



Creating a Sustainable and **Green** Supply Chain

November 2008

Sponsored by:

 **Manhattan** Associates.
The Supply Chain People.™



Presented by:

SUPPLYCHAIN
MANAGEMENT REVIEW
Logistics
MANAGEMENT



Speakers



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Agenda



Perspective of the Industry – Survey Results
Field Case Study in Transportation
Q&A



The GREEN SUPPLY CHAIN STUDY

Sponsored by:

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Conducted by:

 **Reed Business Information**
Boston Division Research

In conjunction with:

Logistics
MANAGEMENT

SUPPLYCHAIN
MANAGEMENT REVIEW

Study Sponsors



As leaders in sustainability initiatives, CSC, Manhattan Associates and IBM have co-sponsored *The Green Supply Chain Study*. They invested in this study to help their clients, and the supply chain industry at large, better understand the impact of strategic green supply chain initiatives.

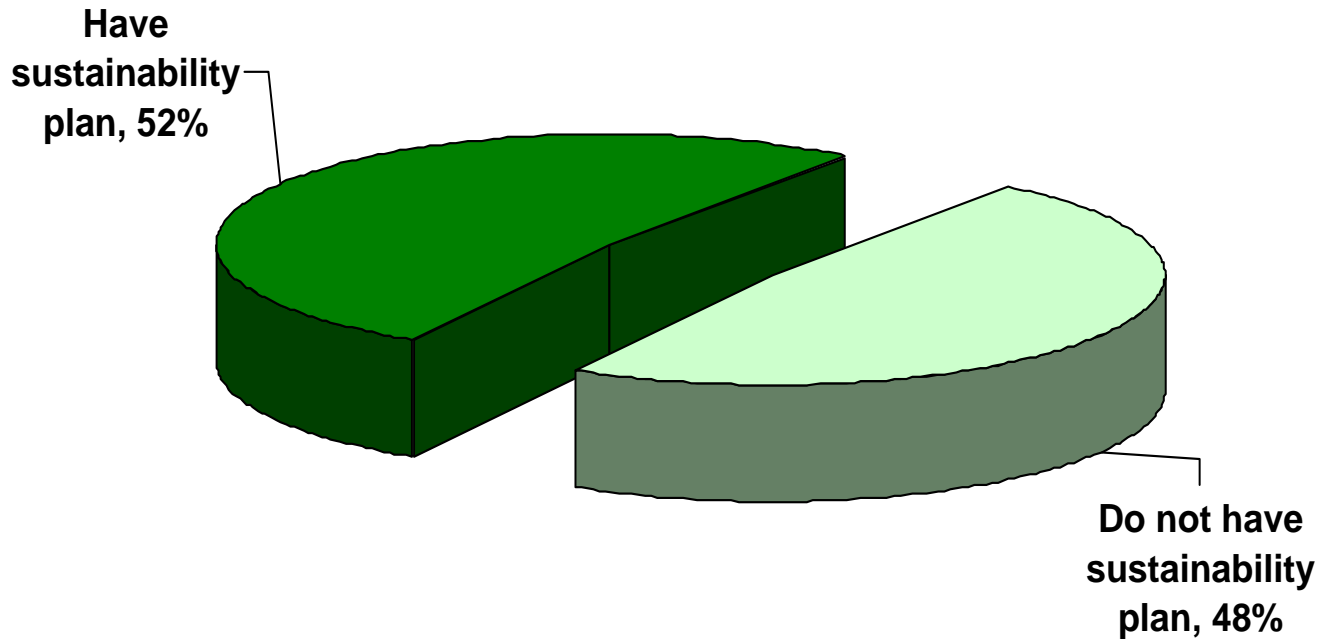
Key Study Objectives

- Document corporate sustainability plans in place and senior level commitment.
- Identify most important environmental issues for supply chain professionals.
- Identify supply chain green actions currently implemented or planned in manufacturing; distribution/warehousing; and transportation.
- Determine ROI on green investments and ROI measurement methods.
- Determine level of green collaboration with extended supply chain partners.
- Gauge adherence to government regulations.
- Identify greatest obstacles re. implementing sustainable business practices.

Survey Methodology

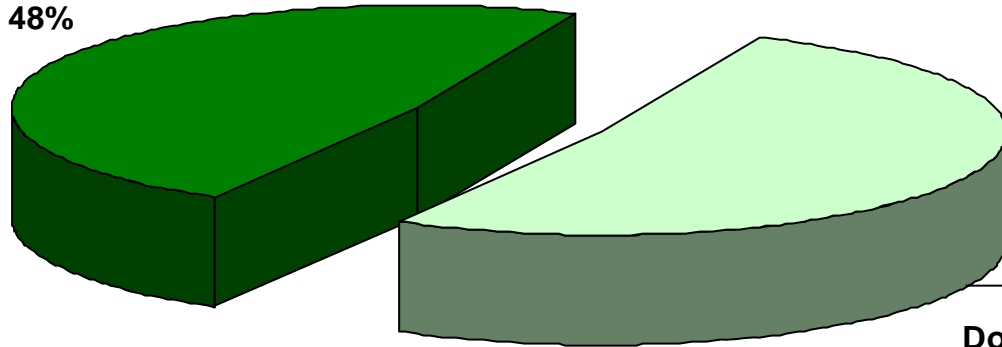
- Survey sent to print and e-mail readers of LM and SCMR in February 2008, and promoted by CSC. CSC featured the survey tool on its home page www.csc.com during the month of March, and sent the instrument to its clients and prospects through a special “green” mailer featuring a recycled and reusable tote.
- 250 usable responses received.
- All respondents are involved in the corporate policy-making for supply chain strategy planning and initiatives.
- Main job functions: SCM, logistics/transportation management, corporate management, warehousing/DC management.
- Wide range of industries represented—from transportation, retail, and wholesale to chemicals and machinery.

Q. Do you have a documented corporate sustainability plan?



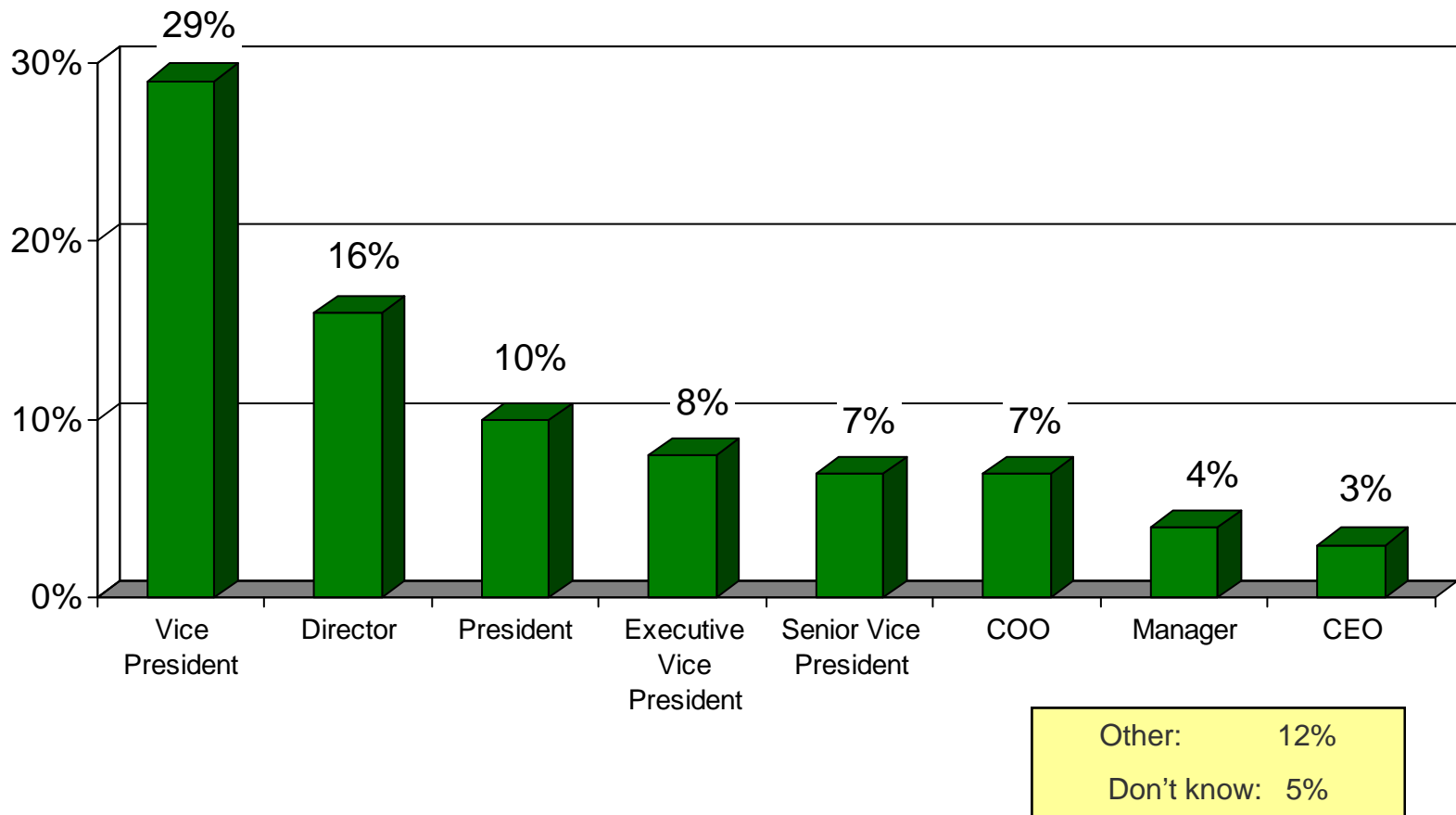
Q. Do you have a senior executive with designated responsibility for your organization's sustainability initiatives?

Have executive
with this
designated
responsibility, 48%

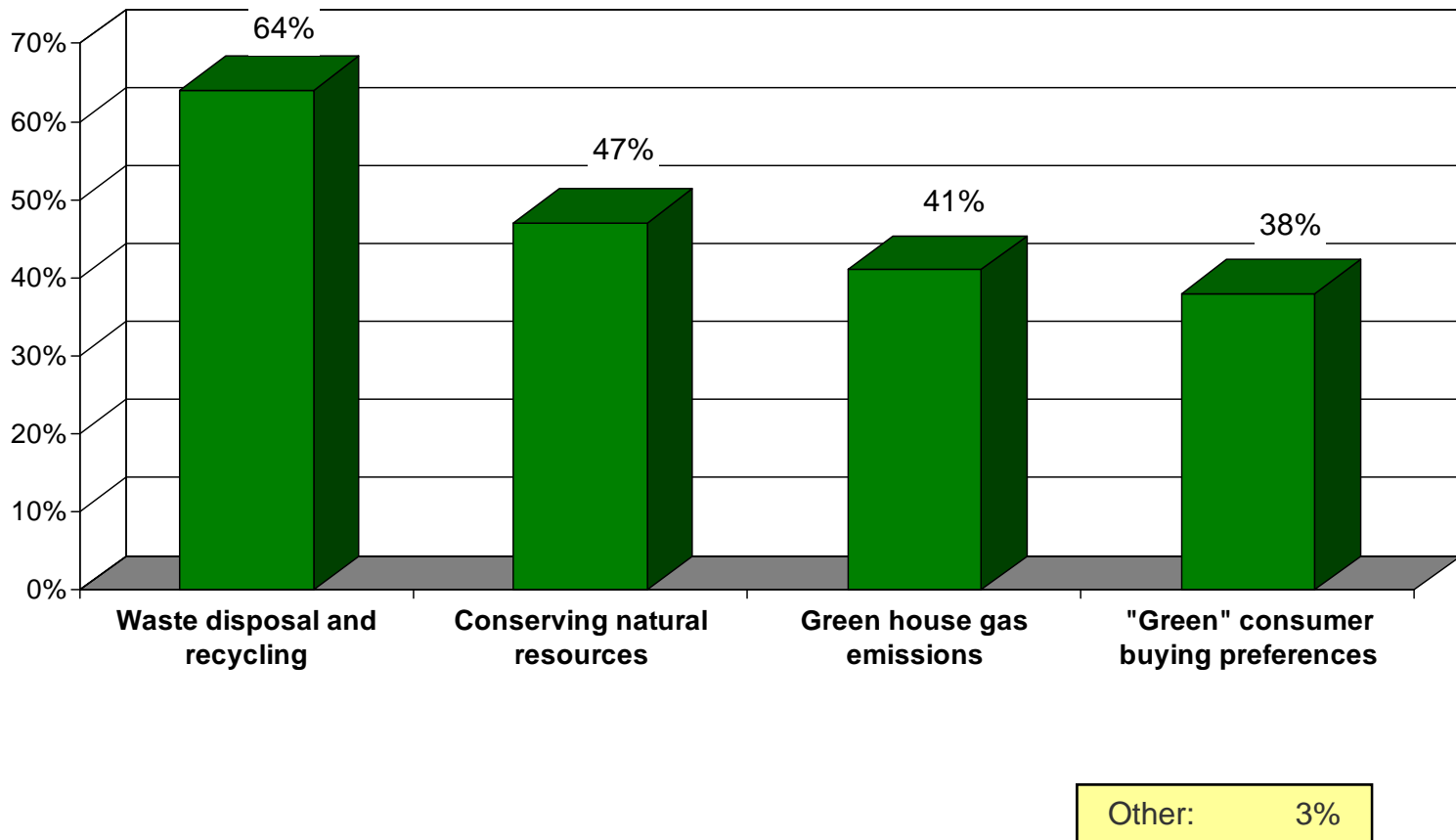


Do not have an
executive in this
role, 52%

Q. Please indicate the title of the senior executive with designated responsibility for your organization's sustainability initiative.

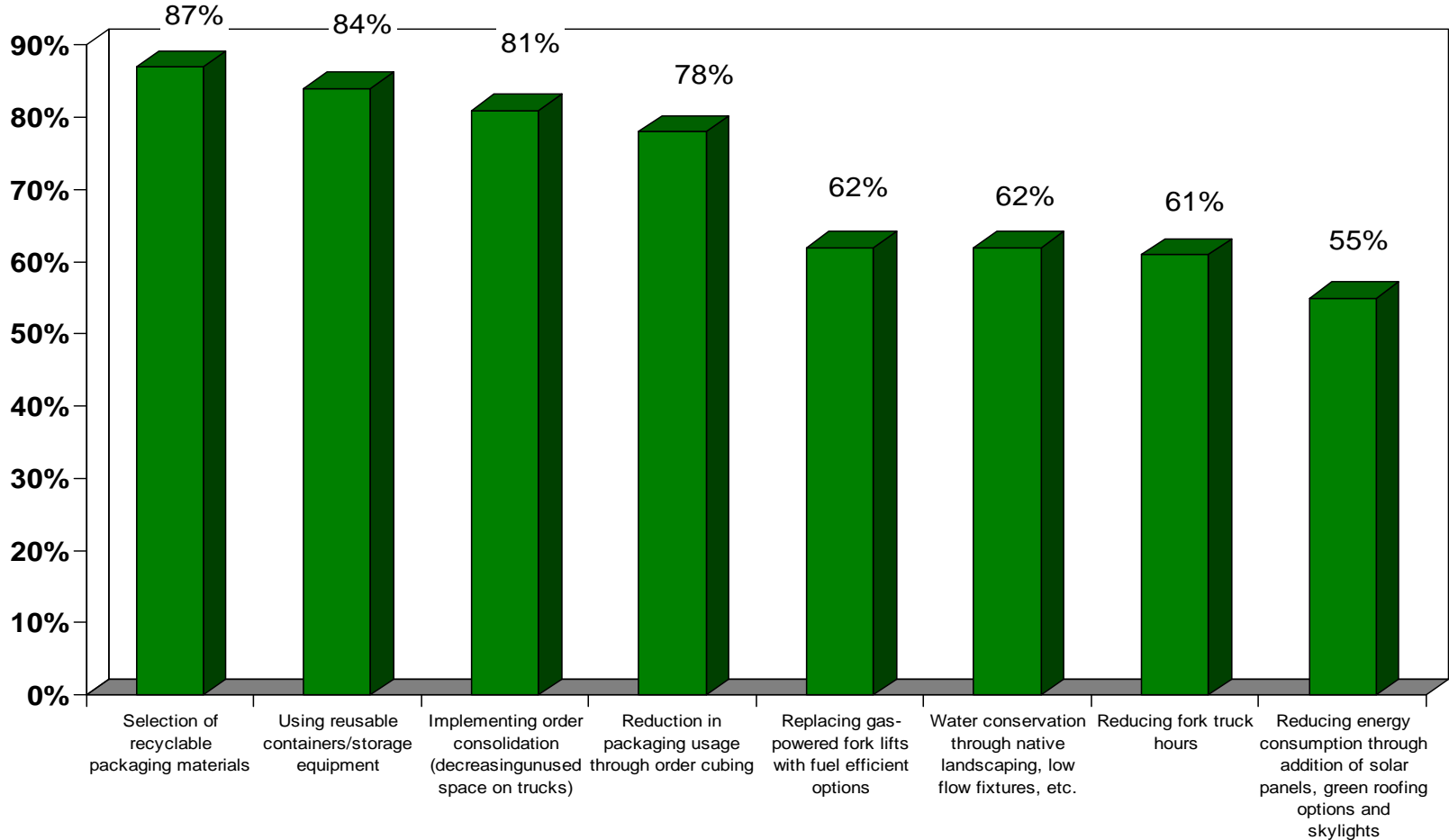


Q. What do you believe are the most important environmental issues facing your organization today?



Respondents who have implemented/will be undertaking these changes

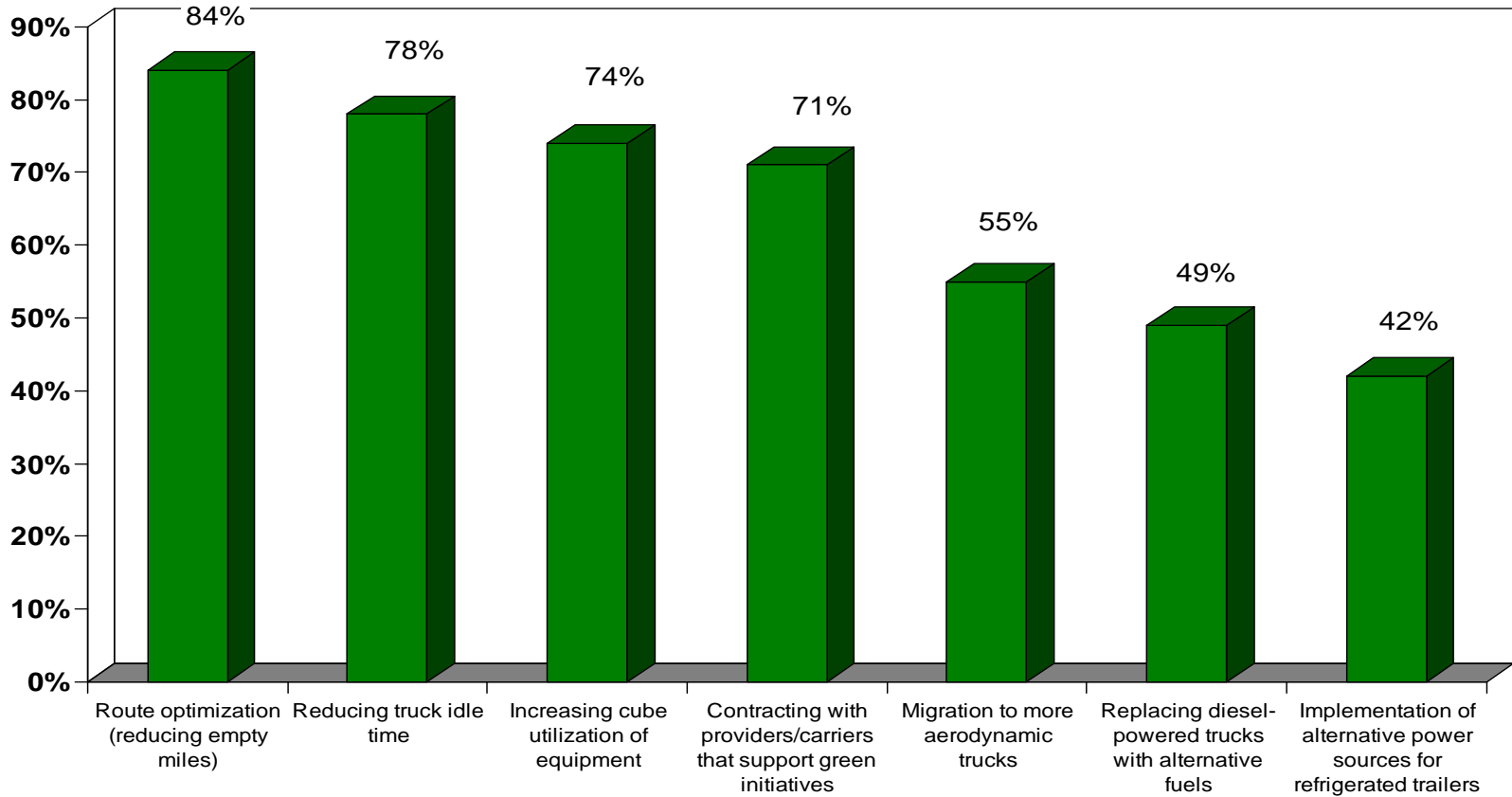
Distribution Centric



Base: Among those currently implementing plan

Respondents who have implemented/will be undertaking these changes

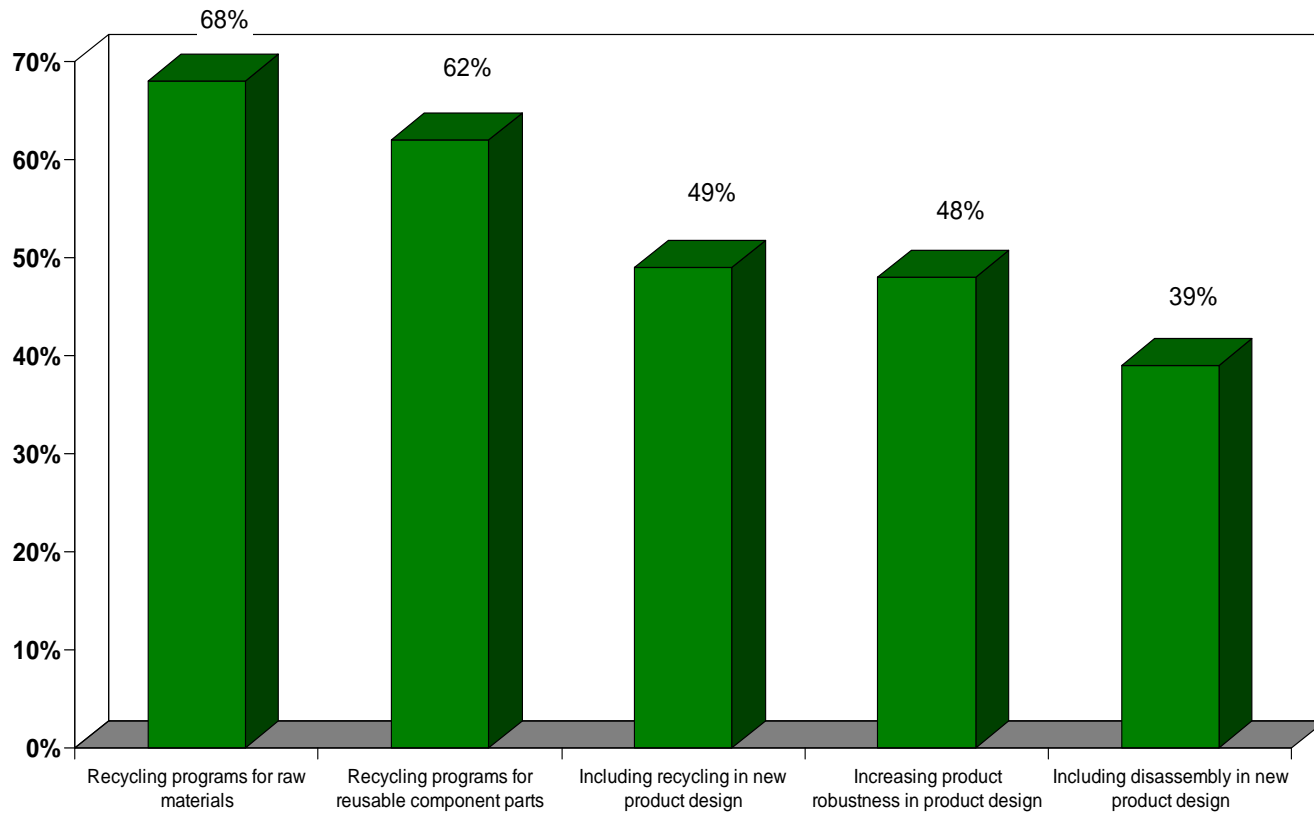
Transportation Centric



Base: Among those currently implementing plan

Respondents who have implemented/undertaking these changes

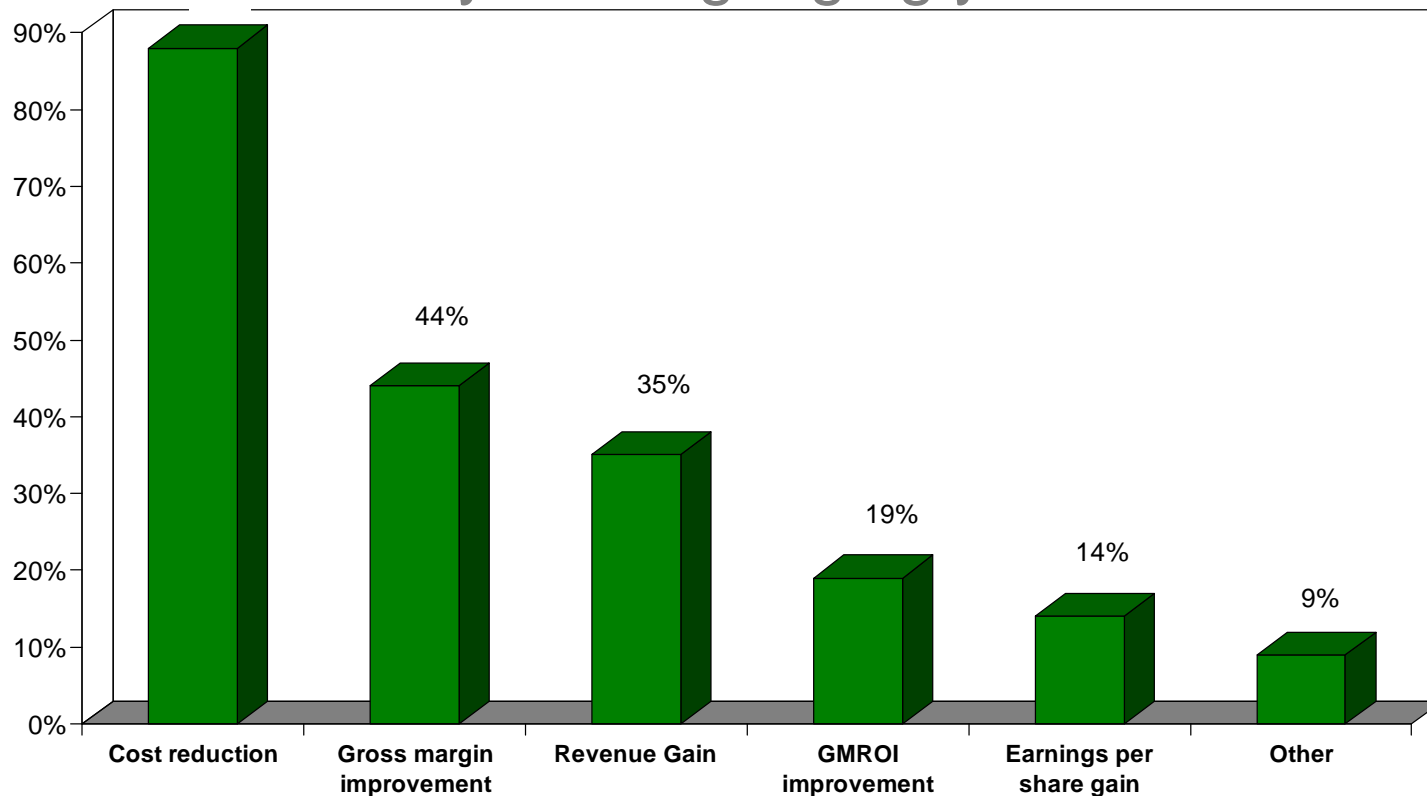
Manufacturing Centric



Q. Do you have a way of measuring your ROI for your “green” investments?

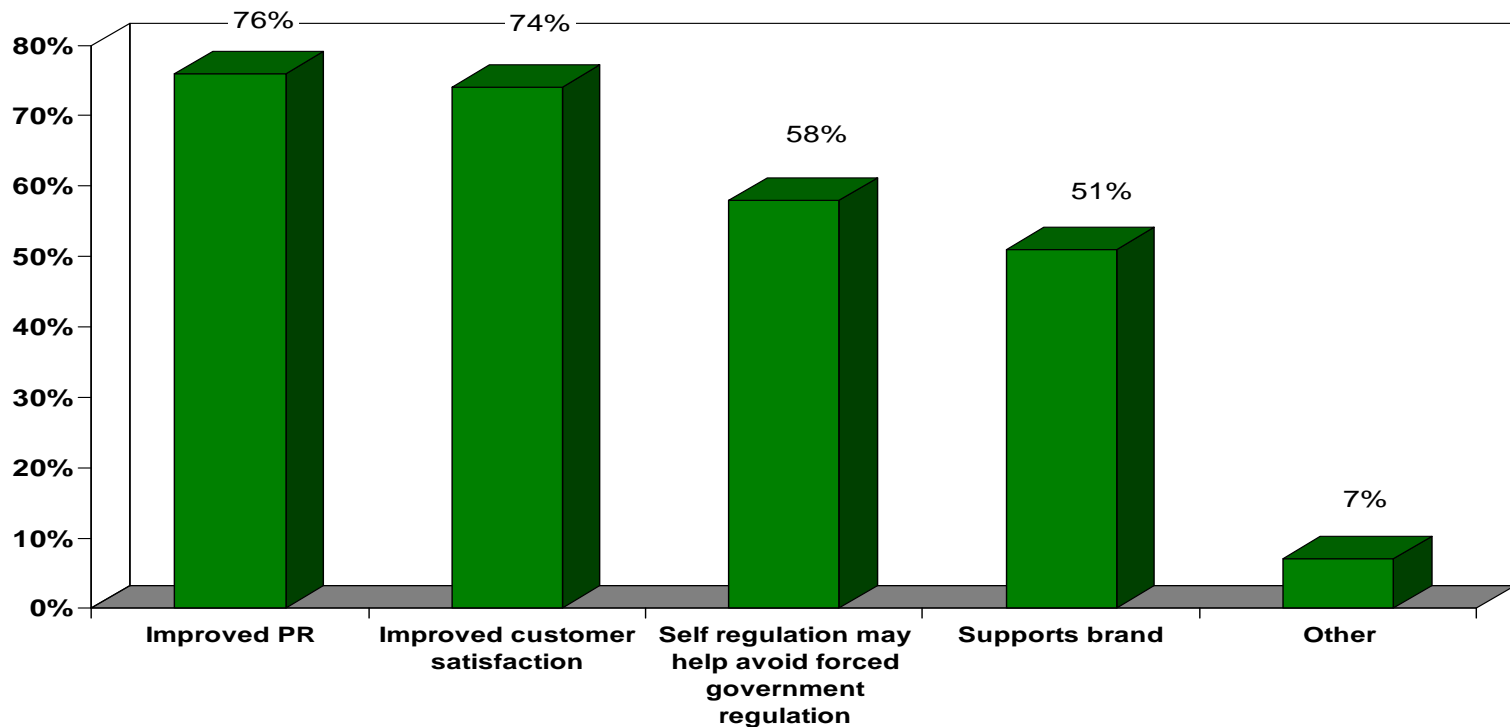
Yes = 60%; No = 40%

Describe how you are gauging your ROI.



Base: Among those currently implementing plan

Q. What “soft” benefits do you see as important as a return on your “green” initiatives investment?

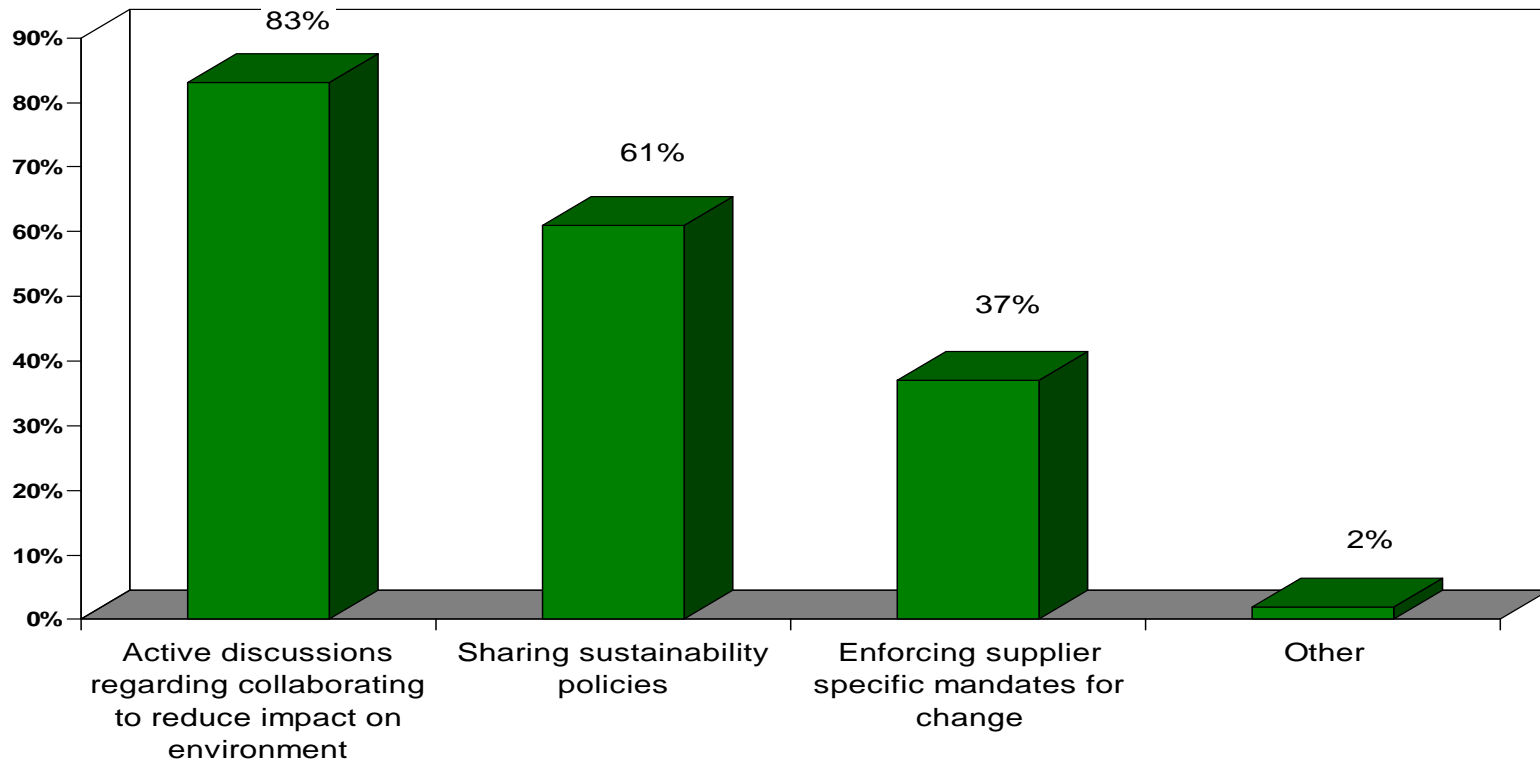


Base: Among those currently implementing plan

Q. Currently collaborating on green with your extended supply chain:

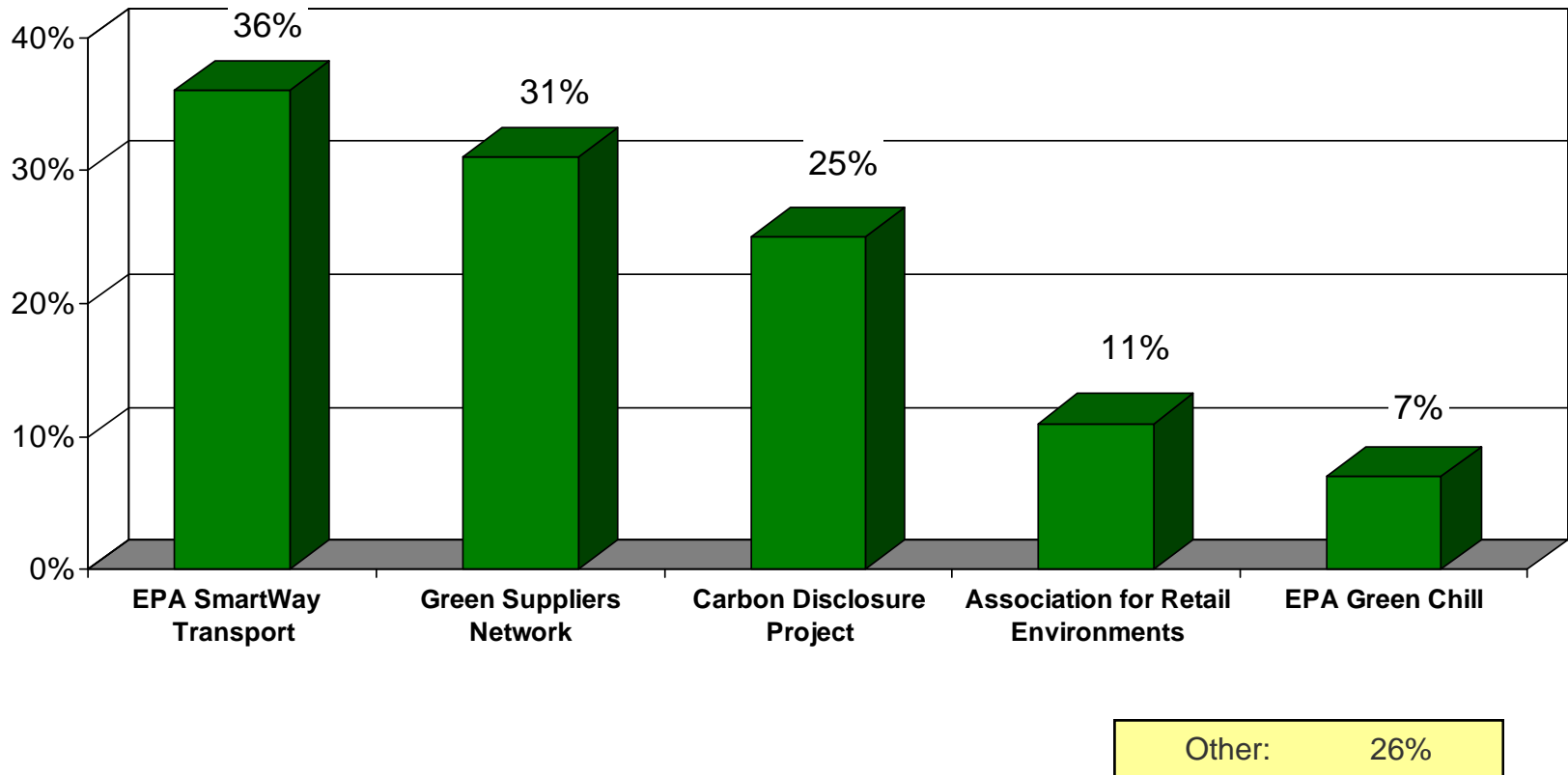
Yes = 84%; No = 16%

Please describe the level of collaboration.

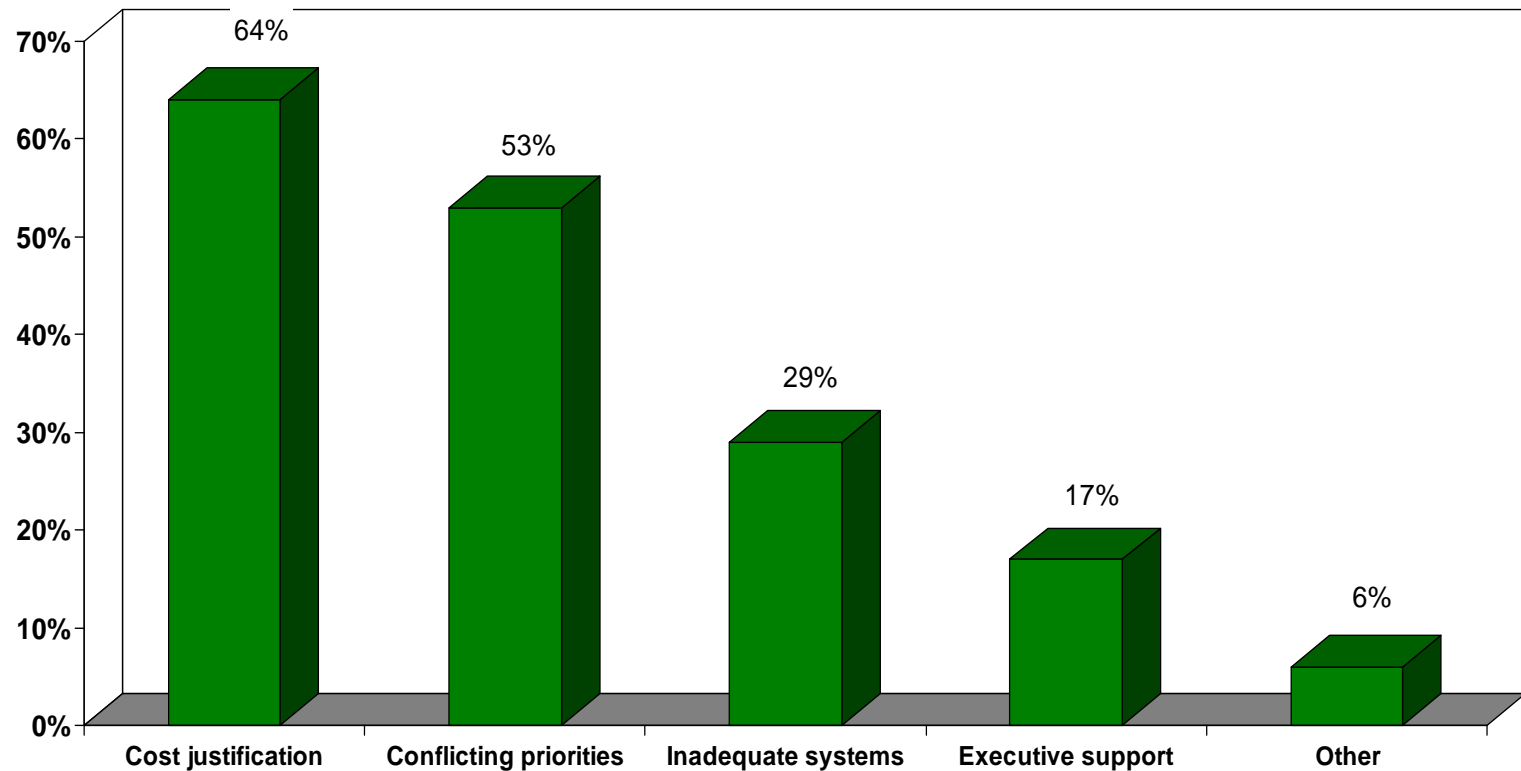


Base: Among those currently implementing plan

Q. Is your organization actively involved in any of the following sustainability-related focus groups?



Q. What are the greatest barriers your organization faces with regard to implementing sustainable business practices?



Base - All Respondents

Early Conclusions

- Green not a fad, but fundamental societal change.
- Most companies in early stages of responding to this change.
- Many 'green' supply chain initiatives = good business practices.
- More study needed.

Agenda

Perspective of the Industry – Survey Results

Field Case Study in Transportation

Q&A

What Does GREEN Mean for Transportation?

Finding ways to minimize fuel consumption, by tackling main areas

- Route Planning
- Driver Behavior
- Sourcing & Network Optimization
- Maintenance Practices



Route Planning

- Optimize transportation plans by maximizing the space utilization of every truckload (plan for close to 100% truck utilization), and reducing the number of trucks required to deliver goods.
- Establish optimal routes, which lowers both fuel consumption and carbon emissions. These changes reduce overall supply chain costs, and companies become more socially responsible in the process.
- All miles are not created equal - highway vs. city. The shortest route may have more stoplights and/or worse traffic, which increases idling time and calls for more frequent acceleration. This is less fuel efficient than driving at a consistent speed.
- Focus on low-carbon transport options – train, plane, ship and truck all have different carbon tradeoffs between cost, service level and carbon impact.

Shipment consolidation is one of the major opportunities to reduce the carbon footprint

Driver Behavior

- "Driver & Trailer Share" programs which allow drivers and independent contractors to operate any company's vehicle.
- Trailer Share optimizes all available drivers and equipment from a single pool.
- How a vehicle is driven also influences fuel efficiency. Sudden acceleration, harsh breaking and leaving the engine idling for long periods are driver behaviors that can be corrected.
- Develop a corporate driving policy.
- Fleet operators should also consider installing GPS and engine monitoring technology. These units can monitor engine idling, speed, breaking distance and other driver behavior.

The best way to reduce the impact of transportation on the environment is by using less transportation



Sourcing & Network Optimization

- Supplier distance can impact component cost, carbon emission and inventory – all of which can be *quantified* to evaluate an organization's procurement strategy and determine the need address environmental concerns.
- Network optimization strategies can be revised to address the additional carbon variable and its impact on facility placement, manufacturing, distribution and transportation operations.
- Measuring suppliers in terms of reducing product packaging and conserving natural resources.
- Build product closer to the customer, thereby reducing miles and transit time.

Shippers pursuing a "green" network strategy reported 8 to 10 percent cost reductions and 20 to 30 percent reduction in carbon emissions, as much as 90 percent of which comes from transportation (Establish Consultancy).



Maintenance

- Outfitting fleets with auxiliary power units (equipment that keeps a driver warm or cool at night when they're off the clock), companies can save millions of gallons of diesel fuel per year, while reducing metric tons of carbon dioxide.
- A preventative maintenance plan is one of the easiest ways to reduce fuel consumption and harmful emissions. Low tire pressure, incorrect wheel alignment and clogged air filters have a big impact on fuel efficiency.
- Evaluate the use of re-refined oil if it is appropriate for the fleet and consistent with manufacturer recommendations. Re-refining takes about one third the energy to process used oil than it does to refine crude oil to lubricant quality.
- Excessive engine idling is one of the biggest culprits. An idling diesel engine can burn as much as one gallon of fuel per hour, unnecessarily producing greenhouse gasses.

Regular maintenance can reduce fleet operating costs by as much as 15 percent. A poorly maintained vehicle may produce up to 50 percent more harmful emissions than one that is well maintained.

Case Study: Leading Grocery Retailer Sustainability Initiatives



Fleet Efficiency



- Replaced older, metal fans in refrigerated cases with lighter plastic “smart motors” that can be programmed to adjust airflow automatically and operate more efficiently.
- Installing variable speed drives in air handling fans and evaporative condenser fans that use a fraction of the energy of older equipment.
- Uses thermal imaging cameras to evaluate the efficiency of cooler cases.
- Closes doors to all coolers and freezers as much as possible and keeping strip curtains in place, avoiding overstocking cases or blocking the air curtains.

Fleet Efficiency

- Up to 6% of the overall sales space in new stores is now lit by skylight, up from nearly zero five years ago.
- Replaced the light bulbs in nearly all 2,500 retail stores over the last 5 years.
- Reduced its overall energy consumption by over 17%, or 800 million kilowatt hours (since 2000).
- Every store has an “Energy Champion” to drive home the message that wasting energy not only represents the waste of a precious and dwindling natural resource but also is another form of costly shrink for the Company.

Fuel Conservation



- Improving miles per gallon by adjusting engine idling times and gear speed settings and setting recommended top speeds of 62 miles per hour or the state limit if lower.
- Reduced the weight of tractors and trailers by cutting the weight of new tractors by approximately 900 pounds.
- This 5% reduction in tractor weight translates to increased payload capability.

Fuel Conservation

- Reduced the number of miles our fleet travels by using special vehicles such as multi-temperature refrigerated trucks, super trucks and backhauls that enable us to combine loads and shorten trips.
- These scores indicate the relative fuel efficiency/environmental performance of SmartWay Truck Carriers and Logistics Companies participating in the SmartWay Transport Partnership.
- Scored a 0.75, which represents good environmental performance. This is the most common Partner score. Since all SmartWay Partners are committed to improving their environmental performance, all Partners, regardless of their score, are going above and beyond freight companies not participating in SmartWay.

For Additional Information

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