

Energy Purchasing at Hydro Polymers for Winter 2006/7

July 2006

Hydro's Newton Aycliffe site



Hydro Polymers

- Owned by Norsk Hydro of Norway for past 20 years
- Manufacture of PVC, Resin and Compounds with 400 employees
- We need steam and electricity for production
- Site occupies 147 acres, 62 acres of golf course
- Top tier COMAH SITE
- Compounding plant is largest in Europe
- ISO 9002, ISO14001 and EMAS all gained
- One of the first Investors in People sites in UK Chemical Sector
- Bio Diversity areas on Site with visits by local schools etc.
- 2005 winner of CIA Responsible Care Award

Drivers for Energy Costs

- Competitive situation in PVC markets
 - Competition not just in UK manufacturing
 - PVC is Commodity Chemical
 - PVC can be supplied from Europe, America and now China
 - One other manufacturer in UK
- Business wants a clear picture of energy costs, no shocks!!
- Day ahead seemed the better option in late 2004, as fixed price contract gave significant increases
 - In 2005 we did still save over fixed price contract

Other factors

- We are owned by a Norwegian company with plants in Sweden and Norway
 - Therefore we compete for investment
 - Norwegian and Swedish plants have long term energy supplies contracts, 10 years duration.
- Hydro Polymers places great emphasis on the environment.
 - Hydro have adopted the The Natural Step process for Sustainable Development
 - Five processes including Carbon Neutrality
 - Gas is therefore the chosen fuel.

Energy Usage Areas

- Electricity
 - Import40,000Mwh
 - Generate ..65,000 Mwh
- Gas
 - Used in CHP/Boilers.....80% of total approx 9.6m Therms
 - S-PVC Plants for processing....3m therms
 - Gas oil can be used as alternative for CHP/Boilers
- Purchasing Policy
 - Electricity.....Fixed price
 - Gas.....Until Dec 2004, fixed price, then flexible contract.

Winter 2005/6

- No need to tell you the history
 - Until Nov 2005 we gained on the flexible contract
 - Then all hell broke loose.
- Requests from Norway for a daily update on Gas prices
 - I forgot to fill the required spreadsheet on the worst days
- Able to switch to oil when gas price rose above oil price
- Sold gas back on GBA day, but still high production costs.
- Large amount of my time spent on gas purchasing, no good news.
- Some hindsight comments

Winter 2007

- Electricity price already contracted for, from Oct.
 - Signed early in June.
 - Price agreed as carbon price fell
 - No one had the “Guts” for a spot contract.
- Close co-operation with gas supplier
 - Trigger prices agreed with supplier
 - If price is approaches , we discuss volumes etc
 - Used this summer to vary purchasing strategy
 - Some bought on Day Ahead, some on WDNW, some on BOM

Business Approach

- Strategy agreed with Site Exec Board
 - Some gas purchased already to try and even out peaks
 - Strategy will reflect what we are already doing this summer
 - More detailed analysis of gas costs against production costs undertaken
 - Business to be informed on gas price movements
 - Reviewed alternative fuels
 - Coal etc.
 - Cheaper but major environmental and electricity problems
 - Capital needed to re-convert boilers
 - Timescale also against project.

Energy Management in Winter 2006/7

- Oil storage to be kept full for winter
- Emergency transport for oil, if needed.
- Daily review of fuel prices
 - Do we operate CHP?
 - Import electricity?
 - Use boilers for steam raising?
- Scan information sources especially National Grid web site
- Effect on Climate Change Levy Agreement of above decisions?

Effects of energy prices

- Questions asked on should we continue production
 - Stop and supply from Nordic plants?
 - This puts questions in Norwegian minds
 - Should we invest in UK?
 - Pressure from Norway to switch production, some spare capacity
 - Difficult to argue against over long term, succeeded last winter.
- Confidence needs to be regained in UK energy supply quickly!
- If 2006/7 is same as 2005/6, UK PLC has a major problem