

Visit to Renewable Energy Systems and the Paper Trail

On Thursday April 12th some 23 members of REMS visited, first, Renewable Energy Systems (RES), and after lunch the Paper Trail museum which commemorates the first continuous paper making machine commissioned in the Gade valley.

At RES we learned of the planning and design processes which are required for both on shore and off shore wind farms. The company specialises in this field, and explained the case for this energy source and how it is set to contribute significantly to our future energy needs. Wind speeds in and around the British Isles are well suited and allow turbines to run at an efficient level for most of the time. The spread of wind across the territory means that some part of the installed capacity will always be delivering, with modern weather forecasting enabling the “spinning reserve” to be no more than that associated with other forms of electrical generation. Even if the output from wind generation exceeded the total demand of the grid, such as might occur in the early hours of the morning, it is expected that the excess will, in future, be used to charge the improved batteries employed in transport applications, or to mechanically pump a lake of water to a higher reservoir, for use later in the day.

After the talk we enjoyed a tour of the site, during which we learned of the other carbon neutral energy sources being used to power the entire site. These include the growing of bio fuel for the main boiler, plus solar cells producing both heat and electrical power. These, along with the small on-site wind turbine, provide all the energy required on site, together with an excess fed to the grid.

At the paper trail we visited the original Frogmore Mill where the first machine was built to the design of French engineer Louis Robert, with finance provided by the Fourdrinier brothers, with the final modifications and commissioning being carried out by an English engineer, Bryan Donkin. Modern paper making machines still work to the same principle. This 1803 machine is still in full working order, and could be run, subject to a heritage grantor similar, to cover operating costs.

At the museum we were also given demonstrations of hand worked single sheet paper production on the original machines which had remained at Frogmore, together with a demonstration of hand type setting and printing.

Tony Manning, 30/04/12