

# The sustainable kitchen

IN THE UK IT HAS UNVEILED WORLD MARCHE WITHIN THE LAST TWO YEARS AND LATE LAST YEAR BROUGHT OVER ITS NEW COFFEE SHOP FOR CATERING AFTER SUCCESSFUL TRIALS AT SITES IN THE SUMMER. AND TWO NEW IDEAS FROM THE UNITED STATES, MAMMA LEONES

FINDING WAYS OF PROVIDING SUSTENANCE FOR CUSTOMERS IN A SUSTAINABLE MANNER IS SOMETHING WE MUST ALL PUT OUR MINDS TO IF WE WANT TO SURVIVE. RICHARD WEDGBURY FCSI OF ALEXANDER JON RICHARDSON & ASSOCIATES TAKES A LOOK AT DEVELOPMENTS IN TECHNOLOGY USED IN NEW CATERING EQUIPMENT THAT CAN DO JUST THAT

In the spring of 2006 the Foodservice Consultants Society International (FCSI) held its world conference in Edinburgh with sustainability as the theme. This timely decision to focus on what is becoming an ever increasing problem for all of us throughout the world, led several consultants to look at how the latest technology utilised in new catering equipment can help reduce energy costs and CO<sub>2</sub> emissions at the same time.

Here, we look at what the kitchen of the future will look like and consider the likely cost savings of spending money in an area of a school that has often had to wait for capital expenditure due to other more pressing educational requirements for that same money.

## Energy costs

Ten years ago the Local Authority School Caterers Association (LACA) was telling us that energy costs per meal served were approximately 8p to 10p per meal. This figure would now appear to be roughly double that and most bursars are painfully aware just how much energy costs have risen in the last two years alone. Almost without exception no kitchen in the education sector in the UK has set up separate metering of gas and electricity for the catering department and we have all had to guesstimate the likely costs. The Carbon Trust is now doing research into these costs by monitoring different catering operations of varying sizes.

If the assumption of a 20p unit cost for energy per meal is correct then a school with 1000 pupils and 150 staff would have an annual energy bill of £ 40,250: a not insubstantial amount. Indications from some of our leading catering equipment suppliers show that a 6% saving on energy consumption can be realistically achieved by buying the right equipment. CO<sub>2</sub> emissions can likewise be significantly reduced with this same equipment.

## Gas versus electricity

Gas has always been the preferred fuel for chefs and cooks as it is more immediately responsive. The kitchen of the future is likely to be fuelled by electricity, as gas supplies are now getting more unreliable due to both political and supply uncertainty. This will provide benefits to kitchen costs of the future as the high cost ventilation systems that gas supply requires will be dramatically reduced. It is now possible to filter out much of the cooking effects with extraction systems fitted to individual ovens etc. Likewise carbon monoxide, which is the by product of burning gas, will be eliminated, saving catering staff across the country from headaches and, in some case, the flu-like symptoms which can occur when they suffer carbon monoxide poisoning as a result of poorly maintained extraction.

## Labour cost savings

The latest ovens, fryers, refrigeration, dishwashers and other equipment is now computer controlled and this, combined with high yield cookery techniques, can lead to both labour and space savings. Computer controlled cookery can also provide much needed quality control by programming a particular recipe into the oven to ensure that who ever cooks it the end product will always be the same.

A recent visit to Helsinki, Finland, to see a school with 1000 pupils showed how the implementation of the kitchen of the future can reduce labour costs very significantly. In this country we would expect to employ approximately 500 man hours to cook and serve 1000 meals. In Helsinki they were serving fresh food, freshly cooked with only 170 man hours - virtually one third of the cost of our traditional approach. The kitchen was likewise only about one third the size of our traditional kitchen. Space is money and with



the kitchen with a smaller footprint you will create further savings by improved ergonomics (less walking about) and less to clean.

**The kitchen of the future**

The post-Jamie Oliver world we inhabit has now seriously questioned the need to deep fry food in our schools. Best practice suggests using this equipment only once a week. Given that schools only operate about 36 weeks a year this makes the purchase of such equipment truly questionable. Steaming and frying can be performed by the latest combi ovens to a high standard and therefore the key equipment in our new kitchen would be three computer controlled combi ovens. To complement this other bulk cooking is performed by using two computerised, tilting, stirring, boiling kettles.

Apart from a small hob to make sauces, gravy and so on, the remainder of the equipment requirements are for sufficient stainless steel work tops, refrigeration and dishwashing.

The above is in fact an inventory for the Helsinki school mentioned. This small footprint kitchen achieves its high labour productivity by having two identical self help servery counters with two queues of pupils on each counter. Further labour savings are achieved by the use of a fully automated dishwashing system which is fed by an electric conveyor belt. Pupils all clear to this point and perform all the filling duties that a catering employee or employees would normally perform.

**The capital cost implications**

The Helsinki kitchen cost about £190,000 but because savings in energy cost and the large reduction in labour cost could very quickly be recouped. It is also possible to explore ways to finance

this equipment by paying for it over the life of the equipment. It is difficult to argue how a school could afford not to explore this very attractive financial package.

**Production cost implications**

Since Jamie Oliver, the cost of producing a meal in the maintained sector has risen to about £1.87 and the most efficient independent schools are producing meals at around £2. Both meal costs are for catering operational cost and do not include any utility costs, equipment maintenance, deep clean cost or insurance.

The much reduced labour cost applied to our English model would reduce the maintained school meal cost to approximately £1.20 with the independent school cost nearer to £1.40. On top of this there is the additional saving in utility costs mentioned earlier which are in many cases a hidden cost. The saving however would be real.

**Sustainability**

Our young pupils are only too aware of the problems facing our planet. This is their future that is at risk. Any school addressing the issues involved in improving the efficiency of the school's catering operation will no doubt be welcomed by them.

In conjunction with this initiative one would also consider the greater use of local suppliers, more organic supplies and the use Fairtrade products. All these topics will have a deep resonance with your clientele.

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