Towards rapid energy productivity: a suggested approach to whole of business improvement in energy performance

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The ‘Energy Leadership Program’ was carried out in partnership with Palabora Mining Company, a copper mine, smelter and refinery in South Africa’s Limpopo province. A structured, whole of business approach to energy management has led to cost savings of 11% of total energy operating costs, achieved with a payback period under 2 years. The program took an innovative approach to discovering, implementing, and sustaining process changes and capital projects that reduce energy costs. No aspect of energy was excluded: the program considered all fuel sources and all options for reducing costs – commercial, contractual, fuel switching, load shifting, batching, process changes, energy management, and energy efficiency.

The multidisciplinary approach includes aspects of business improvement, program and project management, an intentional focus on team empowerment and leadership development, and an economics-first view of energy. The results demonstrate that energy management programs can achieve significant long-term operational cost savings in the short term. In addition to the financial benefits, the program has provided:

- the ability to continually improve energy performance through identifying, prioritising, and implementing more energy projects;
- increased awareness of the cost of energy across the business, which allows people to make informed operational decisions;
- a practical structure for measuring, monitoring, and reporting energy performance over time.

Barry Lucas and Kristine Dewar directed and managed the Energy Leadership Program through design and implementation in 2012 and 2013. The speakers share their major learnings and offer a suggested approach to creating high value energy management programs in the resources sector.