

ABB Energy Appraisal for Lowering Energy Costs and CO2 Emissions



As energy prices continue to fluctuate and industry is pressured into reducing their carbon foot print, there has never been a better time to consider the merits of drives and high efficiency motors. An energy appraisal of your motor driven applications across either a plant or a process can reveal significant ways to reduce energy costs.

ABB have developed a very simple energy appraisal process that is carried out by an ABB Engineer with the support of Encompass Integration your local ABB Authorised Value Partner.

ABB energy appraisal's use a methodical approach that presents end users with hard, compelling facts about the electricity that they can save. This is achieved by identifying some key applications that can benefit immediately from the use of drives and electric motors. This will help target your investment so that it generates the highest possible savings and delivers the best return on investment.

ABB's energy appraisal has six steps:

1. Outlining the scope of supply

Encompass Integration and an ABB engineer will visit your site to get a clear understanding of your facility including location of applications, inventory of motors and any health and safety restrictions.



2. Monitoring and data collection

During a walk around the facility we will note typical applications that may be running inefficiently. The ABB engineer will look at both fixed speed motors and any drives used to see if the application is running at maximum efficiency.

These selected applications may then be monitored in order to accurately determine which of your applications are consuming the most energy. It may be necessary for this to be performed over a seven day period to gain a complete picture of the plant's typical energy use.



3. Data Analysis

Following the completion of data collection the findings are analysed and potential saving are identified using dedicated software. The findings are methodically presented in tables and graphs to help identify where savings are likely to arise. The data includes an estimation of present energy usage, areas of potential savings, payback time if an investment is made in drives and motors, carbon dioxide emission reduction, along with many other key facts and analysis.



4. Recommendations

An action plan, usually comprising an executive summary and a detailed engineers report, highlighting applications that can save the most is prepared and presented.

The figures will normally be translated into monthly savings and there will be detailed recommendations for fitting particular drives or motors. Often the recommendations will show that drives can provide excellent savings in particular applications. The report shows the expected payback time on fitting new equipment.



5. Implementation

Using the recommendations from the energy appraisal, together with ABB we can identify the correct drive and motor for each application. In many instances, we can help with the installation and start up or commissioning of the drive and motor. This includes setting the correct parameters to ensure that the drive or motor is operating at its optimum energy efficiency.

6. Verification and follow up

Once your new equipment is fitted it is practical to track the actual savings against the predictions shown in the engineers report. This will also help justify the investment in drives and electric motors. ABB provides life cycle services to ensure that the drive or motor is looked after throughout its working life. For example, during the operation and maintenance stage, ABB can continually monitor the energy consumed by the motor and compare this with the original specification. It may be that the process is changing or that the drive or motor is at a specific stage in their maintenance schedules. Whatever the reason, any deviation can be adjusted to ensure that the drive and the motor are always performing at their optimum.

During an energy appraisal ABB's engineers can also review existing business operations and technology to identify the scope for improvements in energy efficiency and reduced CO2 emissions.

Benefits of an energy appraisal:

- Clearly identified energy savings and CO2 emissions reductions
- Estimated payback times
- Review of current preventative maintenance schemes
- Low cost or no cost investment opportunities in reducing CO2 emissions
- The scope for employing available technology, including drives and electric motors for applications such as pumps, fans and compressors.

Following an energy appraisal, ABB and Encompass Integration can offer advice on:

- Replacing drive or motor components as part of a preventive maintenance plan
- Retrofitting existing drives with modern technology
- Recycling of all removed drives and motors to the latest legislation
- Upgrading entire systems to the latest technology or to extend the functionality of existing drives and motors

Contact Encompass Integration for all your automation product needs and quality service.

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