

Bonson is a family business that started in 1984. Bonson specialises in plastic injection moulding of polypropylene food containers and food service disposables. The business operates 24 hours a day, 7 days a week, in premises with an area totaling 3,500m and 40 employees. Bonson is ISO 9001, HACCP and NZ4801 certified.

Our Objective: To implement energy efficiency and cost saving initiatives by:

- Undertaking a formal energy audit early to mid 2004.
- Implementing 70 per cent of energy audit 'low-cost, no-cost' recommendations by end of 2004.
- Implementing all practical recommendations to reduce our impact on the environment by early 2005.
- Achieving 50 per cent of audit cost refund from EECA in early 2005.
- Achieving cost savings greater than the cost of the audit and costs of initiatives after one year from audit date.
- Developing ongoing measure of 'energy usage per kg of raw material'.

Project Costs:

Energy Audit:	\$7000
- 50% refund from EECA	\$3625
C02 monitoring equipment hire:	\$250
Implementing initiatives	\$2200
Est. time & misc costs:	\$800
Total implementation costs:	\$6625
Savings per annum: (+ GST)	\$4200
Payback period	1.6 years
Case Study	

Project Description: Undertake a formal energy audit to raise awareness about energy usage and issues and to provide clear actions on how to implement energy cost savings and increase energy efficiency.

Project Implementation: As energy usage is a significant component of our plastic injection moulding costs we believed there would be opportunities to reduce costs and increase energy efficiency.

After researching options we undertook an energy audit in May 2004 using Graeme Burke of Veritas Business Services (an approved auditor under the EECA Energy Audit Grant Scheme). He gave us a detailed report and list of actions to implement. These were split into two categories, priority one initiatives ('low cost, no-cost' initiatives) and priority two initiatives (higher cost, lower priority and/or longer payback). By February 2005 the 70% implementation required for the recovery of 50% of the audit costs was met.



Project Team:

- David Tsui - Managing Director – Team Leader
- Patricia Au - Customer Services Officer
- Johnny Chui - Production Manager
- Richard Trotman - external consultant, Quality System Solutions

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Best Practice Hints:

- Recommend getting an energy audit for any business that uses a reasonable amount of energy
- Look for a relatively quick payback on investment.
- Ask questions and get involved so you understand energy implications and get good recommendations
- Some implementation costs were higher and savings lower than those suggested so verify details before you proceed.





Results:

- successfully implementing more than 70 per cent of the recommendations
- 1.6 year payback on projects costs of \$6625, with ongoing savings
- future savings from increased machine maintenance and better purchasing decisions
- key measure of 'energy usage per kg of raw material', after an initial rise in mid-2004 due to production changes, has shown a steady decrease of approx. 10% in the last quarter of 2004.
- found that energy consumption and wastage increases or decreases together, indicating the relationship between efficiency and wastage.

Overall it has been a worthwhile exercise to provide focus on an area that is a significant expense to the business and it has provided ways to reduce the expense both as one-offs and for ongoing annual savings.

Key Challenge: Understanding our energy usage and what could be done both now and in the future for energy efficiency.

The Solution: The Energy Audit which raised awareness across the company on managing this resource.

The Future: The project has minimised our current energy usage and have not only given us significant savings annually, but also clarified purchasing and infrastructure decisions, for example:

- higher efficiency motors
- power factor correction equipment when more machinery purchased
- stream metering (on-line secure environment available 24/7), we are able to see our energy usage and analysis tools provided

Next Challenge: ISO 14001 certification, with an external audit timetabled for August 2005 and a project focusing on product and raw material wastage.

Case Study (continued)

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Links:

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