earnings. In October 2014, the energy regulator proposed that the ARENH rate should rise to €44/MWh this year and by 4.5% in 2016. The government is yet to decide on a revision. The rate should gradually increase to €55/MWh to reflect rising costs, EDF has argued.

Elchin Mammadov, European utilities analyst at Bloomberg Intelligence put it succinctly: "Nuclear is having a hard time competing in the power market where there is a lot of renewables coming online, coal prices are falling and demand is weak." And if nuclear is having a hard time, especially in nuclear-friendly France, one can surmise that fossil fuelled generators are having an even worse time.

Perry Sioshansi is a specialist in electricity sector restructuring. He is founder and president of Menlo Energy Economics and is the editor and publisher of EEnergy Informer, from which we have sourced this article, and which we commend.

We are running a dual programme with Perry on 6 October at the IoD in London, with the morning session devoted to Perry's latest research *Tomorrow's Utilities: What Future, or Will there be a Future?* Contributors include Catherine Mitchell (University of Exeter), Stephen Woodhouse (Pöyry) and Richard Green (Imperial College). Contact Alison Forbes on 01603 604402 for further information and an invitation.

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