

DARACON[®]
Group



Shaping the Future[®]

Daromin Holdings

Energy Efficiency Opportunities Report 2011

This report contains data on Daromin Holdings' energy use for the financial year 2010/11 and provides information about energy efficiency opportunities assessed between June 2010 and July 2011 against the key elements 1 -6 of its Assessment and Reporting Schedule (ARS).

Daracon Group

Daracon is a family owned group of companies that is customer focused and places regard to understanding and exceeding the expectations of its many stakeholders including those of clients, the wider community and government. This is perhaps best typified by the high level of repeat business, our ongoing excellent community relations and our fulfillment of legislative obligations to government.

Daracon Group offers a comprehensive range of services in civil engineering construction and project management, including:

- Civil works
- Subdivision Development
- Mining Services
- Stemming
- Contract Crushing & Screening
- Supply of Quarry Products
- Plant Hire
- Site Remediation
- Heavy haulage
- Landscaping
- Rail Infrastructure Works

Since it was established over twenty five years ago, Daracon Group has continued to grow and is today one of NSW's leading Civil Engineering contractors. We have a wide range of resources to meet every client's need including:

- Over 1000 skilled and experienced personnel.
- A modern, well maintained fleet of diverse construction equipment.
- A comprehensive set of systems for safety, environment and quality management.

Integrated within a broad corporate framework, Daracon's Business Management System includes Quality, Safety and Environmental Management Systems (EMS) certified by SAI Global to ISO9001, AS4801 and ISO 14001, respectively. The EMS not only focuses on the protection of the environment and prevention of pollution but also documents key sustainability issues effecting our operations such as resource recovery, waste minimization, carbon management and energy efficiency.

Daracon, through its parent controlling corporation Daromin Holdings, has been committed to ongoing sustainable outcomes since its inception. More recently, Daracon's involvement in the Federal Government's Energy Efficiency Opportunities program coupled with its reporting obligations under the National Greenhouse and Energy Reporting Act have been key influences in driving Daracon to refine its energy management and reporting systems.

Energy Efficiency Opportunities (EEO)

Daromin Holdings registered with the Federal Government's Department of Resources Energy and Tourism's (DRET) Energy Efficiency and Opportunities (EEO) program in July 2010. This was followed up by the development of an ARS (Assessment and Reporting Schedule) to DRET guidelines which was formally approved on 28 June 2011.

Daromin's first trigger year for the purposes of developing an EEO Assessment and Reporting Schedule was between July 2008 and June 2009 with energy data from this period used as a baseline for subsequent assessments.

During the first assessment a total of 5 opportunities were identified of which 3 were implemented.

Given that 97% of Daromin's total GHG emissions and energy consumption is derived from the burning of diesel and gasoline fuels within its various plant, equipment, light vehicle and trucking fleets the prime focus in determining energy efficiency opportunities concentrated around such. Notwithstanding, an Energy Audit Level 2 by consultant Global Scene was commissioned by Daracon to be undertaken at its Mount Thorley office complex against the requirements of AS/NZS 3598:2000. In the context of potential CO₂-e reductions versus ROI exceeding 6 years it was decided that EEO opportunities resulting from the Energy Audit would not be implemented.



Additionally, EEO's with respect to electricity consumption at Daracon's main office complex at Wallsend, NSW, were identified during the initial assessment but were determined not to be implemented due to the ROI and payback period extending beyond the planned relocation to new purpose built premises currently being constructed at Cameron Park.

The planned relocation and headquartering of Daromin Holdings' various sub entities to new premises at Cameron Park represents 2 additional EEO's that will be documented in future EEO reports following the 2011 – 2012 assessment and reporting period. Specifically, these 2 EEO's relate to electricity consumption. Namely, one relates to the use of improved technology, i.e. energy efficient lamps, whilst the other is associated with potential energy savings owing to the various business units being housed centrally in a single office complex rather than is the case presently whereby the different business units are scattered about at disparate physical locations.

Table 1.1 Daromin Engineering EEO's identified and evaluated

Opportunities Assessed to an accuracy >30%		Annual Net Value of Savings and Fuel Type			
		No. of Opps	Energy Type	Payback	Annual net energy savings (GJ)
Business Response	Implemented	1	Diesel	4+	1499
	Implementation Commenced	1	Diesel	4+	23715
	Not to be implemented	1	Electricity	6+	-

Table 1.2 Daracon Mining EEO's identified and evaluated

Opportunities Assessed to an accuracy >30%		Annual Net Value of Savings and Fuel Type			
		No. of Opps	Energy Type	Payback	Annual net energy savings (GJ)
Business Response	To be Implemented	1	Diesel	4+	1570
	Not to be implemented	1	Electricity	6+	-



Our Assessment

This report distills the energy use data for the period July 2010 to June 2011 in which a total of 5 opportunities were identified and 3 implemented.

Energy Use Assessment

Table 2.1 Energy use for the Whole Corporate Group from 01 July 2010 to 30 June 2011

Group Member	Energy use per annum (GJ)	Energy use as an indicator
Daracon Contractors	197279	0.63 GJ/hr (Trucks) / 0.71 GJ/hr (Tractors) / 0.0053 GJ/km (LV)
Paramount Landscaping	1603	0.63 GJ/hr (Trucks) / 0.71 GJ/hr (Tractors) / 0.0053 GJ/km (LV)
Buttai Quarries	102300	0.63 GJ/hr (Trucks) / 0.71 GJ/hr (Tractors) / 0.0053 GJ/km (LV)
Daracon Mining	182581	0.77 GJ/hr (Trucks)
Arenco	10936	0.0053 GJ/km (LV)
Daromin Engineering	84011	0.63 GJ/hr (Trucks) / 0.71 GJ/hr (Tractors) / 0.0053 GJ/km (LV)
Total Energy Use	578709 *	

Table 2.2 Information on energy assessed

Group Member	Assessment period	Amount of Energy Assessed (GJ)				
		Electricity	Diesel	Unleaded	Oil/Grease	Total (GJ)
Daracon Contractors	Jun 2010 – Jul 2011	1589	2857	29058	2360	35864
Paramount Landscaping	Jun 2010 – Jul 2011	0	0	0	31	31
Buttai Quarries	Jun 2010 – Jul 2011	1408	0	0	1703	3111
Daracon Mining	Jun 2010 – Jul 2011	3282	68850	0	2511	74643
Arenco	Jun 2010 – Jul 2011	571	2470	3969	34	7044
Daromin Engineering	Jun 2010 – Jul 2011	265	344649	6134	1405	352453
TOTALS		7115	418826	39161	8044	473146 *

* NB. The difference between the Total Energy Used figure of 578709 GJ in Table 2.1. and the Total Energy Assessed figure of 473146 GJ in Table 2.2 is because of the distinction of plant over which Daromin Holdings had operation control (as defined in NGER Act) during the 2010 – 2011 reporting period.

Our Initiatives

Plant/Equipment Upgrade Program

Daromin Holdings, through its subsidiary business unit Daromin Engineering, has a substantial fleet of plant and equipment for use on road, rail, construction and civilworks. Daromin Engineering's fleet is one of the largest in Australia and comprises over 350 modern machines that are maintained to the highest standards.

Over the years Daromin Engineering has built a strong relationship with plant manufacturers and holds a priority position when acquiring new plant or major spare parts. To this end, Daromin Engineering continue to maintain, year in year out, an aggressive equipment upgrade program such that saw annual capital expenditure on new plant and equipment exceed \$20m for the 2010 – 2011 assessment period. Coupled with this, Daromin Engineering are at the forefront of utilizing remote data acquisition and asset management systems associated with its plant fleets.

Daromin Engineering utilize Product Link which is a remote monitoring solution from OEM supplier Caterpillar that enables efficient and effective fleet management. Cat Product Link gives real-time information about how equipment is performing via a telematics system called Cat VisionLink™.

Cat VisionLink™, powered by Trimble, is a web-based application that enables Daromin Engineering to better manage the maintenance, health, and utilization of its assets. Cat VisionLink is made possible by using a combination of Cat® Product Link hardware, the Global Positioning System (GPS), wireless communications, a central server, and a fleet database (see Figure 1 below).

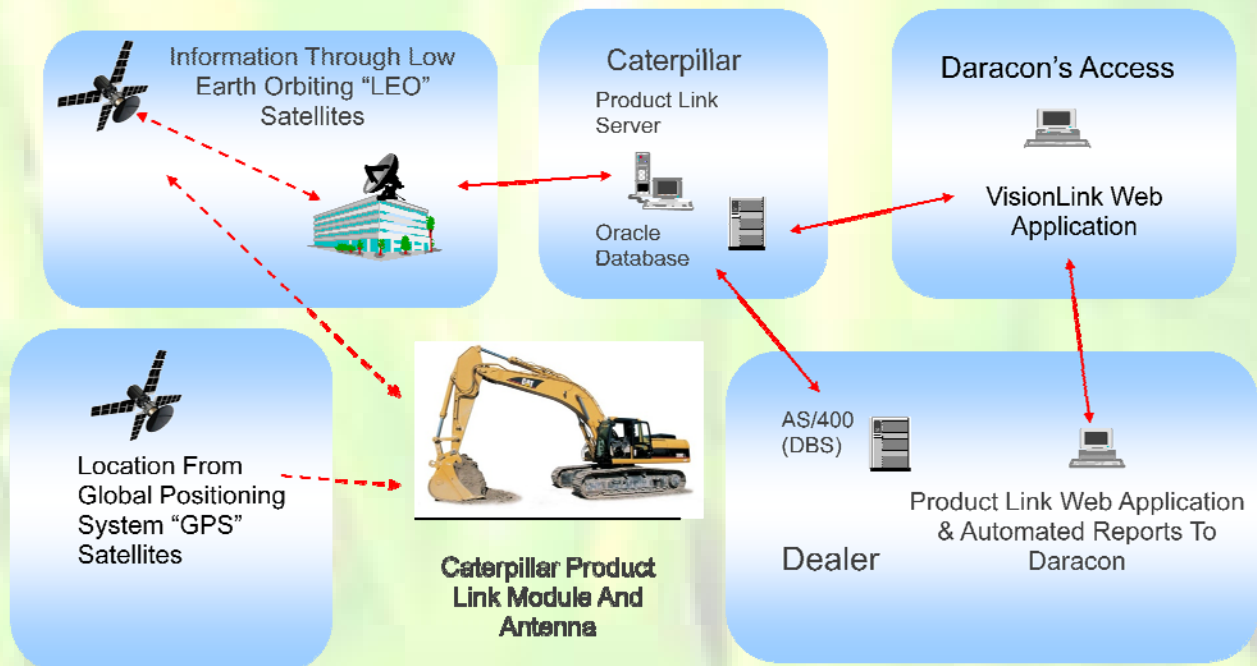


Figure 1 - ProductLink System

The use of ProductLink in concert with VisionLink enables Daromin Engineering to maintain a robust energy use data set from which a detailed analysis can be made. Amongst other functionality, ProductLink undertakes the following:

- Tracking hours and location of assets
- Tracking machine idling against working time (asset operation or utilization)
- Tracking fuel burn rates and volumes
- Measuring asset utilization and efficiency.

SRC and AdBlue®

Daromin Holdings, through its subsidiary business units Daromin Engineering and Daracon Mining operate a fleet of 359 trucks of various sizes and configurations, i.e. truck and dog, 'B' double side tipper combinations, stemming trucks etc.

One of the EEO's identified during the first assessment and subsequently implemented was the trialing and use of fuel additives within its trucking fleets. Accordingly, Daromin Engineering elected to utilize SCR technology.

SCR stands for an after treatment technology called Selective Catalytic Reduction. This technology requires the use of a reagent called AUS 32 (also known as AdBlue) to reduce the NOx.

The main components of the SCR system are the SCR catalyst, the AdBlue injection unit, the AdBlue tank and the AdBlue dosing control unit. AdBlue is injected into the exhaust pipe, in front of the SCR catalyst, downstream of the engine. Heated in the exhaust it decomposes into ammonia and CO₂. When the NOx reacts inside the catalyst with the ammonia, the harmful NOx molecules in the exhaust are converted to harmless nitrogen and water.

AdBlue is the registered trade name for AUS32 (Aqueous Urea Solution 32.5%), it is also known as DEF (Diesel Engine Fluid). Adblue is a clear liquid and consists of a 32.5% urea solution mixed with demineralised water, which is manufactured to an ISO standard.

Daromin Holdings has equipped 25% of its truck and dog fleet with SCR technology in which it was able to realise a 0.29lt/hr reduction in fuel consumption for the 2010 – 2011 assessment reporting period.

ACERT

ACERT Technology is a fuel injection technology utilized by OEM Caterpillar in the industrial engines it produces. In essence:

- The fuel system allows for multiple injections each combustion cycle. Small amounts of fuel are injected at precise times to achieve the combined goals of fuel economy and lower emissions.
- An advanced air system provides more cool air in the combustion chamber. A wastegate turbocharger provides excellent low-end response. In addition, crossflow cylinder heads provide a direct path of air to the engine.

Currently, Daromin Holdings operates 6 highway trucks that are equipped with ACERT engines.

Additionally, ACERT engines power the majority of Daromin's tractor fleet including D8T and D9T dozers, various excavator models, and articulated dump trucks.

Notwithstanding the incorporation of ACERT and EGR (Engine Gas Retention) technologies within Caterpillar's product range, Caterpillar has indicated that they intend supplying the Australian heavy equipment market with machines equipped with even more stringently compliant Tier 4 Interim/Stage IIIB engines with ACERT™ technology by 2015. These engines will be compliant against Euro4 and other global emissions standards.



Declaration

The information included in this report has been reviewed and noted by the Board of Directors and is to the best of my knowledge correct and in accordance with the Energy Efficiency Opportunities Act 2006 and Energy Efficiency Opportunities Regulation 2006.

A handwritten signature in black ink, appearing to read 'J Mingay', is enclosed within a white rectangular box.

Jon Mingay
General Manager
Daromin Holdings Pty. Limited.