

# ZNE Decision Making Matrix for State Agencies

September 13, 2017

Facility Type	Owners' ZNE Responsibilities	Tenant's ZNE Role
<p><b>1. State Owned Existing Building</b></p>	<p>a) Assess energy efficiency (Source EUI) and compare with ZNE target EUI to determine needed increased efficiency needed to meet targets.</p> <ul style="list-style-type: none"> <li>• Utilize Energy Star Portfolio Manager for data</li> <li>• Can utilize ZNE calculator</li> <li>• May be able to utilize department roadmap facility data sheets</li> <li>• Reference Energy Efficiency Targets Matrix</li> </ul> <p>b) Determine which buildings in portfolio to pursue and achieve ZNE by 2025 in 50% of department building area.</p> <ul style="list-style-type: none"> <li>• Some may already meet efficiency target</li> </ul> <p>c) Determine energy efficiency projects/efforts to improve efficiency to reach targets.</p> <ul style="list-style-type: none"> <li>• Utilize alternative financing if operation budgets are not available</li> <li>• (ESCO's, GS \$Mart, OBF, etc.)</li> <li>• The <a href="#">DGS Energy Efficiency Retrofit Program</a> can help departments identify and achieve energy efficiency reductions on existing buildings.</li> </ul> <p>d) Evaluate facility rooftops and sites for on-site renewable energy generation capacity.</p> <ul style="list-style-type: none"> <li>• Procure if possible to install as much as possible on-site, or through <a href="#">Power Purchase Agreement (PPA)</a>.</li> <li>• Consider other options for balance of renewable energy.</li> </ul> <p>e) If over-generation is needed to offset gas or other energy use, consider EV charging as option to use excess generation, since it does not count toward ZNE loads.</p>	<p>a) Procure energy-efficient office equipment to reduce plug loads.</p> <p>b) Operate energy-saving data controls to automatically shut down computers and monitors when not in use.</p> <p>c) Conserve energy by following thermostat set points, turning out lights when not in use, closing blinds in summer to reduce solar gain, etc.</p> <p>d) Comply with Standard Operating Efficiency Procedures (<a href="#">SAM Section 1805.3</a>) as applicable and within control of tenant.</p>

**ZNE Decision Making Matrix for State Agencies (Continued)**

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Facility Type	Owners' ZNE Responsibilities	Tenant's ZNE Role
<p><b>2. New or major renovation building beginning design</b></p>	<ul style="list-style-type: none"> <li>a) DGS will conduct these tasks for departments without building authority and working under DGS authority. Owners with their own authority are responsible for the following efforts.</li> <li>b) ZNE specialist to be integral part of project A&amp;E team from beginning.</li> <li>c) Verify project exceeding T-24 by 15% min., or higher if cost effective</li> <li>d) Evaluate and consider applicable energy-saving measures in design (optimal insulation of building envelope and efficient glazing &amp; roofing, efficient HVAC systems, natural ventilation &amp; daylight, monitoring-based commissioning, etc.)</li> <li>e) Evaluate site and building orientation to optimize on-site solar generation, including massing and landscape design.</li> <li>f) Assess capacity of building and/or site to generate on-site renewable offsetting facility energy load.</li> <li>g) Include ZEV charging, as appropriate, to potentially use excess energy generation needed to offset natural gas use.</li> <li>h) Consider option to eliminate natural gas use.</li> <li>i) Ensure that electrical conduits and panel capacity is installed to likely future points of renewables, regardless if not purchased or installed now.</li> </ul>	<ul style="list-style-type: none"> <li>a) Consider utilizing energy saving office structures and layouts that lead to improved efficiency (hoteling, shared/open office layout, etc.)</li> <li>b) Consider ultra-low energy use office equipment (laptops, tablets, virtual servers, eliminating personal printers, etc.)</li> <li>c) Include ZNE in facility requests, budget packages and long-term facility planning.</li> </ul>

## ZNE Decision Making Matrix for State Agencies (Continued)

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Facility Type	Owners' ZNE Responsibilities	Tenant's ZNE Role
<b>3. New or major renovation building already in design or construction</b>	<ul style="list-style-type: none"> <li>a) DGS will conduct these tasks for departments without building authority and working under DGS authority. Owners with their own authority are responsible for the following efforts.</li> <li>b) Verify building efficiency is exceeding T-24 by 15% or more. If possible, and cost effective, increase efficiency through design even further.</li> <li>c) Conduct renewable energy resource analysis of building and site to see what solar access and/or wind resources may be available to site.</li> <li>d) If renewable energy systems are not available to site, consider partnering with neighboring property owner or community solar program.</li> <li>e) To the extent possible, design the roof structure and/or parking areas for the eventual installation of renewable energy system.</li> <li>f) Design the mechanical/electrical rooms to include space for future installation of inverters and additional electrical/plumbing equipment.</li> <li>g) Design and install conduits/chases for eventual wiring/plumbing required for connecting renewable energy systems to mechanical/electrical rooms.</li> </ul>	<ul style="list-style-type: none"> <li>a) Consider &amp; implement as many energy efficiency measures and practices as practical from new and existing building lists above.</li> </ul>
<b>4. Build-to-suit lease beginning design</b>	<ul style="list-style-type: none"> <li>a) Include in site evaluation and lease agreements the same criteria as for new or major renovation projects beginning design.</li> </ul>	<p>Consider &amp; implement as many energy efficiency measures and practices as practical from new and existing building lists above.</p>
<b>5. Build-to-suit lease already in design or construction</b>	<ul style="list-style-type: none"> <li>b) Include in site evaluation and lease agreements the same criteria as new or major renovation building already in design or construction to the extent possible.</li> </ul>	<p>Consider &amp; implement as many energy efficiency measures and practices as practical from new and existing building lists above.</p>