

PROJECTS CURRENTLY ONGOING

- **Re-design of HVAC system.**

When our factory was built the HVAC system was designed for once through air. This means that all air that enters the factory is filtered, heated (or cooled), passed through the room once and then ejected from the factory. This happens up to 12 times per hour in some rooms and accounts for a large proportion of the energy consumed in the factory as a whole. After consulting with other pharmaceutical sites and the regulatory bodies, we now understand that we can recirculate a large portion of the air used in the factory. This means that we will be able to take some of the air leaving the rooms and pass it back to the air handling unit so that it can be filtered and used again. The big advantage of this proposal is that by recirculating air that you have already heated (or cooled) you will not have to do this to the same extent after the air has been recirculated. It is calculated that this will lead to significant energy savings for the factory. We are currently in the process of designing the pipe work for this change.

- **Energy monitoring system under development.**

Every item in the factory that uses electricity can be traced back to one of the numerous switch room located around the factory. On each of these switch boards we have placed a Kilo Watt meter that measures the amount of energy being consumed by items connected to that board. We are now in the process of connecting each of these meters to a central server which will allow us to record the electricity being used in each part of the factory in real time. It is hoped that this monitoring system will help to track our energy usage more accurately and allow us to better target energy saving projects.

- **Replacement of steam boiler with medium pressure hot water supply.**

Our sugar solution preparation vessel currently uses steam to heat its jacket. The jacket is used to heat the sugar solutions up to 60°C before they are used in the coating process. The steam boiler used to generate this steam is quite old and in order to ensure that steam is available when required the boiler is left on 24 hours a day. To reduce the energy required to heat these solutions, we have decided to remove

the steam boiler and replace it with hot water that comes directly from our main boiler. The main boiler provides surplus water at over 100°C and so it can easily be used to heat the solution to 60°C. Energy is saved because we no longer have to keep the old steam boiler running 24 hours a day, instead we can use the hot water from the main boiler at anytime.

- **Localised Dehumidification system for sachet lines.**

Following the success of the localized dehumidification of the capsule fillers, we now intend to extend this principle to the sachet fillers and achieve even bigger savings.