



French lessons

In 2001 international technology group Safran believed it was 100% energy efficient, yet six years on, through EDF's Advanced Efficiency Programme (AEP), Safran has reduced its energy usage by more than 8%. Georgina Bisby visited Safran's Paris plant to find out more

Famous for its production of jet engines, international technology group Safran employs over 58,850 employees across 30 countries in its aerospace, defence and communications divisions. It is a major user of energy, yet in 2001 it was confident it was running an energy efficient organisation.

Asked how he would have rated the company's energy efficiency back in 2001, Safran energy manager Michel Besson says 100%. "We are talking about some of the best engineers in their fields – there was no reason to question our efficiency," explains Besson.

Yet the savings achieved in the subsequent period, tell a different story, not of a miscalculation on Safran's part, but of a changing energy market in which the bar for energy efficiency has been raised

and the role of the energy supplier has evolved to match.

"People are surprised when energy companies talk about reducing energy use," says Vincent de Rivaz, chief executive of EDF Energy, "but our long-term success depends on a sustainable future too. Other companies in the EDF Group, such as EDF in France, are achieving good energy saving results for customers across Europe. EDF Energy is now striving to bring this

expertise to British customers."

Through the Advanced Efficiency Programme (AEP), EDF (France) promised to reduce Safran's energy usage by 5% across all plants. In the event savings exceeded 10% - the equivalent to 76.5GWh a year, which has saved Safran roughly £2.5m a year (taking into account the 2006 UK unit rate for electricity and gas.) This has a direct impact in terms of reducing Safran's carbon footprint, it has saved 2193 tonnes of CO₂ in total – the amount typically absorbed by 175,300 trees.

The Safran story

Safran and EDF's partnership began in 2002 with EDF calculating Safran's annual electricity usage. Following this, EDF extensively tested and investigated Safran's fuel usage (electricity, gas and oil) across all elements of the business and



industry to identify potential savings. Using this information, the AEP specialists estimated that they could commit to helping Safran reduce its energy spend by a minimum of 5% of its electricity bill.

A binding contract committed EDF's consultants to working with Safran's own engineers over a number of years in order to deliver lasting reductions in the company's fuel consumption.

The first contract (2002-2004) focused on areas where savings could be made with little or no investment – challenging considering Safran was already an efficient energy user. Yet the 5% savings were still achieved through successes in areas such as lighting management, optimisation and general compressed air leak detection.

That success led to a second contract (2005-2009) to refine Safran's core processes and utilities to achieve further energy savings. More complex areas were targeted by EDF engineers working closely with Safran production managers. The collaborative approach built high levels of trust, allowing EDF engineers to develop action plans for innovative changes to commercially critical processes from compressed

air to air boosters, and enhancing Temperature and Hygrometry set-points for paint cabinets.

As part of the programme, EDF and Safran jointly developed a software programme to automatically switch computers on and off to maximise their energy efficiency, an example of how closely the two companies' engineers worked together.

In fact at every stage, EDF worked with Safran's own engineers to ensure that they were able to implement the recommended changes, and that new processes and facilities were suitable and allow Safran to continue functioning at optimum levels.

The outcome

The current commitment runs until 2009, however EDF reports its recommendations have already achieved 10% savings in addition to the 5% success from the first contract. EDF says it has also identified savings which would take Safran's energy bill down by a further 7%.

Safran reports that 50% of its energy savings had been made in the area of compressed air, heating and lighting.

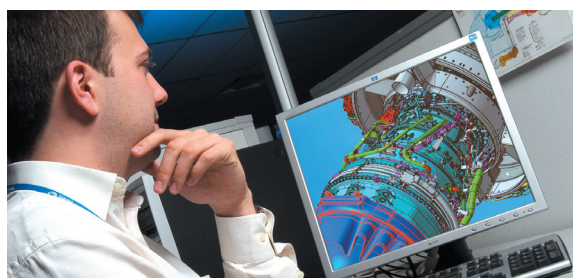
With the help of EDF France, Safran has saved 10% on its energy spend since it embarked on the AEP.

This exceeds the original target for the contract, and there are still almost two years to make further savings before the contract expires.

Safran is planning a new site and has already requested the help of EDF France in building designs, so as to ensure its new buildings are energy efficient from day one. Safran also uses the AEP in its product development process, from testing in laboratories through to mass production.

On a more day-to-day level, Besson reflects on an increased willingness among staff to become more energy efficient following the implementation of the AEP.

"It has been an education in what energy means and represents in actual cost," says Besson, "where production used to be the big driver for our maintenance staff, energy is the big driver now."



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Advanced Efficiency Programme (AEP) in the UK

Step one: EDF Energy's AEP consultants visit the client's site to investigate its energy usage producing a proposal of energy saving, based on the site and tailored to its technical (machinery and processes) constraints, and financial constraints. This plan focuses on reducing energy consumption without compromising output.

Step two: Recommendations range from instituting better use of existing equipment, through to replacing machinery with more efficient models. They are always made with return-on-investment in mind.

Step three: EDF Energy then works with the client on a long-term basis, to provide the support needed to define an action plan, follow up the action plan roll-out, assist in implementing and maintaining recommendations.

Savings vary by customer and depend upon several factors, including the size of the plant, however, EDF Energy says there is always a saving to be made.

In Europe, the AEP specialists comprise over 2000 researchers specialists in transformers, condensators, steam generators for nuclear power plants and hydraulic experts for dams. This number includes 200 experts for energy efficiency, 300 engineers with PhDs, 200 doctoral students and 150 university-level researchers, who test and re-test plant equipment and trial the latest technologies including: cooling, heating, air treatment, dryers, CHP, photovoltaic, solar heating, boilers, induction furnaces. Thus AEP consultants have cutting edge knowledge to apply.

EDF Energy enters into a legally binding contract with the customer to deliver a specific percentage saving

on the customer's current energy bills, and will refund the difference if the guaranteed savings are not achieved.

The initial investigation is free of charge and clients are under no obligation to invest in further consultation time. The purpose is to estimate the energy saving potential according to the payback attached.

Investigations are conducted working alongside the customer's site managers to uncover energy requirements and usage patterns for each plant and piece of machinery. Recommendations are realistic and assessed and acknowledged by the customer.

As a general rule, to qualify for the AEP a client's energy consumption needs to be in the region of 4-5 GWh (roughly equivalent to the annual energy consumption of an average large supermarket) though any business can contact EDF Energy for energy efficiency guidance.