

Minimizing Land Use Impacts and Protecting Biodiversity

Although GHG emissions, energy, materials, and waste represent Cisco's most significant environmental issues, we manage and monitor other aspects of our environmental footprint. These include:

- Land use impacts and biodiversity
- Airborne emissions (beyond GHG emissions)
- Spills and other discharges

Many of these impacts relate directly to Cisco's real estate portfolio and environmental management system. Cisco's environmental management system, compliance programs, and workplace initiatives help minimize these impacts.

Land Use Impacts and Biodiversity

At Cisco, land use for facilities and office-based operations represents our largest impact on biodiversity. Cisco works to reduce our impact by reducing the demand for physical office space. Cisco employee telework programs and support solutions, such as Cisco Connected Workplace, Cisco Virtual Office, and Cisco WebEx, are instrumental to our strategy. The flexibility of Connected Workplace and Cisco collaboration technologies reduces the demands for office space by more efficiently using existing space and enabling employees to work remotely yet still maintain productivity. A 2007 Cisco [study](#) demonstrated that a space using Connected Workplace could accommodate 140 employees, compared to the 88 who would be assigned to the same space in a traditional layout, substantially reducing office space requirements and associated costs.

In addition, Cisco actively evaluates the biodiversity and land-use impacts of potential facility sites through environmental impact assessments required for permitting. In Boxborough, Massachusetts, for example, we worked closely with state and regional agencies to restore the site and develop a Cisco campus in 2002. Of the 350 acres of campus, 270 acres are designated as open space, including 60 acres that serve to protect wetlands and rare species habitat. The cluster design of the buildings and parking areas allows for more usable open space and facilitates collection of rainwater runoff. Furthermore, the buildings and parking areas are concentrated in the areas previously disturbed by mining activities. See the case study below.

Maintaining Biodiversity, Open Space, and Rural Character in Boxborough

During the 1980s, much of the land that Cisco's Boxborough, Massachusetts, campus now occupies was cleared and mined for sand and gravel, leaving large areas stripped of vegetation. While developing the site, Cisco was able to restore it to a more natural state with rolling terrain, stone walls, and a mixture of landscaped areas, fields, wetlands, and forest.

We created habitats through the strategic placement and design of stormwater management features such as ponds. Other environmental features include permanent conservation restrictions, turtle tunnels beneath roadways and roadway barriers to enable safe migration, multiyear onsite wildlife studies, and the creation of approximately two acres of additional wetlands that were planted with native vegetation.

In addition, the campus provides both active and passive recreation areas with a 10-acre playing field constructed for the town's use and over two miles of trails that wind through the areas set aside as open space.

Adjacent to the campus are other conservation lands held by government and private entities. Cisco's natural, open spaces provide extensions to and continuity between these areas, thereby enhancing the robustness of wildlife habitats and corridors.

Airborne Emissions

Because most of Cisco's production is outsourced to supply chain partners, Cisco's global operations primarily consist of standard office activities and research labs, which may require the use of occasional cleaning products containing volatile organic compounds (VOCs). Quantities of VOC-based chemicals are minimal and are not required to be monitored.

The following table summarizes other airborne emissions: nitrous oxides (NOx) and sulfur oxides (SOx). NOx and SOx emissions originate from combustion of fossil fuels in vehicle engines, boilers, or emergency generators that are occasionally tested on sites. These emissions are calculated based on fuel consumption collected in the past three fiscal years. NOx emissions are included in Cisco's GHG inventory. As Cisco is working on reducing overall GHG emissions, we expect a proportional reduction of NOx and SOx emissions across our operations.

NOx and SOx emissions

Emissions	FY07	FY08	FY09
NOx (metric tonne)	176.57	167.29	143.74
SOx (metric tonne)	0.67	0.71	0.70

At locations across California, Cisco cooperates with the California Air Resources Board and does not use any mechanical equipment, such as gasoline-powered lawn mowers, after 11 a.m. on designated Spare the Air days, when air quality is poor in the Bay Area. In addition, we have instituted Summer Saturday Shift Work, which reduces equipment emissions due to improvements in maintenance staff productivity. Over the course of 32 weeks, we saved 44 hours per week of grounds crew time as a result of increases in efficiency.

Spills and Other Discharges

Cisco works to prevent unintended spills or discharges and has a comprehensive emergency response system in place. In FY09, there were no reportable spills or discharges to the environment from Cisco facilities or operations.

Looking Ahead

Cisco expects that the impacts associated with land use, airborne emissions, and spills and other discharges will continue to be minimal relative to other environmental impacts of our products and operations. Cisco will continue to monitor these issues in our operations and dedicate resources as necessary. Through our workplace solutions and collaboration technologies, like Connected Workplace, we will continue to develop innovative approaches for addressing the world's environmental challenges.