



Welcome to AMD's world of

It sounds counter-intuitive, but sometimes you really can get more done with less. In the computing world, AMD - a leading global developer of microprocessors, graphics and media solutions for the computer and electronics industries - has the 'less is more' strategy down to a fine art, thanks to a corporate culture driven by environmental responsibility and a commitment to projects that are as innovative as they are energy smart.

And it's not just the products: walk through the data centres at the company's Markham campus and it's clear that AMD's green computing vision also extends to the servers that support the behind-the-scenes development of powerful microprocessors used in products as diverse as cellular phones and console gaming devices.

Richard Conohan, Program Manager, AMD Environmental, Health and Safety, together with the Facilities and IT teams, lives and breathes energy efficiency; as far as they're concerned the most logical place to search for efficiencies is the data centre. "Data centres can be real energy hogs," says Mr. Conohan. "In many cases, you need power to run them and even more power to cool them. However, our data centres are different. These are the nerve-centres of our business, yet for as powerful as they need to be to support our business, our data centres are also extremely energy efficient."

In September 2008, the team launched the first stage of a comprehensive overhaul of its main data centre, replacing 1,152 energy-intensive servers with 312 servers employing Quad core AMD Opteron™

energy-efficient processors, a project that was completed a few months later. Not only did they downsize to 12 racks from 23 in one data centre, they also slashed AMD's electricity demand by 250 kilowatts, while increasing overall computing capacity. The upgrade has put AMD on track to save approximately \$156,000 per year, based on an annual electricity bill of \$2.5 million.

And that was before the \$75,000 rebate it received from local electricity distributor, PowerStream, which began piloting its new demand reduction incentive program called the Data Centre Incentive Program in May.

For a global powerhouse with worldwide annual sales of approximately \$6 billion (USD), Mr. Conohan says that incentives were only one driver behind AMD's participation in the Data Centre Incentive Program. "We're a member of the global non-profit Green Grid initiative, and incentives or not, we believe that global climate change is the most significant environmental challenge we face. AMD's response to that challenge is to make efforts to help reduce our carbon footprint in a multitude of ways, be it in our own operations, in the products we design or in our supply chain."

AMD's corporate commitment explains why the search for energy efficiency didn't stop with the Markham operation's data centres. Also last year, the AMD-Markham team installed occupancy sensors in 168 meeting rooms at its four buildings, replaced incandescent lights with compact fluorescent bulbs in washrooms, elevator lobbies and the cafeteria, re-programmed its weekend lights,

PowerStream's Data Centre Incentive Program

The following case study features AMD, a global developer of microprocessors used in computers and electronics, a participant in PowerStream's new Data Centre Incentive Program.

AMD is located in Markham.

green computing

and installed 180 programmable thermostats, all of which resulted in significant demand reduction (at some times of day as high as 700 kilowatts) and energy savings of approximately \$125,000 per year.

Not one for complacency, Mr. Conohan says that next on the list is to begin converting more specialized lighting to compact fluorescent or LED lights. Perhaps if he ever stops looking for energy efficiencies to help AMD meet its global goal of reducing energy use by 49 per cent by 2010, Mr. Conohan will get around to applying for the Ontario Power Authority's Electricity Retrofit Incentive Program in order to help offset some of the

up-front cost for the new lighting he's installed. In the meantime, he's more than pleased with how the team is helping AMD do more with less.

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The **Data Centre Incentive Program (DCIP)** provides a positive contribution to a company's bottom line by encouraging and rewarding the reduction of electricity demand in data centre operations through the implementation of energy efficiency projects. Data centres account for 2% of worldwide greenhouse gas (GHG) emissions and the growth of

data centre energy use is quickly outpacing the growth of other commercial building types. Energy and space efficiency address constraints to growth, reduce operation costs, support internal green initiatives and helps Ontario meet its environmental targets. Incentives are paid to program participants at a rate of \$300/kw to a maximum of 50% of the project cost for verified peak kW reductions.

Toronto Hydro also offers the Data Centre Incentive Program. ■

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JOMAR SOFTCORP SERVICES INC.
Cambridge • Ontario • Canada

JOMAR SOFTCORP INTERNATIONAL INC.
1760 Bishop Street
Cambridge • Ontario • Canada • N1T 1J5
Tel: 519-740-0510 • Fax: 519-740-9812
E-mail: sales@jomarsoftcorp.com

JOMAR SOFTCORP U.S.A., INC.
Charlotte • North Carolina • U.S.A.

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