dedicated food processing project management

at the forefront of food processing technology

Flo-Mech

Energy and Sustainability

As all leading businesses have become ever more focused on the impacts on costs and the environment due to the various processing demands of their products – so too has Flo-Mech. Our Energy & Sustainability Department, headed up by Dr Francois Pierrel, has been leading the way in innovation and improving existing plant and equipment facilities throughout the world. The key initial primary focus has been on the large consumers of utilities and this has led to a roll out of many upgrades, in particular to gas heat exchangers with, in some cases, a 15% improvement in gas efficiencies (15% reduction in gas consumption).

Since 2003, UK gas prices have increased significantly and the large gas users, particularly within the food industry, have been greatly affected. As an example, over the last six years costs of running a very large potato crisps heater with pollution control have been more than doubled. In addition to this, we feel we provide a unique service in the industry in that we provide not just the capability to survey and generate the associated report, but also to suggest measurable improvement and more importantly we are able to implement the improvement. The Flo-Mech approach is different from the general energy consultants as not only do we carry out the energy audit, but we also implement the changes required and provide a complete backup service.

Flo-Mech uses a well proven and structured approach to tackle energy and sustainability challenges

Define: An initial survey is required to define what the issue is. Depending on the available data from the site, this could either mean;
i) defining the required instrumentation to measure essential data for the purpose of the efficiency calculation or;
ii) gathering available data and analysing it to discover what key process variables are affecting the efficiency.

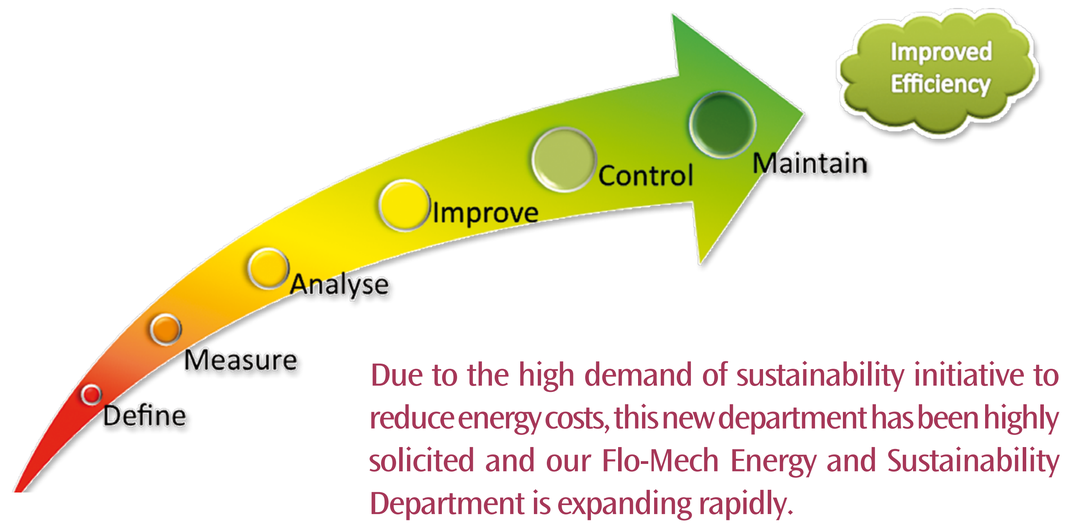
Measure: It is often the case that not enough instrumentation is available or more instrumentation is required for a specific need (e.g. gas meter, air flow meter). The measuring phase allows us to establish benchmark efficiency figures, which can be used as reference for later improvement.

Analyse: An analysis phase is required which allows us to demonstrate potential benefits and establish an opportunity chart, which focuses on the cost of the proposed solutions, the efficiency improvement, the yearly savings and indeed the payback period. Flo-Mech utilises state of the art analysis tools which allows understanding interaction between process variables.

Improve: Improvement can be as minimal as fitting some new instrumentation and control, or more intrusive with the replacement of a more efficient heat exchanger for instance. Flo-Mech will provide the complete turnkey solution from design, installation commissioning and complete project management. Once the improvement has been put in place, a number of analyses will be performed to measure and quantify the improvement.

Control: Improvements are fine as long as they can be sustained. Sometimes it might be beneficial to put in place additional control loops to maintain the improved efficiency so that the efficiency does not drift.

Maintain: Routine maintenance checks are essential to ensure that instrumentation and new solutions are sustained. Our Flo-Mech service team is highly skilled and have extensive process skills as well as a broad engineering knowledge across many food industries.



Due to the high demand of sustainability initiative to reduce energy costs, this new department has been highly solicited and our Flo-Mech Energy and Sustainability Department is expanding rapidly.

It's a refreshing feeling that we have many of our "blue chip" customers who are, more and more, seeking to utilise the expertise that we have and reduce operating costs.

Dr Francois Pierrel CEng, MEI, PhD, MSc, BEng, DUT
Energy and Sustainability Manager

Francois joined Flo-Mech in 2008 and comes very highly qualified in his field. Francois has already had a very large input in the redesign of our new Flo-Therm heater units and various upgrades of existing units with a high focus on increasing efficiency. We look forward to the future with Francois on board and believe his department will play a big part of Flo-Mech's future expansion.

Email: francoisp@flo-mech.com

Allan Balata MEng (Hons) AMIChemE
Energy & Sustainability Engineer

Allan joined Flo-Mech in May 2010 and brings with him a wealth of energy optimisation experience. The knowledge that he has gained during his previous roles at McKinnon & Clarke and Tate & Lyle will be a great asset in the future growth and development of the Energy & Sustainability department. He will be reporting to our Dr Francois Pierrel and we look forward to the future with Allan on board.

Email: allanb@flo-mech.com