



2030

CHALLENGE SUSTAINABILITY
A C T I O N P L A N

SUSTAINABILITY

TLC Engineering for Architecture, Inc. committed to designing high performance, sustainable buildings before the inception of LEED®. In 2003, our first project to become LEED-certified was also Florida's first LEED building – Stetson University's Lynn Business Center. We're proud to have led the way and are committed to continuing as a leader in sustainable building design. We have embraced the 2030 Challenge and are utilizing its framework to evaluate our processes, business practices and culture.

SIGNIFICANT ROLES IN LEED®

Staff members serve on numerous local, state and national USGBC committees, ASHRAE work groups focused on sustainable design and other significant efforts to advance the engineering of sustainable facilities. TLC staff members regularly make presentations focused on sustainable design at a variety of industry conferences, seminars and symposiums.

TLC offices that have achieved LEED-Commercial Interiors certification include Nashville, Tennessee (Certified LEED 2.0 CI), Dallas, Texas (LEED CI 2.0 Gold) and Jacksonville, Florida (LEED CI 2.0 Silver).

The natural progression of our commitment to sustainable design led us to accept the 2030 Challenge in May 2009 and the AIA 2030 Commitment in March 2010.



- 1st Certified Healthcare Building in Florida
Parrish Port St. John Health Center
- 1st Certified Public School (Pre-K) in Florida
Baker Center
- 1st Certified Elementary School in Florida
Neil Armstrong Elementary
- 1st Certified Hotel/Resort in Florida
Sandpearl Resort
- 1st LEED Commercial Interiors Project in Florida
TLC Jacksonville Office
- 1st LEED Police Facility in Florida
Sarasota Police Department Headquarters
- 1st Certified Police Station in Texas
South Central Police Station
- 1st U.S. Athletic Facility in the Nation to attain Platinum and First Platinum LEED in Florida
UF Southwest Expansion James W. "Bill" Heavener Football Complex
- 1st Certified Tire Manufacturing Plant in the World
Bridgestone Warren County, Tennessee
- 1st LEED Platinum Certified Project for US Air Force and US Army Corps of Engineers
Fitness Center, Tyndall Air Force Base

"Being a 2030 Challenge Leader is our Sustainability differentiator; fully integrated and ingrained in our technical and business processes."

ACCOUNTABILITY

Our 56-year old firm disseminates technical information and establishes/updates practice policies through a series of committees including a Sustainability Committee, which involves all divisions of the firm and meets quarterly to keep our engineering designs, skill sets and professional credentials at a competitive edge in the market. The Sustainability Committee is addressing our commitment to the 2030 Challenge by involving input from the entire firm to review our internal business practices and engineer sustainable designs for our clients. Our geographically diverse firm practices engineering in a wide array of markets and varying project types – our goal is to continue to integrate the 2030 Challenge goals into our daily business practices and operations, with all divisions of our firm working cohesively to make strides toward reduced fossil fuel dependency. This document serves to formalize those actions, present achievable timelines for our actions and provide a road map for our future.

IMPLEMENTATION

This living document will be updated annually in the first quarter of each year. We will note our achievements and raise the bar in areas where we have met established milestones and bring focus to those areas that may require additional effort. To that end, our strategies will be adjusted as we move forward, setting near term implementation where possible, identifying those strategies that will require additional effort or time to achieve and adding stretch goals that challenge us.

Our goals and initiatives fit into two primary categories – those steps TLC will take towards reinforcing ourselves as sustainable corporate citizens and those that involve engineering designs for our clients.



SUSTAINABLE BUSINESS PRACTICE

Our sustainable business practice initiatives include efforts to reduce paper, energy use, water use and travel, while increasing the use of local vendors and suppliers and the volume of recycled goods and materials in our offices.

ONGOING INITIATIVES

- Our procurement policy requires the purchase of Energy Star compliant appliances and equipment, if the class of equipment is Energy Star rated.
- Incandescent lamps are prohibited under the procurement policy.
- All new computer monitors are LCD, Energy Star rated. Use of CRT monitors has been phased out and the eliminated monitors have been recycled.
- Each office recycles paper/cardboard/glass/plastic/aluminum and appropriately located bins are available throughout the offices.
- IT policy mandates that computers are in 'hibernate' mode overnight, allowing for updates and upgrades to be 'pushed' while minimizing the energy consumption.
 - Corporate-wide, printers and other office equipment is to be powered down at the end of each day.
 - Training on the use of duplex printing for those printers capable of this has been provided. Duplex printing is required for all practical situations.
- Coffee makers are to be powered-down or unplugged at the end of the day.
- All space and task lighting is to be turned off at the end of the day.
- TLC pay statement and expense reimbursements are no longer printed and distributed in envelopes. Current and cumulative information is available through a secure web site available to all employees, reducing print and distribution costs and associated energy use.
- Expense reporting, other than hard copy receipts, is now fully electronic and paperless.
- Firm financials are available electronically on-line to all staff.
- KeX – Knowledge Exchange, an on-line resource for all of TLC, is the first step in researching engineering challenges, evolving technologies and provides a means to communicate across the firm, drawing upon our collective expertise.
- Tri-fold marketing brochure 'shells' are off-set printed on one side, allowing for customization of content and eliminating disposal of out-of-date materials.





SUSTAINABLE EVALUATION

The primary initiative for 2011 is benchmarking our current fossil-fuel usage. Having this knowledge will allow us to most effectively address reducing our energy usage in three categories:

- Office electrical and natural gas use
- Business travel
- Employee commuting travel



ENERGY/WATER

- Benchmark the carbon footprint of our individual offices through analysis of utility bills and establish annual reduction goals. Goal is to collect metered data, or create/use a standardized energy use calculator where metering is not available.
- Perform a benchmark survey of project travel. Determine the cost of providing carbon offsets for project travel.
- Complete a commuter survey in each office location and identify ways to encourage use of public transportation by employees for commuting, travel to local meetings, etc.
- Identify appropriate energy and water conservation measures for each office and develop a timeline for implementation, along with payback.
- Perform a lighting audit in all office locations to identify improvements. Calculate the LPD and establish a reduction goal. Identify areas where daylight sensors, occupancy sensors, etc. could be used to decrease electrical load.
- Expand use of electronic meeting capabilities for both internal and client meetings by identifying standard high-definition video conferencing systems.
- Develop a plan for installing video conferencing capacity in divisions with largest travel reduction goals.
- Evaluate the cost of hybrid vehicles as rentals. Work with corporate vendors to familiarize them with our preference for hybrids.
- Eliminate use of bottled water in all offices.
- Establish baseline water consumption levels and targeted reduction goals in line with LEED WE Prerequisite 1 – Water Use Reduction in all offices. Provide data to landlords in leased facilities showing payback achievable through low-flow fixtures if not already installed.

EDUCATION

- Every TLC employee will demonstrate understanding of the requirements of the 2030 Challenge. This will be accomplished by having each employee annually complete an online multiple-choice quiz on the 2030 Challenge.
- Training in Projected Energy Use Intensity (PEUI) and lighting power density (LPD) reduction goal setting will be provided, using the AIA 2030 Reporting Tool, EPA Energy Star Target Finder and CBECS Site Energy Use data as instruction tools.
- Case studies of projects that meet the 2030 Challenge reduction goal (60% for the 2010-2014 quinquennial period) will be publicized in internal company communication to illustrate the measures and processes used to accomplish the goal.
- Conduct individualized division-by-division training on the use of the eQuest Wizard early decision tool so that all PM's and above are conversant with it and can lead their team in pre-SD evaluation, so that TLC can impact energy reduction in architectural decisions prior to engineering systems design.

PAPER/RECYCLING

- Track and establish baseline information for paper purchases.
- Develop a plan for further reduction in paper use, along with expanded use of duplex printing, printing of half set plans and fewer sets that may be shared among design team members.
- Establish a goal of reducing paper purchases, along with establishing goals for increasing the purchase of paper with recycled content.
- Evaluate provision of individual paper recycling bins to determine increased use based on convenience.
- Track and establish a baseline for increasing the volume of paper recycled, thus diverted from the waste stream.
- Recycle plotted drawings into notepads and research appropriate uses outside of the firm such as donations to schools, day care centers, etc.
- Increase use of recycled office supplies by centralizing used materials.
- Eliminate the use of polystyrene (Styrofoam). Use compostable disposable plates, cups, cutlery and serving ware in office kitchens or reusable items that are washed. Advise catering vendors of our company policy and seek their compliance.
- Save shipping materials from deliveries and recycle for materials being shipped out.
- All TLC marketing collateral will be made available in electronic format. Any hard copy production will be made on at least 50% post consumer recycled content or FSC-certified paper stock, printed with bio-based, non-toxic inks, when possible.
- TLC will only provide marketing specialties that are either ingestible or compostable.

FUTURE SUSTAINABLE PRACTICES

Many of the benchmarks established by efforts in 2011 will define future steps. As data is gathered, initiatives will be expanded, refined and enhanced with specific goals.

ENERGY/WATER

- Evaluate reinstating the purchase of carbon offsets. For those offices where it may be feasible, evaluate the use of on-site renewable energy.
- Evaluate the relative cost of buying carbon offsets through commercial aggregators and brokers versus funding a local community project (*tree planting, financing renewable energy system for a local non-profit or community service*).
- Identify and prioritize the phasing out of inefficient office equipment.
- Incentivize sustainable commuting practices based on outcome of commuter survey, reaching for LEED NC Sustainable Sites credits 4.2 – 4.4
- Develop a telecommuting policy, with the intent of reducing our energy use in both space occupied and employee commuting.
- TLC location host buildings will be surveyed by TLC and any energy consuming or indoor environmental quality systems serving TLC space will be re-commissioned at least every three years.
- Each TLC office will be required to decrease its annual energy use by at least 10% year-on-year or meet the current 2030 Challenge EUI goal for that location.
- Work with janitorial staffs at each office location to implement the use of green cleaning products.
- Replace vending machines with energy efficient equipment or eliminate use entirely.
- Purchase fair trade, sustainable produced consumables (coffee, tea, sugar, etc.)
- TLC will actively encourage reducing the use of fossil fuels for travel. Each division will reduce its use of fossil fuel for non-project and commuting travel by 10% year-on-year. That reduction can be achieved through either actual savings or purchased carbon offset.
- Employees will be encouraged to carpool and use public transportation. Evaluation of providing reserved parking spaces for ultra low emitting vehicles.

EDUCATION

- As TLC staff expands, orientation and new employee training will encompass the firm's 2030 Commitment and practices in place in support that effort.
- Annual updates of TLC's 2030 Commitment and Sustainability Action Plan will be shared across the firm via firm Intranet, lunch and learn sessions and quarterly divisional meetings.

PAPER/RECYCLING

- Each TLC office will establish an active recycling/composting program with a goal of achieving no more than 10% waste-by-volume to landfill.
- Identify caterers local to each office with sustainable practices. Preference to caterers within a ten-mile radius, those who respect TLC's preference for wash and reuse plates, cups and cutlery or use biodegradable, compostable and/or recyclable goods and offer menu options that support local and regional suppliers.



OUR DESIGN GOALS

Targeted reduction goals can only be met through education of our staff and current and future clients, along with open dialogue to educate clients on the life cycle costs, environmentally beneficial aspects and overall health benefits of sustainably designed spaces. In order to achieve the targeted reduction goals of the 2030 Challenge we are committing to implementation of the following.

Establish and publish a site energy use intensity (EUI) goal for every new construction and major renovation project with an MEP basic service design fee (does not include construction administration, LEED administration or other additional services) of at least \$50,000.

- This goal should be established, signed off on before design begins and maintained in cooperation with the project team (owner/user, architect, and construction manager [if applicable]).
- If this EUI goal is not both consistent with an Energy Star by Design Score of 75 or greater, and/or the current reduction target of the 2030 Challenge, there will be a written narrative by the project engineer/manager explaining the reasons for choosing to be short of either goal, and that narrative published to the project team.
- A contemporary energy model will be maintained to assure that the design remains consistent with this goal (*update the modeled performance at each major project deliverable – SD, DD, CD, as applicable*).

All applicable design work will be tracked using the AIA 2030 Commitment Design tracking tool.

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- If this EUI goal is not both consistent with an Energy Star by Design Score of 75 or greater, and/or the current reduction target of the 2030 Challenge, there will be a written narrative by the project engineer/manager explaining the reasons for choosing to be short of either goal, and that narrative published to the project team.
- A contemporary energy model will be maintained to assure that the design remains consistent with this goal (*update the modeled performance at each major project deliverable – SD, DD, CD, as applicable*).

Formally request and, if granted owner's permission, gather the actual energy performance of every project meeting the criteria for energy modeling (greater than or equal to MEP basic service design fee of \$50,000) and report that performance to the project team each year for a period of at least three years after beneficial occupancy by the Owner/User. The Division with the highest proportion of eligible projects having actual operating data reported will be recognized company-wide quarterly and annually.

Each Discipline Committee will be charged with developing, maintaining, and training discipline staff in the use of high performance building design processes, templates and systems to achieve the required 2030 Challenge and Energy Star by Design goals.

- High performance design checklists will be implemented on each qualifying project. These checklists will become part of the project record file.
- Each Discipline Committee shall have an active research and development task group to continually update and validate these high performance design tools and approaches, consistent with performance that achieves the 2030 Challenge goals.

Projects that demonstrate innovation in the use of systems and technology and integrated project delivery processes will be recognized and publicized through internal company communication in the form of case studies and awards to those project teams.





TLC'S COMMITMENT

Technical staff development supporting 2030 Challenge goals:

- At least one person in each MEP operating division certified as an ASHRAE Building Energy Modeling Professional (BEMP). TLC will offer at least forty hours of energy modeling training annually.
- TLC establishes a career path for commissioning authorities, beginning with entry level, increasing to senior level staff. The senior commissioning authority shall be ACG, BCA or ASHRAE certified.
- TLC establishes a career path for energy services and sustainability consultants, beginning with entry level, increasing to senior level staff. The senior consultants shall have an applicable ACG Energy Services, or ASHRAE HPDP or BEMP certification.
- TLC will encourage every MEP operating division director, senior mechanical, plumbing and electrical manager/engineer, project manager, senior designer, energy/sustainability consultant and commissioning authority to be a LEED Accredited Professional with Specialty and active in the LEED AP credential maintenance program. The Division with highest proportion of LEED AP's with specialty will be recognized company-wide each year.



Featured Projects

Stetson University's Lynn Business Center, page 1

Dunedin Community Center, page 2

Tyndall Air Force Base Recreation Center - photo courtesy of PBSJ Architects, page 2

Toho Water Authority, page 3

Parrish Port St. John Health Center - photo courtesy of Raymond Martinot, page 4

FAU Christine E. Lynn College of Nursing, page 7

Amway Center, page 7

Darden Corporate Headquarters, page 8

OUC Administrative Headquarters, page 9

Broward County South Regional Library, page 9

The future of our planet is highly dependent on the actions of the design and construction industry. Our commitment to the 2030 Challenge and steps to achieve these audacious goals will bring significant changes to our industry and ultimately, change the world for the better.



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