

US EPA ARCHIVE DOCUMENT

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The Bottomline on Buying Recycled

Using recycled inputs in the materials you manufacture or purchase can slow climate change and improve your bottomline.

The benefits of recycling have long gone understated or unrecognized. Sure, everyone knows that recycling saves resources and reduces the pressure to develop disposal sites, but these benefits are just the tip of the iceberg. Many may overlook the fact that using recycled inputs can boost an organization's bottomline.

Indianapolis-based Modine Aftermarket Holdings, Inc. (Modine Midwest) has realized bottomline benefits. A manufacturer of vehicle radiator cores, Modine Midwest reduced the costs of its packing materials by 30 percent and also cut shipping damage claims by 75 percent when it revamped its packaging process to use waste office paper instead of virgin paper. By shredding and sealing its own waste paper in plastic sleeves instead of folding 3-ply virgin kraft paper, Modine Midwest had only to wait six months before its investment costs were paid back. Furthermore, reusing materials as packaging sent a good message to customers regarding the company's responsibility in preventing waste and its overall stance toward corporate stewardship.

By using recycled inputs and reducing the tonnage of virgin materials extracted from the earth, Modine Midwest cut its energy use, as well as the amount of heat-trapping greenhouse gases (GHGs) emitted to the atmosphere. Simply stated, recycling slows global climate change. By relying more heavily on recycled inputs, organizations like Modine Midwest can contribute to climate change mitigation.

It's helpful to know that recycling reduces GHG emissions and saves energy, but most organizations need more than that. They need to know that what's good for the environment can also be good for business in terms of bottomline profits and long-term shareholder value.

The Business Impact: Barriers and Bottomline Profits

Clearly, a driving factor in the decision to manufacture or purchase with a greater or lesser amount of recycled content is the cost differential between the recycled and virgin materials. Price differentials tend to vary by material type, geographic location, market availability and organization purchasing power. Other

than price as a barrier, insufficient awareness about recycled product procurement methods can also serve as a barrier to using recycled inputs, as can industry-specific concerns. For example, the use of recycled metals in "primary load bearing" or "safety"

applications (e.g., motor vehicles) may not be advisable given the uncertainties regarding load failure for recycled metals.

But, depending on specific user needs and conditions, manufacturing or purchasing products with increased recycled content can often result in substantial private paybacks in addition to environmental benefits, as demonstrated by Modine Midwest. These private paybacks can take the form of reduced costs, improved product performance, enhanced investor standing and/or improved consumer confidence.

"The idea that using recycled content has to cost more is a fallacy," says Albert Fralinger, manager of materials resource recovery for Public Service Enterprise Group (PSEG). According to Fralinger, "If you look at buying practices, companies can do at least as well, if not better."

Other benefits of increasing the recycled content of materials manufactured or produced in general, and of tracking environmental benefits with the Environmental Protection Agency's (EPA) Recycled Content (ReCon) tool in particular, can be associated with environmental management system (EMS) and/or voluntary GHG reporting. With the ReCon tool, organizations can claim the quantified benefits of their manufacturing and/or purchasing decisions to the benefit of their EMS and federal, state or local voluntary GHG reporting programs.

Tracking the environmental benefits associated with green manufacturing or purchasing decisions may also bring better rates from insurance companies and banks. "If companies can substantiate GHG savings or cost savings from switching to using recycled feedstocks in their manufacturing process, they may be seen by banks, insurance companies and investors as a less risky investment," says Mary Ann Remolador, assistant director for the Northeast Recycling Council, Inc. This is because banks, insurance companies and investors are starting to consider sound environmental management practices and organizationwide climate change policies as prerequisites for doing business. This has been demonstrated by financial services company FleetBoston Financial and global reinsurer SwissRe. FleetBoston is actively looking to invest in environmentally friendly companies, while SwissRe is considering denying coverage for Directors and Officers insurance claims that are linked to climate change (e.g., lost revenue for coal companies) — if the client does not have a corporate climate change policy in place.

This trend is sure to increase over time as evidenced by the performance of the Dow Jones Sustainability Indexes (DJSI). ►



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DJSI is the first global index to track the financial performance of the leading sustainability-driven companies worldwide. [Note: Sustainability is described by the DJSI Web site (www.sustainability-index.com) as a business approach in which “leaders embrace opportunities and manage risks which derive from economic, environmental, and social developments.”] Since DJSI was launched in 1999, 45 licenses have been sold to asset managers in 14 countries who use the DJSI family as a benchmark and investment universe for a variety of financial products, including mutual funds, certificates, equity baskets and separate accounts. In total, these licensees currently manage 2.3 billion EUR in DJSI-based funds, structured products, segregated accounts as well as an exchange traded fund that is listed on Euronext. As of the last review in September 2002, the DJSI World has outperformed the mainstream market. DJSI has demonstrated that across all industries, the integration of economic and environmental criteria has moved further up the business agenda and is increasingly being incorporated into company strategies and core business operations to reflect on long-term shareholder value.

How the ReCon Tool Can Help

Learning about the financial benefits of waste prevention and resource conservation is key to getting organizations on board. Knowing how much these activities are helping the environment is important to keeping those organizations on board and helping them promote their actions to consumers and other stakeholders. The U.S. EPA developed the ReCon tool with this goal in mind. With this tool, organizations can quantify the benefits of their waste prevention and resource conservation efforts and use the results to sell their programs both internally and externally.

This spreadsheet “calculator” tool lets organizations quickly estimate the life-cycle GHG benefits and energy savings of manufacturing and purchasing materials with recycled inputs. This tool is available for free on the Internet and can be used by supply managers to make informed decisions regarding the recycled content of materials they purchase or manufacture. The tool can also be used to support EMS strategies and/or voluntary GHG measurement and reporting initiatives.

Specifically, the ReCon tool calculates the GHG reductions and energy savings that result from purchasing and/or manufacturing products with above average fractions of recycled inputs. The tool uses information from a user’s current practices in conjunction with information on possible future scenarios to estimate the benefit of increasing the recycled content of materials that the company is purchasing or manufacturing. Using data on the weight of each material and the fraction of recycled inputs, the ReCon tool automatically applies emission factors to calculate the GHG emissions for each scenario. The tool provides two types of results: GHG emissions in metric tons of carbon equivalent (MTCE) and energy in British thermal units (BTUs).

The GHG emission factors were developed following a life-cycle assessment methodology that is consistent with international guidance for estimating GHG emissions. In addition, the EPA received feedback on the design and content of the tool from a wide variety of industry and interest groups — including General Motors, PSEG, Northeast Recycling Council, State Departments of Environmental Protection, the Office of the Federal Environmental Executive and others — to ensure that the tool is useful and user-friendly. Over time, the tool may be expanded to include additional materials and updated emission factors as they become available.

How to Use ReCon

The ReCon tool contains five spreadsheets: a user’s guide, an input sheet, a GHG output sheet, an energy output sheet and a unit converter. The user’s guide provides a general overview of the tool and step-by-step instructions on how to use it.

In the input sheet, the user is required to input the number of pounds of materials that are purchased/manufactured for a given time period by material type and the percent recycled content for each of those materials in the baseline scenario (current practice) and alternative scenario (possible future practice). To help the user, the unit converter converts various units to pounds (e.g., an average 55-gallon high-density polyethylene (HDPE) plastic drum weighs 21 pounds), providing at least one conversion factor for each of the 16 material types contained in the tool. Finally, the GHG and energy output sheets provide estimates of GHGs reduced and energy saved, respectively.

Mapping Progress With the ReCon Tool

How large of a climate impact can recycling decisions actually have? Consider this: Purchasing 50 tons of low-density polyethylene (LDPE) containing 15 percent recycled plastic in place of LDPE with 4 percent recycled content — the industry average — would reduce energy consumption by more than 160 million BTUs, equal to the savings of over 1,300 gallons of gasoline. In terms of climate benefits, this would avoid the emissions of over 13 metric tons of carbon dioxide, which is approximately equivalent to taking three passenger cars off the road for a year. Manufacturing 500 tons of aluminum cans with 60 percent recycled aluminum instead of only 50 percent — the national average — would decrease energy consumption by 10,000 million BTUs and avoid the release of about 800 metric tons of carbon dioxide. This emission savings is roughly equivalent to the emissions that are released from the annual electricity consumption of nearly 100 U.S. households. Thus, increasing the amount of recycled content in the materials purchased and manufactured nationwide can have far-reaching global climate benefits.

Making the Most of the ReCon Tool

The ReCon tool is now available at no cost online at www.epa.gov/xglobalwarming/actions/waste/index.html. To incorporate the climate and energy impacts of using recycled inputs in the materials you manufacture and/or purchase, make the ReCon tool a part of your decision-making process. To get started on purchasing recycled materials, visit the following Web sites:

- EPA’s Comprehensive Procurement Guidelines — Supplier Database: www.ergweb2.com/cpg/user/cpg_search.cfm
- Buy Recycled Business Alliance: www.nrc-recycle.org/brba/Buyers.htm
- State of Pennsylvania Department of Environmental Protection: www.dep.state.pa.us/dep/deputate/airwaste/wm/recycle/Buy/Links.htm
- National Association of State Purchasing Officials Database of Recycled Commodities: http://fcn.state.fl.us/bpsr/drc_notice.html [ism](#)

Editor’s note: For an expanded version of this article, including information about the link between recycled content products and climate change, see the article on the ISM Web site at www.ism.ws. Select Inside Supply Management® from the menu on the left side of the home page and follow the links to the March issue and this article.