

Case Study: TCF Center – Detroit Convention Center

A green and sustainable venue is the leader in green events.

Building Facts

- Detroit, Michigan
- 2.4 million sq. ft. (723,000 square feet of exhibit space)
- Built in 1960
- \$279 million, five-year renovation and expansion
- 1.5 million visitors annually



The TCF Center, formerly Cobo Center, is an example of a high performing green building that is also a leader in their industry. Their commitment to environmental stewardship is demonstrated by their continuous efforts to investigate, validate and implement new and innovative green initiatives throughout the facility, and by the programs designed to educate employees, vendors, customers, partners and visitors in the importance of the sustainability of our environment.

ABOUT

TCF Center is located in the heart of a revitalized downtown core, bursting with arts, culture and entertainment. It is within walking distance of stores, over 100 restaurants, shops and businesses, new hotels and attractions. Attendees can walk along the majestic 3.5 mile Riverwalk and wave to their Canadian neighbors to the south across the Detroit River.

TCF Center is managed by ASM Global, the largest company in the world specializing in the operation of convention centers, arenas, stadiums, and theaters. And they partner with the Detroit Regional Convention Authority (DRCFA) in introducing best practices, fiscal responsibility and a total focus on outstanding customer service.

With 723,000 square feet of exhibit space, TCF Center boasts one of the largest contiguous exhibit floor spaces in North America and is the 17th largest convention center in the country. The DRCFA completed a \$279 million upgrade in 2016 that transformed TCF into a state-of-the-art facility that will be enjoyed for years to come.



Photos courtesy of TCF Center

TCF Center Environmental Policy

The TCF Center and ASM Global commit to operations that reduce their environmental impact, focus on conserving resources, and utilizing products, technologies, and methods that continually improve in these effort. Their sustainable initiatives focus in the areas of:

- Waste Reduction and Diversion
- Energy Conservation
- Water Quality and Consumption
- Air Quality
- Environmental Procurement Policy
- Community; and
- Human Resources Policy and Staff Training

LEED SCORECARD



TCF Center

LEED v4.1 O+M: Existing Buildings

Project ID: 1000110419
Status: Gold Certified
Certification level: Gold
Certification date: 10/04/2019

Attempted: 64, Denied: 0, Pending: 0, Awarded: 73 of 100 points

| | | | | | | | |
|--|------------------------------------|-----------------|--|--|--|------------------|--|
| | LOCATION AND TRANSPORTATION | 10 OF 14 | | | MATERIALS AND RESOURCES | 5 OF 9 | |
| | Transportation Performance | 10 / 14 | | | Purchasing Policy | Y | |
| | SUSTAINABLE SITES | 2 OF 4 | | | Facility Maintenance and Renovation Poli | Y | |
| | Rainwater Mgmt | 0 / 1 | | | Waste Performance | 5 / 8 | |
| | Heat Island Reduction | 1 / 1 | | | Purchasing | 0 / 1 | |
| | Light Pollution Reduction | 1 / 1 | | | INDOOR ENVIRONMENTAL QUALITY | 19 OF 22 | |
| | Site Mgmt | 0 / 1 | | | Minimum IAQ | Y | |
| | WATER EFFICIENCY | 13 OF 15 | | | Environmental Tobacco Smoke Control | Y | |
| | Water Performance | 13 / 15 | | | Green Cleaning Policy | Y | |
| | ENERGY AND ATMOSPHERE | 23 OF 35 | | | Indoor Environmental Quality Performance | 19 / 20 | |
| | Energy Efficiency Best Mgmt Practi | Y | | | Green Cleaning | 0 / 1 | |
| | Energy Performance | 23 / 33 | | | INNOVATION | 1 OF 1 | |
| | Fundamental Refrigerant Mgmt | Y | | | Innovation | 1 / 1 | |
| | Grid Harmonization | 0 / 1 | | | TOTAL | 73 OF 100 | |
| | Enhanced Refrigerant Mgmt | 0 / 1 | | | | | |

As of October 2019, it is the largest LEED-certified building in Michigan and the largest to certify Gold. It is also the largest and only convention center in the world to certify under LEED v4.1 Operations and Maintenance (O+M). The pursuit of LEED certification began in August 2018 when the LEED v4.1 O+M beta version was published. The documentation was completed entirely online using the Arc Platform. As a result of the recent renovation, the building was already designed in a way that met many the requirements of the LEED scoring system.

Convention Centers

Convention centers are a large building or complex of many buildings that are designed to host major conventions, trade shows, meetings and special events. Convention centers are typically located in urban, walkable areas and are capable of hosting thousands of attendees. Convention centers have a variety of unique features such as large-scale commercial kitchens, extensive freight and shipping operations facilities, limited full-time staff and a higher number of visitors.

These types of venues create considerable energy demands, produce large quantities of waste, strain water systems and emit large amounts of greenhouse gases. The convention and trade show industry is one of the largest global contributors to waste with an estimated 60,000 tons of garbage each year.

Convention centers play an influential role in the green building movement due to their size, the number of people they host every year, and the economic activity they help generate. Today's leading convention centers are committed to reducing their environmental impact, while also providing conference and event guests with positive experiences. They recognize the opportunity that green building presents—that environmentally responsible buildings help reduce the collective carbon footprint, make business sense and can play a critical role in their commitment to sustainable policies and operations. In addition to pursuing LEED certification, more and more conference and event organizers require proof of sustainable practices and commitments in their request for proposals. Sustainability is no longer a consideration and rather an expectation in the market, especially in competitive regions.

A GREEN AND SUSTAINABLE VENUE

TCF Center commits to operations that reduce their environmental impact, focuses on conserving resources, and utilizes products, technologies, and methods that continually improve these efforts.

Waste Management: Reduction and Diversion

TCF Center's comprehensive waste management program focuses on identifying, reducing and diverting the various waste streams created by venue operations, attendees and clients. TCF Center also works to reduce the amount of waste created, and diverts waste from landfills by means of reuse, re-purposing, composting and recycling items.

TCF Center has an aggressive waste diversion program, including donations, recycling and compost. All of their efforts helped the facility achieve a 65% waste diversion rate in 2019.

2019 Waste Diversion Rates

| | |
|----------|----------------------|
| 112 tons | Compost |
| 11 tons | Wood pallets |
| 72 tons | Cardboard |
| 9 tons | Glass and cans |
| 10 tons | Donated food |
| 60 tons | Post event donations |
| 6 tons | Mixed paper |

280 TONS

Total Diversion

Composting

All compostable dinnerware in TCF Center is supplied by My Green Michigan, a local nonprofit committed to helping companies reduce their carbon footprint. Compostable materials are sent to Hammond Farms, TCF Center's local agency that turns compost into dirt used in local urban farming initiatives. Compostable materials include kitchen food waste, food court waste, sod and mulch.



In 2018, they increased annual compost diversion by creating food court compost stations, buying all compostable serve ware for use in the food courts, and creating extensive training programs for staff. And, they worked closely with Hammond Farms to expand the list of materials that can be composted, and improve reporting for any load that is not accepted for composting.

Donations

Materials left behind for donation to local agencies are collected in the TCF Center loading dock area and distributed according to agency need. Materials include carpet, clothing, tables, chairs, lumber, office supplies, plants, and unserved food.

TCF Center's exclusive food and beverage contractor collects prepared food that has not been served for pick-up by Forgotten Harvest, a local company that delivers to pantries, soup kitchens and shelters throughout Southeastern Michigan.

Reduce

TCF Center event managers encourage show managers to consider alternative material use by providing suggestions such as: use TCF's digital signage, use local sustainable transportation, use online order forms, develop menus with locally sourced food, and use compostable dinnerware or china.

Reuse

Material development that allows reuse is also encouraged during event planning meetings with options such as: use signage and brochures without dates, reuse badge holders and lanyards, and donate unserved food. Materials left by events are donated to local agencies for reuse and upcycling.

Recycle

Paper, aluminum cans and plastic bottle recycling containers are placed in all office areas and high-traffic meeting areas throughout the TCF Center. All pallets are recycled to a local-area vendor.

Energy Conservation

TCF Center management team is fully committed to an energy conservation program that is focused on infrastructure improvements, automation and technology, and vigilance. Significant improvements to TCF Center's mechanical, electrical and plumbing infrastructure has reduced energy consumption throughout the facility.

Energy efficiency

Induction lighting is installed in the exhibit halls saving 40 percent on electric use in 723,000 square feet of space. Computer scheduling and monitoring of lighting in the exhibit halls make sure that appropriate lighting levels are used according to occupancy. Occupancy sensors in all meeting rooms turn off lights when not in use.

Escalators are energy efficient and run based on occupancy and event needs and turned off when not in use.

Daylight harvesting

Daylight harvesting uses outdoor light meters to automatically adjust light based on daylight coming into the building. On sunny days lighting is reduced in parking lots, interior areas like the concourse, docks and exterior lit areas. Daylight harvesting reduces electric use by more than 10 percent annually.

The glass-enclosed concourse area on the main level, the three-story glass atrium and the third-floor corridor ceiling provide enough natural light during the daytime hours to minimize the main hallway daytime lighting.

Air conditioning

TCF Center is air conditioned by pumping grey water from the Detroit River through chillers that then send the cool water to various air handlers, providing cooling to zoned areas in the building. This system uses considerably less electricity than conventional air conditioning units.

Energy dashboards

Energy in TCF Center is monitored by a building automation system. This computer-based system connects the HVAC and lighting systems, enabling them to communicate on a single platform to deliver the information needed, enhancing occupancy comfort, safety and efficiency.

Enclosed loading docks

Loading docks with automatic doors that close after use and air walls to keep cold or hot air out during use ensure that energy is not being lost from mismanagement of the dock area.

Utility auditing

The management team at TCF Center tracks every unit of electricity, steam, natural gas, and water consumed at the facility and monitors trends against past history and the budget to make adjustments in real time to reduce usage where practical and appropriate.

Meters and sub-meters track daily consumption rates and immediately began saving more in energy than it was spending. Vigilant monitoring of energy use daily ensures that systems are operating at maximum efficiency.

TCF Center is fully automated with lighting levels and HVAC delivery specifically scheduled to coincide with event hours, as well as the technological monitoring capability to adjust to a changing exterior environment that impacts conditions inside the venue.

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Water Quality and Conservation

Best practices policies address water quality and conservation methods throughout the facility including chemical management, landscaping, irrigation and building infrastructure (toilets, sinks, urinals, and showers) efficiencies.

Water usage reduction

TCF Center continues to renovate existing restroom facilities to transition all fixtures to low flow conservation-friendly faucets, urinals and toilets. The water fixture updates also included installation of restrictors in the sinks and water pressure is reset based on the building's occupancy. River water is used instead of potable water to cool condensers on chiller plants.

Run-off water

TCF Center uses run-off water on landscaping irrigation. The savings from using run-off water is nearly three million gallons annually or 30 percent of total usage. Operations has commissioned a study to explore the diversion of all storm water from the venue.

Condensate reclaim system

TCF Center has a condensate water reclamation system that uses Detroit River water instead of potable water to cool condensers on chiller plants. Proximity to the river permits the success of this program. The system reclaimed 5,278,862 Btu/ hr of heat energy and saved \$129,242 in energy costs in 2019 .

Water bottle refill station

A water bottle refilling station was placed in one of the busiest parts of the facility and tested for efficacy of use. The station was wildly popular and in 2019, TCF Center installed several more stations throughout the venue to reduce the use of water bottled with single-use plastic.



Air Quality

The health and comfort of TCF Center employees and visitors are top priority, and all laws, ordinances and regulations are strictly observed to insure contaminant-free air quality. Areas of focus include anti-idling policy and enforcement, smoking policies, alternative transportation, fleet vehicle management and management of VOCs and hazardous air pollutants.

No idling

All commercial vehicles in TCF Center are regulated by the City of Detroit No Idling Ordinance, including vehicles propelled by diesel and non-diesel fuel. Civil infractions to the ordinance, whether warnings or violations hold parties accountable to the City of Detroit for registration and penalty collection. Penalties between \$150 and \$500 may apply. All security personnel working in TCF Center are trained in the No Idling Ordinance and expected to follow reporting procedures and follow up at all times.

No smoking

Smoking is prohibited everywhere on TCF Center property and allowed only 25 feet from the facility on public property. Members of the TCF Center executive team routinely comb the facility and issue warnings and violations to the no smoking ordinances. Signage is posted at the building entrances to make sure that visitors entering the facility are not obstructed by secondhand smoke. Indoor parking garages are patrolled and regulated.



OSHA indoor air quality standards

OSHA (Occupational Safety and Health Act) standards are strictly enforced in TCF Center during event move in and move out periods, and other construction projects.

Green cleaning

TCF Center has an advanced green cleaning policy focusing on both practices and products. Housekeeping staff uses products that are environmentally safe and non-toxic.

Environmental Procurement Policy (EPP)

A written procurement policy was developed to address and consider environmental ethical impacts, and adhere to the stated goals of the venue's environmental policy. This includes a focus on regional, organic, and sustainable materials, as well as vendors who consider their environmental impact and support the mission of the venue.

TCF Center is committed to protecting the environment, and the health of the public, the client, and its employees. In accordance with this policy TCF Center is directed to procure cost-competitive products and services that minimize resource consumption and negative impacts on the environment, resources, and human health.

In requesting proposals for TCF Center expects all responsive proposers to demonstrate commitment to and experience in environmental sustainability and public health protection practices applicable to their line of services. The facility during its evaluation processes will actively assess the quality and value of all proposals.

Vendors, when applicable, are to follow standards and recommendations of the United States Environmental Protection Agency EPP program, the Green Seal organization, and standards and practices specified by the U.S. Green Building Council. Additionally, local vendors are always given first consideration in any purchasing decision in an effort to support the local economy.

TCF Center defines Environmentally Preferable Products (EPP) and services as having a lesser or reduced effect on human health and the environment when compared with competing products and services that serve the same purpose. The facility's EPP evaluation extends to raw materials acquisition, energy consumption in manufacturing and transport, packaging, recyclables, and waste disposal.

Community Engagement and Social Responsibility

The venue acts as a steward for the environment and local community. This includes creating opportunities for staff involvement, education of stakeholders and participating in programs which contribute to the overall benefit of the city.



TCF Impact

The TCF Impact program is an array of activities and programs designed to engage the local Detroit and global events communities.

Learn more:

<https://www.tcfcenterdetroit.com/about-us/tcf-impact>

Anti-Human Trafficking Efforts

TCF Center condemns all forms of human trafficking and the commercial sexual exploitation of children. The management takes the problems of human trafficking during events very seriously, and has worked with all local law enforcement agencies to refer any suspicious activity immediately. Over the past few years, this has resulted in several arrests for human trafficking. Hoteliers, suppliers, employees and visitors are all expected to uphold the standards and provide training or be given resources to identify, report and survive occasions of human trafficking.

Local sourcing

Seventy percent of food cooked and served in TCF Center is from locally sourced suppliers, a figure that is as much as 10 percent higher in spring, summer and fall seasons, but lower in Michigan winters. TCF's food and beverage provider sources and utilizes regional based vendors and farms to incorporate local, seasonal items whenever possible. The venue partners with community based organizations to minimize the waste of leftover items by providing to Metro Detroit's under served.

Health and wellness on-site activities

TCF Center is dedicated to providing free exercise, networking and community engagement opportunities for the local downtown community. Activities like Zumba, Yoga and Tai Chi are coupled with opportunities to give back to local nonprofits that support the areas needy.

Activities are conducted on the venue's outdoor terrace and during inclement weather, held inside in the beautiful 30,000 square-foot, three-story glass atrium, overlooking the Detroit River.



Visitor Education

Visitor education in TCF Center is inclusive of everyone coming into the venue from tourists to event attendees because sustainability is fully integrated into the operations and event planning of the facility.

More than 100 waste disposal stations are strategically placed throughout the center from docks to food courts with corresponding instructional signage. Every few feet there is a new green focused message within view of every visitor.

TCF Center holds guided green venue tours and events like honey harvesting or panel discussions regularly for visitors, local groups and facilities to share best practices and celebrate the growing sustainability movement in the Metro Detroit area.

GREEN EVENTS

“ We will be a thought leader in our sector and drive transformation along the event industry value chain. Claude Molinari, General Manager, TCF Center ”

In collaboration with their clients, TCF Center creates events that are environmentally responsible and true to their surroundings. Green Event support is provided at no cost to the client.

Sustainable benefits and services provided include:

- Recycling and composting services
- Locally sourced menus
- Large network of local material donation vendors
- Extensive digital signage system reduces need for print materials
- Post event sustainability reports

Potential customers receive an electronic sales kit, a webpage designed for them with several links to documents and information essential for understanding options for reducing waste and accessing technology. Sales and event managers talk customers through the process of planning their event around sustainable principles. TCF Center provides post-event waste diversion reports to show managers upon request. All event and waste diversion reports are provided to customers at no cost.

TCF Center publishes Green Event Guidelines for clients. Event organizers are encouraged to implement strategies including donate leftover materials, design signage to be reusable or recyclable, know what's recyclable, and communicate strategies with exhibitors and decorators.

Leftover conference materials

A recycling station at the loading dock collects unused or unwanted conference materials that can be reused. Common items for the recycling station include vinyl banners, water bottles, unbroken foam core, conference bags, conference giveaways and set props.



Beginning in 2020, TCF Center will be phasing out the use of foam core and PVC plastic signage, and vinyl in the venue. It will no longer allow them for signage in 2022. Since TCF Center is unable to find alternate uses or dispose of these products safely, they can no longer allow them to be left on-site. Event organizers may use foam core signage that is reused by the organizer annual, but must take all Styrofoam, PVC, and vinyl-based signage with them at the end of an event.

Green exhibitors

Exhibitors at events are expected to participate in and help advance the center's recycling program. Exhibitors will be made aware of the center's recycling policies prior to move-in through pre-event meetings and exhibitor information packets.

Exhibitor responsibilities include placing recyclables in appropriate recycling containers on the exhibit floors, marking donation merchandise, leftover boxed literature, and other leftover materials for center staff to recover for recycling, reporting any environmental deficiencies observed, using sustainable transportation, and using personal water bottles instead of plastic disposables.

Green Meetings Industry Council APEX/ASTM Standard

TCF Center is a Green Meeting Industry Council APEX/ASTM Standard Certified Facility and the largest Green Venue facility in Michigan. It was the ninth convention center to receive the certification.

The Green Meeting Industry Council (now the Events Industry Council) represents individuals, firms and properties involved in the events industry. Their standard pertains to the evaluation and selection of venues for environmentally sustainable meetings, events, trade shows and conferences in the areas of staff management policy, communications, waste management, energy, air quality, water, procurement, and community partnership.

Learn more about the Events Industry Council Sustainability Initiative:
<https://www.eventscouncil.org/Sustainability/About-Sustainability>

OTHER SUSTAINABLE FEATURES

TCF Center includes many other sustainable features that contribute to the health and wellbeing of the planet and people. Many of them contributed to the LEED Gold certification.

Sustainable transportation

TCF Center continuously works to partner with local agencies that offer transportation options to visitors which provides a reduced carbon footprint for travel during events.

The Detroit People Mover (DPM) is a fully automated light rail system and the cornerstone of TCF Center's sustainable transportation options. There is a station on the 4th level at TCF Center that is one of 13 stations in the elevated single-track loop in Detroit's central business district.



Bike share services are also available with 25 bikes at the TCF Center station that can be rented and left at any of the other 43 bike stations in Detroit. The DPM shares a station at Grand Circus Park with the Q-Line, a 6.6-mile circulating streetcar loop taking visitors to the sports, theater and museum districts of Detroit.

There are also several electric car charging stations in the TCF Center parking garage.

Venue transportation

TCF Center uses several tricycles for staff to move around the building. Light loads can be relocated around the facility and the maintenance team and housekeepers can stay fit at the same time!

Heat island reduction

TCF Center has various roof types including a highly reflective white roof, reflective pavement selections and the green roof. Also contributing to this LEED credit were the parking spaces that take up no additional physical footprint. The rooftop and underground parking helped earn this credit by removing a significant amount of square footage from the roof area.

Green roof

TCF Center is home to a 10,000 square foot living green roof that creates a natural habitat for birds and insects as well as providing insulation to cool and heat the building. It is completely covered with living green roof vegetation and growing medium, planted over a water proofing membrane and irrigation systems alongside four honey bee hives and an organic herb garden. The addition of hydroponic gardens reinforces the commitment to locally sourced, wholesome foods by eliminating pesticides and fungicides while optimizing nutritional value. The program will also ensure year-round availability of fresh produce through the Midwest winter season.

Honey bees

TCF Center partners with Bees in the D to foster four honey bee hives on the center's living green roof. The honey is used by the TCF Center culinary team and presented as gifts throughout the year during educational events on sustainability hosted by the TCF Green Committee such as tours, receptions and community outreach events.



Lactation station pods

TCF Center provides movable lactation station pods to give parents a quiet, safe place to care for the needs of infants and small children in privacy.

"Sustainability Lives Here" campaign

A marketing campaign for sustainability was created called "Sustainability Lives Here." This message is broadcast over all marketing channels, including digital signage, social media, digital marketing and banners and posters in the facility.

Sustainable technology

Technology is deeply embedded in the TCF Center's sustainability program as the cornerstone of the "reduce" efforts. One hundred interior digital signs direct attendees and display meeting room agendas without the use of signage materials that may end up in the waste stream. The two jumbotron exterior digital signs give events the means to promote sponsors and sell advertising without the use of materials that may also end up in the waste stream.

Event organizers are encouraged to use webcasting and video conference services to reduce the carbon footprint and extend their audiences. And to use electronic documents and communications during events, TCF Center provides high-speed free WiFi throughout the facility.

The computerized systems allow TCF Center to schedule lighting levels and room temperatures according to room occupancy saving energy when levels can be lower.

TCF CENTER GREEN COMMITTEE

TCF Center Green Committee was formed in 2011 to organize facility operations for venue certifications and sustainability and meets several times a month. It has members from every department and vendor company in the facility and is overseen by a seven-member executive team. Each member is a strong advocate for green operations, understands and respects the mission statement, goals and objectives and helps procure the resources required for success of the initiative.

This committee provides the muscle behind sustainable operations and green events in TCF Center, managing everything from event donations to community engagement to utility management. They are the heart and soul of the green initiative and their tireless environmental stewardship provides leadership to the Michigan community and shining example of the path forward to a more sustainable future in Detroit.



Sustainable Event Professional

In 2018, the TCF Center Green Committee members were certified as a Sustainable Event Professional by the Events Industry Council. This demonstrates these event professionals are able to:

- Communicate the business value of sustainable events, including improving brand reputation and cost savings
- Design elements of events to be more environmentally and socially responsible. This includes reducing energy and water usage, improving accessibility and selecting suppliers in areas such as food and beverage, venues and accommodation, audio visual, transportation, materials resource management, marketing and exhibitions
- Develop effective community service projects that support organizational objectives
- Identify international sustainable event standards and measurement and reporting methodologies that can provide guidance in implementing your next sustainable event

Learn more: <https://www.eventscouncil.org/Sustainability/SEPC>

LEARN MORE

TCF Center <https://www.tcfcenterdetroit.com/>

TCF Center Green Initiatives: <https://www.tcfcenterdetroit.com/green>

LEED v4.1 www.usgbc.org/leed/v41

