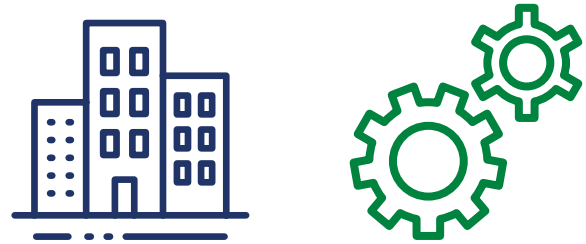


Through Better Buildings, DOE has developed Low Carbon Technology Strategies guidance documents to support you in your journey to reduce carbon emissions in your buildings. The primary purpose is to aid owners and operators of existing buildings in planning retrofit and operational strategies to achieve deep carbon reductions. These strategy documents supplement existing energy design guides where new construction is the focus. Low Carbon Technology Strategies are currently available for 10 building types, with a supplement for commercial kitchen equipment. Recommendations are grouped by technology, with recommended actions categorized as either simple, intermediate, or advanced.



### How to Use the Low Carbon Technology Strategies

As with any journey, your path to low carbon depends on your starting point and your desired destination. In energy and carbon management terms, you will need to identify your baseline conditions and your energy and carbon reduction goals.

Building Types	Technologies
<ul style="list-style-type: none"> <li>▶ <a href="#">Large Office</a></li> <li>▶ <a href="#">Small to Medium Office</a></li> <li>▶ <a href="#">Stand-alone Retail and Strip Mall</a></li> <li>▶ <a href="#">Primary School</a></li> <li>▶ <a href="#">Secondary School</a></li> <li>▶ <a href="#">Supermarket</a></li> <li>▶ <a href="#">Hospital</a></li> <li>▶ <a href="#">Outpatient Healthcare</a></li> <li>▶ <a href="#">Small Hotel</a></li> <li>▶ <a href="#">Midrise Apartment</a></li> </ul>	<ul style="list-style-type: none"> <li>▶ Lighting</li> <li>▶ Space Conditioning and Water Heating</li> <li>▶ Controls and Analytics</li> <li>▶ Building Envelope</li> <li>▶ Plug and Process Loads</li> <li>▶ Renewables and Battery Storage</li> <li>▶ Refrigeration</li> <li>▶ Kitchen Equipment</li> </ul>

Typical steps include:

1. Assess current building conditions by conducting an [energy audit \(audit template\)](#) and/or [carbon inventory](#)
2. Establish decarbonization goals and create an action plan to achieve goals
3. Implement retrofits and operational improvements to buildings and add renewable energy sources
4. Engage employees and tenants through communication, training, and recognition

To aid you with planning and establishing goals, we recommend [EPA's ENERGY STAR® Guide for Comprehensive Energy Management](#).

If you have already completed energy audits, benchmarking, or commissioning for your buildings, you do not need to start from scratch. For each of the technology strategies, knowing your baseline conditions will guide you on next steps, whether simple, intermediate, or advanced. To make sure you do not miss an opportunity to improve performance in your buildings, we recommend that you create plans for what to do when equipment fails. Early replacement can often make sense depending on your goals and the business case.

When decarbonizing your buildings, start by making your buildings energy efficient and then add on-site renewables. An efficient building generating its own power will have the flexibility to interact with the electric grid to maximize use of renewables in your community (e.g., by shedding or shifting load as part of a demand response program). To achieve zero carbon goals, your plan may also need to incorporate off-site renewables, renewable energy credits (RECs) and/or carbon offsets, but energy efficiency should be prioritized as the most cost-effective and impactful option.

Decarbonization Priority Waterfall

