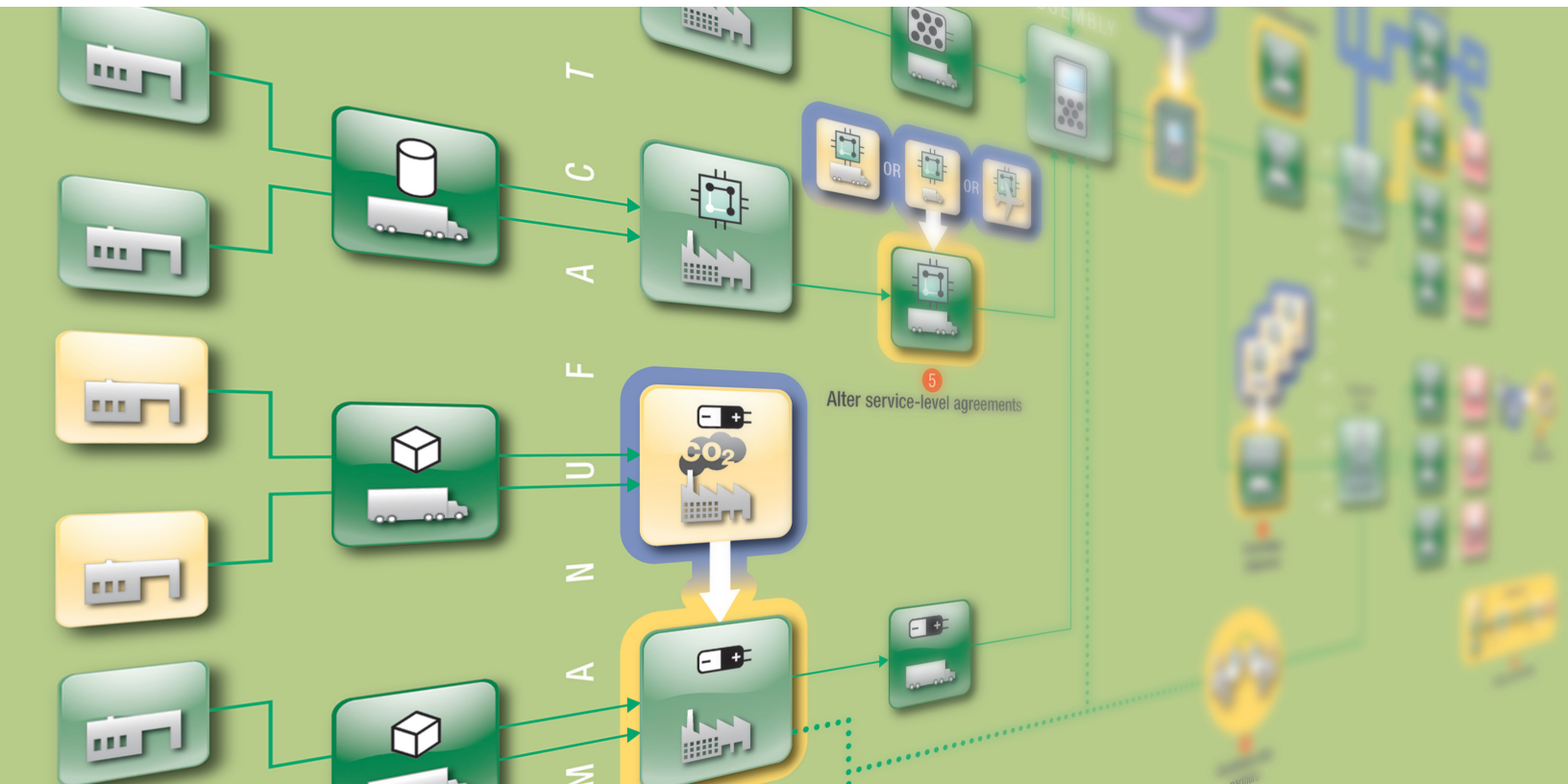


Global Electronics Industry

## 12 simple ideas for making your supply chain greener. A discussion starter



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“Green” may be the new buzzword in operations departments, but it’s more than a passing trend. In light of rising energy costs, the inevitability of stricter carbon regulations, and higher expectations for corporate social responsibility, going green isn’t just good for the planet. It’s good for business.

The U.S. Department of Energy’s Annual Energy Review shows that industrial and transportation sectors—those that coincide with supply chain activities—account for 61 percent of U.S. emissions. Clearly, every part of the supply chain offers abundant opportunities for companies to reduce waste and pollution. But with so many options, where should the greening begin?

**There are many ways to make your supply chain greener.**

The answer will vary by supply chain. Just as each supply chain has a unique carbon footprint, each will identify unique ways to reduce its own emissions. What works for one supply chain may not be applicable for another.

There are several factors to take into consideration when devising a green supply chain strategy: Which modifications will have the largest impact? Which will be easiest to implement? Which will provide the greatest operational efficiencies?

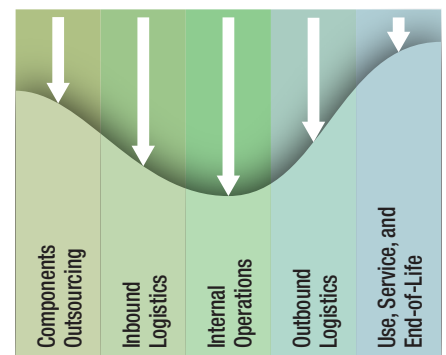
**Deciding where to begin is the hardest part.**

To help companies in the electronics value chain simplify the process of defining a strategy, IBM has devised a comprehensive set of green supply chain tools. By analyzing everything from product life cycle management and supply chain strategy to procurement and integrated operations, we can help pinpoint areas that provide the greatest efficiencies.

This visual overview is an introduction to making your supply chain greener.

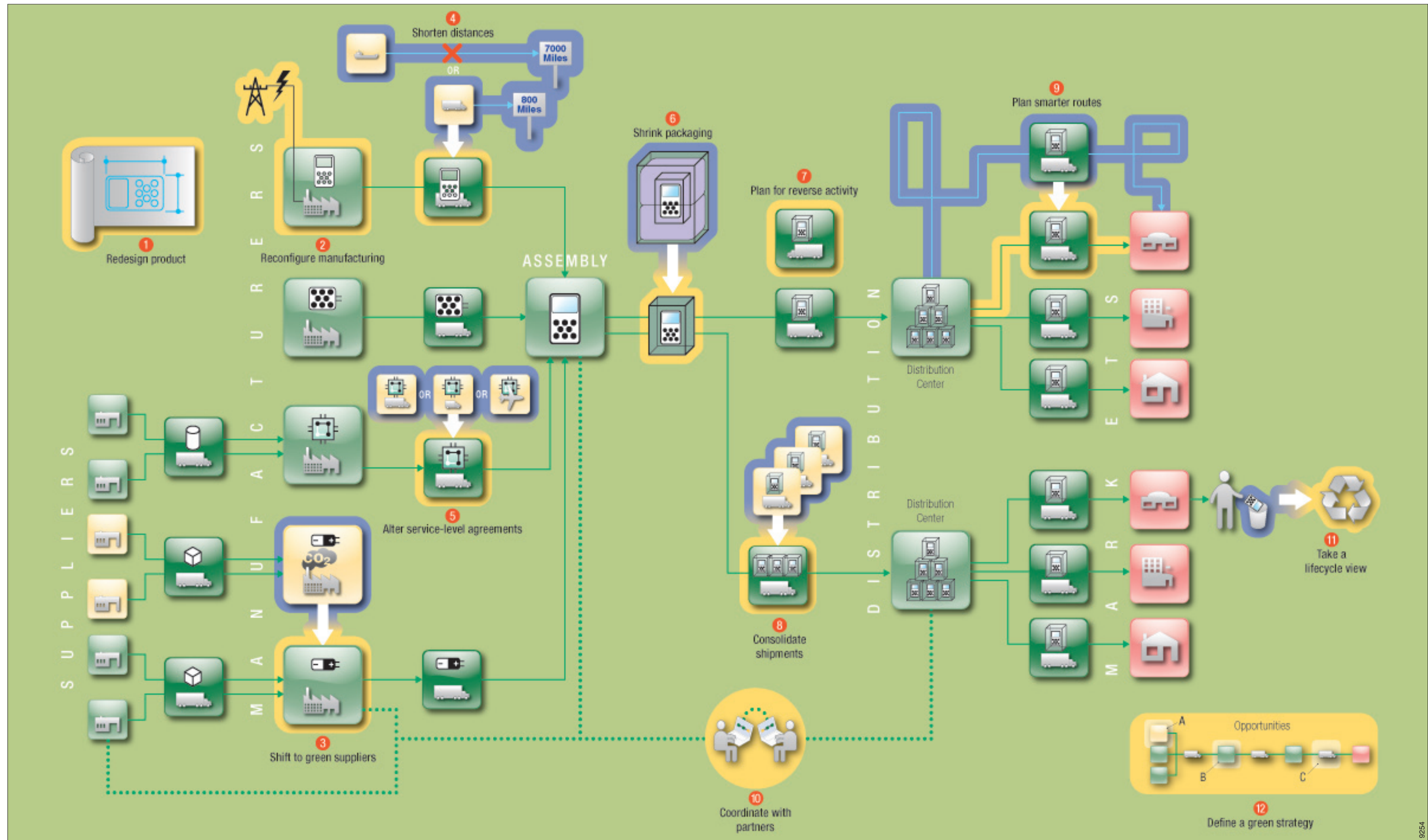
**IBM Carbon Footprint Distribution Model**

Lower the outer edge



As a general guideline, when looking to reduce carbon, you should initially focus on opportunities that are both big and easy to implement. Often you can find those opportunities within your own operations.

# 12 ideas to make supply chains greener



**There are many opportunities to make supply chains green. The trick is figuring out how to define a green strategy, integrate ideas, and balance tradeoffs. Here are 12 ideas that are especially relevant to managers of supply chains for electronic and high-technology products.**

**1**

### **Redesign the product**

There may be opportunities to redesign the product itself to have a smaller impact on the environment and reduce energy consumption in manufacturing, distribution, or use. Simple changes can have big implications. Every conceivable change is an opportunity—from reducing the weight of the product to making it easier to disassemble. In some cases, innovation or new technologies may make it possible to eliminate some components or sub-components entirely and thereby eliminate a portion of the supply chain.

**2**

### **Reconfigure manufacturing**

Streamlining production steps, reducing energy use, and reducing pollutants, toxic materials, and harmful emissions can each have a big impact on how green the supply chain is.

**3**

### **Shift to green suppliers**

Although they may have higher manufacturing costs, green suppliers can have a big effect on the carbon implications of bringing products to market. An analysis of alternative suppliers may uncover potential benefits that justify making a change.

**4**

### **Shorten distances**

Distribution networks can be refined to reduce the distances that products must travel. By rationalizing sourcing, assembly, and distribution in relation to markets, travel distances and corresponding fuel use can be reduced. For some products, simply working with suppliers who are closer to major markets can significantly reduce energy use.

**5**

### **Alter service-level agreements**

If your service level agreements with suppliers contain requirements that aren't really required for your business, waste is the result. When your agreements force your suppliers to make small, expedited deliveries, energy use goes up dramatically. When those shipments are driven only by service level agreements and not by valid business needs, you have opportunities to save.

**6**

### **Shrink packaging**

Look for opportunities to re-engineer packages so that the size and weight of products is reduced. New packaging materials and designs make smaller package volumes possible, allowing shipping containers to hold more and trucks to carry more products in a load. Improved package designs can also reduce the burden of recycling or eliminating packaging materials at the end of the chain.

**7**

### **Plan for reverse supply chain activity**

Products that are recalled from the market or which must be upgraded or refurbished during their useful life require some kind of reverse supply chain. By planning for these events up front, it's possible to eliminate or reduce unacceptably high energy costs later. How products are designed, assembled, labeled, and packaged can have a profound effect on the efficiency of any reverse supply chain.

**8**

### **Consolidate shipments**

Look for opportunities to replace multiple, smaller shipments with fewer, larger shipments. This simple idea can require careful analysis to work out which suppliers to use, where to locate facilities, and what inventory levels to maintain.

**9**

### **Plan smarter routes**

There's an art to planning distribution routes and choosing the right transportation modes. Simple intuition seldom leads to optimal solutions and over time tradition and inertia often allow routes to settle into patterns that are inefficient and wasteful. Factoring in the true costs and carbon implications can lead to more rational routes.

**10**

### **Coordinate with partners**

Although you can make initial progress on your own, you soon will need to integrate your efforts with suppliers and distributors. Many opportunities to make your supply chain greener will depend on careful coordination with allies both upstream and down. Be prepared to share your goals and plans with these allies and incorporate their plans and priorities into your solutions.

**11**

### **Take a life-cycle view**

Look at the whole life of the product to find opportunities. Energy used while a product is in service can be significant. Costs to recycle, reuse, or refurbish products also can be analyzed to find opportunities.

**12**

### **Start now**

The ability to eliminate waste and pollution is becoming an increasingly important criterion for buyers. Making progress reinforces a positive impression of your brand and is a source of pride for employees. For many businesses, mandated changes are inevitable. Start by analyzing which opportunities deserve investment now and which should wait. Initially, focus on the opportunities you control, then reach out to the opportunities upstream and down.





For more information on IBM's  
green thinking, please visit:  
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