

Green Supply Chains by 2020

Putting Supply Chains on the Global Political Agenda by Mandating Efficiency and Ecology: "Green Supply Chains by 2020"

For nearly 30 years, companies have been doing everything they can to improve efficiency both within and between organizations, which was in large part responsible for the global growth throughout the 1990s and early 2000s. Now the returns are diminishing and the very success that has enabled complex multinational supply chains is under attack for wasting energy and creating pollution. It is time to put supply chain in the public political agenda by asking governments to front major subsidies and tax incentives to help make supply chains truly green.

Since the origin of the supply chain concept in 1982¹, logistics and transportation managers have done an incredible job of lowering transit times and inventories, increasing reliability, and reducing cost. It has been years since consumer products companies shifted traffic from truck to rail to reduce cost per ton-mile - even Tropicana ships its orange juice by intermodal rail now. Book distributors such as Simon & Schuster have consolidated less-than-truckload shipments into truckload shipments, and used pooling to reduce empty cube and empty miles. Airlines have established hub-and-spoke networks to optimize vehicle load factors, and similarly trucking companies have implemented global positioning systems (GPS) in order to reduce empty miles through more scientific routing. More recently, electronics companies like HP have studied packaging and shrunk average package sizes in order to reduce transport cost, better utilize shelf space, and reduce carbon footprint.

Shippers have in many cases reached a point of diminishing returns in optimizing their own networks. Network consolidation is now a matter of studying whether to reduce from five warehouses to four rather than, say, 20 to five. Routing and scheduling is about which routing algorithm to use rather than whether to use automated



routing software at all. Mode selection has almost universally been optimized; only the carrier selection is still an ongoing issue.

However, inadequate infrastructure remains a bottleneck, and conversely represents a significant opportunity for supply chain optimization since it is still relatively inefficient in many ways and in many countries. Congestion and delays are still hindering the unfettered competition of imports with domestically produced products, and private sector carriers and terminal operators are relying on public port authorities and governments to invest in enough pavement to free up the flow. Internet access and speed is limited and unstable, impeding the spread of wireless optimization technologies such as active RFID tracking and yard management. Vehicles and vessels are still manufactured to inefficient fuel standards. And many firms are forced to hire from foreign schools in order to assure adequate training and management aptitude.

Governments need to take the next step in the supply chain revolution by mandating efficiency and ecology, and supporting the directive with aggressive subsidies and tax breaks in the name of Green Supply Chains. They should use supply chain multipliers when evaluating infrastructure

investments². They should set aggressive and worldwide targets for corporate average fuel economy, and be similarly miserly about oceangoing vessels and aircraft, supporting the targets with strong investment tax credits for purchasing efficient vehicles. They should invest in universal high-capacity internet bandwidth, just like they invested in roadways 50 years ago. And they should increase research grants, fellowships, and endowments for the academic study of supply chain management. All this should come under the umbrella of a global drive for green supply chains by 2020. We are part way there, thanks to the massive initiative that the European Community has put behind renewable energy by 2020. Let's finish the job, and make "supply chain" a household word along the way. **D**

1. See the *Guide to Supply Chain Management*, by The Economist, for a concise history.
2. See Jacoby, "Infrastructure Investment: The Supply Chain Connection," *Supply Chain Quarterly*, 2008/4.

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