Gartner for Supply Chain

3 Key Trends in Supply Chain Sustainability
Introduction

The expectations of stakeholder groups for supply chain sustainability strategy have transformed in the last 10 years, with increased demands for transparency and action.

While some supply chains convert sustainability into a competitive advantage, others struggle to meet core stakeholder expectations.

Chief supply chain officers (CSCOs) can position the supply chain to respond to trends in greenhouse gas emissions management, the circular economy and in the areas of environmental ecosystem impacts and water stress.

This report examines the actions CSCOs can take to respond to three key trends in sustainability and ultimately enable a transition to a low-carbon, resilient and resource-efficient economy.

Trend No. 1
Greenhouse gas emissions management

**Driver:** Stakeholder expectation for emissions management

**Supply chain implications:** Both mitigation and adaptation actions needed

In the Gartner 2020 Future of Supply Chain Survey, 84% of CSCOs cited planned investment in climate adaptation and mitigation measures. What actions should these supply chains take to maximize their approach?

- **Adaptation.** Adaptation is focused on building resilience and managing risks. Adaptation actions include review of capital investments for stranded assets (those that are subject to premature write-downs due to changes in the operational context) and review of suppliers, categories and raw materials against climate change risks.

- **Mitigation.** While investment to improve emissions efficiency measures and the switch to renewable energy are the most viable long-term mitigation approach, a short-term option is the use of carbon offsets to compensate for residual emissions. Mitigation actions focused on reducing emissions can also extend to other parts of the supply chain — e.g., procurement requires suppliers to comply with science-based targets, logistics focuses on reducing transportation emissions in last-mile delivery.
For both adaptation and mitigation, CSCO(s) can apply three types of solutions to the challenge of climate change: digital, engineering and environmental. Examples of how these solutions are being applied to greenhouse gas emissions management are:

- Digital solutions create visibility of greenhouse gas emissions. Some supply chains have applied energy management systems to operations; others have applied more advanced techniques like sensors to understand real-time emissions.
- Some supply chains have applied engineering solutions — e.g., investing in on-site renewable energy.
- Some supply chains have applied environmental solutions — e.g., investing in tree-planting schemes as part of carbon offsetting.

There is a bias toward digital and engineering solutions as ROI is easier to calculate compared to environmental solutions. CSCO(s) must consider the costs, benefits and long-term impact of each solution and how it can be applied to adaptation and mitigation actions (see Figure 1).

Figure 1. Interaction between solutions

Source: Gartner
Before COVID-19, the global trading environment was dynamic, and the initial response to the crisis led to further disruption, highlighting limitations of globalized supply chains.

For CSCOs, this changing operational context is creating challenges to getting raw materials to the right parts of the value chain when needed. Although logistics has a part to play, there is also a question about how raw materials can be used more effectively.

Shifting to a circular economy is key. The purpose of the circular economy is to decouple raw materials’ consumption from growth. The benefits of the circular economy versus a linear economy are increasing efficiency, creating new revenue streams through the resale of products or offering products as a service, and increasing customer engagement (see Figure 2). A circular economy can increase raw material security, and when a holistic approach is taken, it can also reduce environmental impacts.

CSCOs can take three actions to advance circular economy strategies:

1. **Create resilience and value.** Identify products that will deliver additional value.
2. **Foster collaboration.** Define a collaboration governance model with the right data and information mechanism.
3. **Apply solutions.** Use digital solutions to advance circular economy activities; engineering solutions for raw materials management; and environmental solutions to understand the impact of raw materials should they get into the environment at the end of life.

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**Trend No. 2**

**Resource accessibility**

**Driver:**
Resource constraints driven by trade, price and availability

**Supply chain implications:**
Broader environmental impacts from resource extraction

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Circular economy continues post-COVID

51% of supply chain professionals expect the emphasis on the circular economy to increase in the two years following the COVID-19 crisis.

Source: Gartner 2020 Opportunities After Crisis Survey

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Figure 2. Circular versus linear economy

Value gained:  
- Very low
- Low
- Medium
- High
- No lost value

- Raw material extraction
- Parts supply
- Manufacturing
- Product use
- Landfill or recycling
- Recycling
- Parts harvesting
- Refurbishment
- Product as a service
- Maintenance

Source: Gartner
Supply chains link their business operations into natural ecosystems through the extraction and utilization of resources. As such, endangerment of natural ecosystems significantly impacts supply chains.

CSCOs should take two actions to position the organization for resilience.

1. First, **understand the threat of biodiversity loss** in the medium and long term to the value chain. The questions CSCOs must answer are: What are the most material environmental issues across the value chain (aka, hot spots)? Are suppliers reviewing their impacts on natural ecosystems and biodiversity? What risks might we encounter over the next two years and what are potential countermeasures?

2. Then, based on your goals (e.g., improve soil quality, increase water efficiency), **identify where to intervene** to halt ecosystem decline and to restore lost biodiversity. Solutions, engineering, environmental and digital can provide insight into where to best make interventions.

**Trend No. 3**

Biodiversity and ecosystem impacts

<table>
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<th>Driver:</th>
<th>Supply chain implications:</th>
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<td>Anticipate stakeholder pressure to preserve and restore ecosystems</td>
<td>Loss of ecosystem services to supply chain</td>
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