

## **IS THE GREEN COMMERCIAL KITCHEN A DREAM OF THE ENVIRONMENTALIST OR GOOD FINANCIAL BUSINESS SENSE?**

Why should the foodservice industry with its commercial kitchens go green and become more sustainable? To protect the environment for future generations, to contribute to the local economy, to provide sustainable livelihoods to all members of its supply chain, to reduce its contribution to climate change, to reduce its usage of natural resources, to provide social benefits such as quality food and educational opportunities. While any combination of these reasons would make it worth doing, two additional reasons can be provided as we head into harder financial times which will have more appeal to a greater number of caterers. As our natural resources come under increasing pressure and rising costs continue to impact on our financial bottom line, the smart thing to do is to become energy efficient and sustainable.

Even if Climate Change was not an issue, jumping on the green sustainability band wagon will prove to be a wise decision. Customers are becoming more aware of their impact on the environment and the need to consume a healthy balanced nutritional diet. This market sector five years ago represented ten percent of the potential customer base; today it represents over sixty percent and continues to grow. If a business wants to retain its existing level of business and possible increase its customer base it needs to go green, becoming both sustainable and energy efficient. The initial costs involved in starting to implement the necessary changes pale into insignificance when compared with losing customers. The customers care about their environment and the food that their families consume, so should we. Not only can the green banner be used to increase the market share, it can save money, some of which can be reinvested to achieve a fully sustainable future.

By taking steps to reduce both our energy and water usage while upgrading to energy efficient equipment when the opportunity arises we can almost half our utility bills and the CO<sub>2</sub> emissions generated by our various catering facilities. By implementing energy efficient and sustainable practices we will provide a better working environment which means that productivity is increased and staff turnover is reduced which also provides financial savings as well as generating time that can be used to grow the business.

When comparing the foodservice industry with other commercial activities the amount of energy and water used together with the waste generated that goes to landfill can be five times higher making the commercial kitchen unsustainable. When looking at UK government and European targets for 2020 this will not be allowed to continue, therefore the wise move is to start to implement changes to the support infrastructure, the operational systems and when required purchase equipment that will meet the proposed targets, because systems and equipment purchased today could and are likely to still be in place in 2020. The targets for 2020 are as follows:

- To reduce the waste generated by 25%.
- To recycle 75% of the waste generated.
- To reduce water usage by 25%.

# CDIS-KARM

- To reduce energy usage by 30%.
- To reduce CO<sub>2</sub> by emissions 32% with further reductions to achieve a saving of 60% by 2050 using the 1990 baseline.

Although no legislation exists or has been indicated at present, it seems likely that those operations and organisations not meeting or complying with the targets will suffer some form of financial penalty. It should also be remembered that energy costs are unlikely to fall and by meeting the above targets we are reducing our utility bills by the volume of the required savings based on today's prices, so in real terms the savings will be much higher. The sooner we implement the changes to meet the targets the larger the return on the capital invested when applying whole life cycle costs.

Old fashion commercial kitchens with their dated equipment and supporting infrastructure pollute the air and the rest of the environment simply by being in existence, by going green we will reduce the impact while protecting ourselves against future legislation that is starting to appear in other countries whereby you can only discharge air and water to the same specification that it was received into the facility. The cost of achieving this could be financed out of the utility and operational savings generated from our green policies.

By becoming more energy efficient and sustainable we will save money, increase our customer loyalty and improve our standing in the community, so how should we get started. Rather than press forward in the dark, assess the situation and develop a strategy that will start to save the business money straight away using those solutions that require little or no investment first. The savings generated can then be reinvested in making the business sustainable and improving its market share. Look at the daily practices that can be changed to save money, identifying where needless amounts of effort, energy and water are being used. Also analyse the waste being generated to determine the types and quantities being disposed of, once this is known we can decide how to reduce, reuse and recycle our waste. By making the right changes we can add thousands of pounds to the economic bottom line which will also increase our social and environmental position.

Becoming sustainable is an ongoing process that needs to become part of the working day for both management and staff. The most successful businesses are those that are continuously looking at new methods and procedures. Education being the key, only with proper implementation of new working practices together with the correct use of the equipment being used can the maximum savings of our resources be made, which in turn reduces our impact on the environment making us more attractive to that growing number of customers who care. It can be as simple as closing the cold room door, or turning burners down to a simmer to heat some dishes.

One of the first major tasks that need to be carried out is to monitor the energy being used to provide the required service; this can then be divided by the number of meals served so that a consumption figure per meal is achieved. This information can then be compared against the industry benchmarks for similar operations so that we have some idea as to how we are performing, below average, average or above average. Now we have some idea of the size of the task in hand we can start to implement the necessary changes starting with the areas that consume the largest amounts of our resources. By compiling and analysing this data we can identify and implement changes starting with the largest savings for the smallest investment which means that our green policy will be self financing.

# CDIS-KARM

Some areas that may be worth considering are detailed below:

- Only turn equipment on up to twenty minutes before it is required. This should be sufficient time for most appliances to pre-heat. If it doesn't achieve the operational temperature in that time consider having the appliance serviced.
- Keep appliances clean and well maintained to achieve the maximum performance with the lowest utility costs.
- When equipment is not being used turn it off.
- Never leave taps running unattended.
- Do not thaw food under running water, especially hot water.
- Only use dishwashers, glass washers and utensil washers when fully loaded as this saves water, energy and chemicals.
- Consider using reclaimed water from equipment for secondary cleaning tasks.
- Arrange the equipment within the kitchen whenever the operational requirements allow so that the cooling equipment is separated from the heating equipment. This means it does not have to work so hard therefore extending its potential life while reducing the energy consumption.
- Consider the equipment being used to perform the required tasks. For example in certain facilities you may not need ranges, fryers, salamanders, bratt pans, steamers and convection ovens when a more sustainable energy efficient solution to achieve the same result would be to consider the latest combination oven technology coupled with induction hobs and possibly may still require a bratt pan.
- Retrofit energy saving devices to existing equipment like, low flow water taps and sprays, strip curtains to cold room doors, high efficiency motors, variable speed fans etc. Just a few examples that can provide major savings. For example when using low flow units to conserve water, the job gets done just as well as when using standard equipment; however the water usage can be as low as 25% of the original amount.
- When purchasing new equipment or plant consider the requirements of all the Stakeholders and apply whole life cycle costs for energy, water, consumables, labour and planned preventative maintenance.
- Consider kitchen ventilation and the heating of the incoming supply air as this consumes enormous amounts of energy and money in the average catering facility. Consider investing in energy efficient variable speed systems that have programmable / sensor controls to control the air flow in proportion to the amount of equipment being used.
- Consider using heat recovery plant for wash-up areas, ventilation systems and secondary refrigeration systems. This achieves maximum usage of the energy being employed.
- When looking at major refurbishments and new build projects a number of options should be considered and value engineered using whole life cycle costs. Areas worth investigating but not limited to include, building mass, natural ventilation for public areas, maximum usage of natural daylight with controls to limit the unnecessary use of artificial lighting, rainwater and grey water harvesting, solar energy, heat pump technology related to ground source heating and cooling.

After applying energy and water efficient changes the situation should continue to be monitored to track improvements. This way, if we are still not achieving the required savings we can instigate more changes in the right areas or hire the necessary expertise to help us achieve them.

Having looked at energy and water usage we must get our waste under control as there are enormous economic and environmental costs associated with it. We pay for the material, and then we pay to get it delivered, to store it and then pay to dispose of it, while paying staff to carry out the necessary processes. What a waste of money and resources.

# CDIS-KARM

Investigate the waste being generated within the facility by looking into the waste skip or bins, then make a list of products being disposed of so that we can tell what types of waste we need to incorporate in the recycling programme which will greatly reduce the waste disposal bill. By keeping a note of what food waste is coming back into the wash-up we can remove or minimise those products that are not eaten or sold. While presentation is very important as we eat with our eyes we must remember that by reducing garnishes we will provide economic savings on our procurement, storage and disposal costs which in turn provide major social and environmental savings by reducing landfill and unnecessary food miles.

Ensure that all food waste is kept out of landfill by making sure that the waste contractor disposes of it for composting or is using it in the production of bio fuels. Also it is worth making sure that frying oils and cooking grease that cannot be consumed by the Bio remedial system are also collected and used for bio fuel production. This not only ticks the environmental boxes but should provide for cheap disposal costs.

Close the circle by using recycled and recyclable products with biodegradable containers for take-away offers in place of polystyrene thermal insulation and plastic disposables. Procure products that are supplied in containers and on pallets that can be used again, making sure that the supplier's buy into the system. When procuring cleaning materials consider using reusable cloths while ensuring that all chemicals are being purchased in returnable bulk containers so that they can be decanted into reusable dispensers.

Moving forward we must communicate the importance of the green commercial kitchen to everyone involved including our suppliers and customers, while providing the necessary training which should be mandatory. Whenever possible all training should be interactive, if people are bored they will not retain the information. Explain the objectives and the reasons for change, giving everyone the chance to become involved by making suggestions on how we can achieve the objectives.

Make a senior member of management responsible for energy efficiency and sustainability; it is essential that everyone is aware of their responsibilities. If we are to run a truly efficient business all those involved must accept that being efficient and sustainable is part of their everyday job while making expectations clear. Lead by example, allowing time for repetition, it takes several attempts for new information and behaviour to become accepted. Support and reward positive behaviour and actions.

If someone tells you that being green will involve you in enormous costs that are not practical, they usually mean that their equipment or system is not efficient over the life cycle or they cannot be bothered to analyse your requirements and apply the necessary costs to give a cradle to grave picture. This means that it's your money that will be poured down the drain or evaporated into the atmosphere for a number of years to come.

Becoming energy efficient and sustainable (Going Green) is a way of life, not like the water and energy we are trying to conserve which can be turned on and off.

Prepared by: David C Clarke CFSP