

IMPROVE SUSTAINABILITY?

SERIES ON SUSTAINABILITY 1 of 6

HOW CAN I MAKE MY BUILDING MORE SUSTAINABLE?

HOW CAN WE MAKE A BUILDING MORE SUSTAINABLE?

Let's start by asking some good questions...

Sustainability can mean many different things to different people. For some, being more sustainable means reducing energy consumption. For others it might mean careful selection of materials. Some can equate sustainability with occupant health and wellness. The only way to truly understand what your client is looking for is to ask about their goals and objectives. Here's a good place to start:

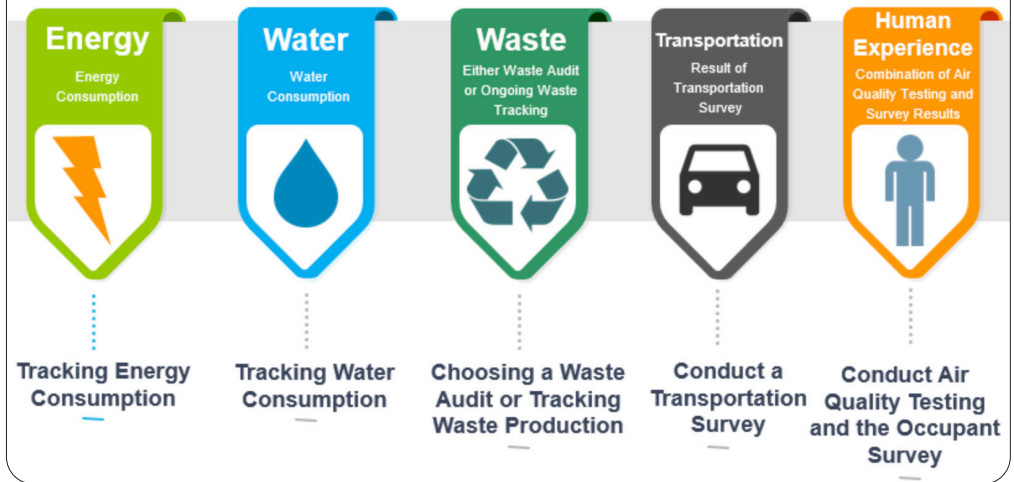
- What do you mean by sustainability?
- What is motivating you to seek a more sustainable building?
- Do you have specific goals or standards that you're trying to meet?

Once you have better understanding of what really matters to your client and what his or her ultimate goals might be, then you'll be able to offer the best, most helpful advice.

WHAT CAN WE DO?

In general, a commercial building is considered to be more sustainable if it consumes **less energy than a similar benchmarked building**. Consuming less energy contributes to a reduction in greenhouse gas (GHG) emissions. Other elements like location (especially in relation to transportation options), materials used and human experience also play a role in creating a more sustainable building. But while we have a responsibility to consider all elements of sustainability, as MEP engineers the area we can have the greatest impact is in the area of **energy usage and management**.

SUSTAINABILITY COULD MEAN...



emanuelson-podas
consulting engineers

5 WAYS TO IMPACT SUSTAINABILITY IN YOUR BUILDING

1

SET A TARGET

- First, ask the client what she or he means by sustainability.
- For existing buildings, compare historic utility data to a benchmarked building.
- For new buildings, establish a target by working with the client.
- For both new and existing buildings, energy model the project to verify performance.

2

RIGHT-SIZE YOUR SYSTEMS

- Select the right systems for the application – oversizing or undersizing can dramatically increase energy consumption.
- Review closely these systems: lighting, HVAC, electrical distribution, plumbing, etc.
- Perform calculations specific to the building; while rules-of-thumb can be helpful guides, each building is unique.
- Don't forget about water usage: discuss fixture flow rates and process water usage with the client.

3

COMMISSION THE PROJECT

- Establish project goals via the BOD (Basis of Design) and OPR (Owner's Project Requirements).
- Get a commissioning agent involved early in the design process.
- Let commissioning agent review design documents during the design process.

4

CONSIDER RENEWABLE ENERGY OPPORTUNITIES

- Don't forget about PV (Photo Voltaic). Rooftop solar is cheaper than you think.
- Solar hot water is an option.
- Be creative: there are more renewable energy options than you think (For example, what about a solar wall?)

5

IMPROVE HUMAN EXPERIENCE

- Consider thermal comfort.
- Improve ventilation rates to impact IAQ (Indoor Air Quality).
- Discuss filtration and disinfection options with the client.
- Lighting quality for occupants matters: natural light is still best.



emanuelson-podas
consulting engineers