

MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of September 29, 2016)

Overarching Recommendation				
1	<p>“We strongly recommend the FCG continue its practice of not employing a prescriptive approach to building technologies or components.” (Sec. 6.1)</p> <ul style="list-style-type: none"> • “We . . . recommend that FCG take no action directly on building form, integration, construction, or operations.” (Sec. 3.3.1.2) • “We strongly recommend that FCG continue its practice of not prescribing technologies or designs to developers. . . This is because a building is a system.” (Sec. 3.3.3.2) 			
	<p>Staff: Concurs. Staff views the recommendation as being consistent with the current green building policy. Staff continues to support engagement with applicants to explore potential proffers.</p>	<p>Stakeholders: Interest expressed in augmenting LEED with energy-specific performance.</p>	<p>Further discussion needed? If so, on what issue(s)? If the committee disagrees with the recommendation, is there a specific building technology of interest?</p>	<p>EC Position: General support for the staff perspective, but there is a need to circle back to this item upon completion of reviews of the other recommendations</p>
Recommendations regarding Individual Technologies/Data Collection				
2a	<p><i>Wind:</i> “We recommend that FCG not encourage installations unless a developer has himself proposed the project. If, however, FCG wishes to explore the option further it could use the proffer process to map the prevailing wind fields over Tysons Corner.” (Sec. 3.1.1.2)</p>			
	<p>Staff: Concurs <u>with MITRE’s general recommendation. However, -</u> <u>B</u>because the Virginia NREL map shows wind generation is impractical in Tysons (and most of Virginia generally), staff does not consider mapping to be a good use of resources.</p>	<p>Stakeholders: No specific comments.</p>	<p>Further discussion needed? If so, on one or both recommendations and on what issue(s)?</p>	<p>EC Position: Support for the staff perspective</p>

Areas with changes from the previous draft are noted with a



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2b	<p><i>Geothermal:</i> “An engineering study is necessary to determine the general suitability of [ground source heat pumps (GSHPs)] in Tysons Corner. We are aware of no such general study, and so we recommend against FCG encouraging the installation of GSHPs if the developer does not support the idea. If FCG wishes to pursue this avenue for the future, however, a comprehensive engineering study of the issue may be of interest.” (Sec. 3.1.2.2)</p>			
	<p>Staff: Concurr. Staff recognizes geothermal as a proven technology but one that needs to be evaluated by a developer on a case-by-case basis.</p>	<p>Stakeholders: No specific comments.</p>	<p>Further discussion needed? If so, on what issue(s)?</p>	<p>EC Position: Support for the staff perspective</p>
2c	<p><i>Solar:</i> [Given that, in Tysons,] “urban density and vertical development will be the rule . . . we recommend that FCG encourage the adoption of solar systems only if the developer originally proposes and supports the installation. . . . Insolation is well-known and easily available from NREL; there is nothing to be gained from a proffer of data collection on this subject.” “Passive systems are generally functions of design, rather than technology implementations, so while insolation management will be a core concern for energy efficiency design, FCG will likely find it difficult, at best, to negotiate proffers on the subject.” (Sec. 3.1.3.2)</p>			
	<p>Staff: Concurr. Staff supports MITRE’s perspectives on solar generation but notes that it remains a relatively expensive way to generate electricity (or reduce greenhouse gas emissions) when compared to Virginia electric rates.</p>	<p>Stakeholders: No issues raised with MITRE’s recommendation; comments focused on the cost of solar systems and environmental and societal benefits of solar-generated electricity.</p>	<p>Further discussion needed? If so, on one or both recommendations and on what issue(s)? Is there a need to acknowledge that the review is extending countywide and that MITRE’s concern regarding limited roof surface area in Tysons may not apply elsewhere in the county?</p>	<p>EC Position: Support for MITRE’s recommendation on solar systems subject to continued monitoring and possible reconsideration in the future; support for passive solar design within broader contexts, and flexibility to support such design; support for consideration of innovative technologies and solar fields if/when proposed.</p>

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2d	<i>Storage for Load-Shifting:</i> “We recommend that Fairfax remain neutral on the implementation of load-shifting in an individual building. . . . [and] we recommend that FCG only pursue energy storage systems only if they are originally proposed and supported by the developer.” (Sec. 3.2.3)				
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Recommendation regarding District Energy					
3	“We . . . recommend that . . . unless an applicant is proactively pursuing a district energy approach (or similar effort), the county not seek proffers on the subject of district energy in favor of seeking proffers with more certain benefit. If FCG wishes to proceed towards district energy, we recommend that it first seek help from federal resources” (Sec. 3.4.2)				
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Recommendations regarding 3rd Party Certifications and Performance Guidelines					
4a	<i>LEED:</i> “FCG already pursues certification-based approach with its use of LEED. We recommend that it continue this course rather than looking for more direct influence over the technology particulars of a building. . . . We recommend continued use of LEED.” (Sec. 5.4)				
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4b ¹	<p><i>Designed to Earn ENERGY STAR: “To complement LEED, we recommend that the county encourage Designed to Earn the ENERGY STAR [DEES] certification . . . We recommend DEES certification, rather than ENERGY STAR certification . . .” (Sec. 5.4)</i></p> <p><i>“ . . . because LEED only considers design, FCG should also encourage at least Design to Earn ENERGY STAR certification . . . (Sec. 6.4)</i></p>			
	<p>Staff: If is determined that the previous decision to not emphasize any particular green building aspects should be revised such that energy efficiency should be emphasized, staff concurs with the consideration of the use of DEES to the extent DEES is recognized as complementary, rather than as an alternative, to other green building commitments. Policy Plan guidance appears to support DEES aspirational efforts.</p>	<p>Stakeholders: Supportive. LEED requires only a minimal increase in energy efficiency; other options in addition to DEES may be available (e.g., ASHRAE guides; LEED energy optimization points).</p>	<p>Further discussion needed? If so, on what issue(s)? Does the committee wish to revisit its prior recommendation against emphasizing any particular aspect of green building design? If the committee wishes to recommend an emphasis on energy efficiency, what approach(es) should be considered and what additional discussions would be needed to aid the committee in developing a recommendation? <i>See staff’s decision flow chart.</i></p>	<p>EC Position: Provide a general emphasis on energy efforts within the green building policy but do not establish a preference for any particular approach or certification system relating to energy efficiency/conservation. Encourage such efforts but don’t establish any prescriptions or expectations on specific levels of energy performance.</p>

¹ Note: As of July 14, 2015, the county began enforcing a new provision in the 2012 Virginia Energy Conservation Code that requires commercial projects to incorporate one of three energy measures (HVAC efficiency, lighting efficiency, or on-site renewable energy). The committee may wish to consider this new requirement when discussing whether additional efforts to augment LEED, such as DEES, should be pursued.

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4c	<p><i>Benchmarking with Portfolio Manager:</i> “To complement LEED, we recommend that the county . . . encourage annual benchmarking with Portfolio Manager.” (Sec. 5.4)</p> <p>“ . . . because LEED only considers design, FCG should also encourage at least Design to Earn ENERGY STAR and then annual reporting in ENERGY STAR Portfolio Manager to ensure energy-efficiency in practice. FCG should also strongly encourage building owners to help improve LEED by using Portfolio Manager to report energy performance back to the U.S. Green Building Council.” (Sec. 6.4)</p>			
	<p>Staff: Supports tracking and evaluation of energy use in general but has concerns about seeking related proffer commitments. Supportive stakeholder comments caused staff to reconsider its concerns. There may be promise in pursuing commitments, and in particular the idea of gaining county government access to Portfolio Manager (or equivalent) data to support future evaluations if/when resources would be available. However, data consistency, enforcement and staff resource concerns remain. Reporting to USGBC is not an issue—LEED certification includes a reporting requirement.</p>	<p>Stakeholders: Comments express considerable support for energy benchmarking and the use of Portfolio Manager. Commenters describe access to energy use data as a consumer information need and not difficult to collect, state that required submissions will spur tracking by others and note that other localities impose benchmarking requirements.</p>	<p>Further discussion needed? If so, on what issue(s)? Should the county seek to collect building energy data through proffered commitments? If so, should the data collection mechanism be periodic reports or the provision of access to Portfolio Manager accounts for the building(s) in question? <i>See staff’s decision flow chart. In addition, the committee has received guidance on its questions regarding FOIA implications of data collection, and this could be considered within this discussion.</i></p>	<p>EC Position: <u>The committee began its discussion of this issue on September 29, 2016; additional committee discussion and possible development of position anticipated on October 19, 2016{issue needs more discussion}</u></p>
4d	<p><i>Net Zero and Passive House:</i> “We recommend that Fairfax closely monitor developments pertaining to net-zero . . .” (Sec. 5.4)</p> <p>“We also recommend that FCG pay close attention to the evolution of Passive House and net-zero methodologies, and as these practices mature, we recommend FCG use them to specify building performance targets.” (Sec. 6.4)</p>			
	<p>Staff: Concurs in the recommendation to closely monitor and has done so to date.</p>	<p>Stakeholders: No specific comments.</p>	<p>Further discussion needed? If so, on what issue(s)?</p>	<p>EC Position: Support for the staff and MITRE perspectives; revisit when the concept blossoms.</p>

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4e	<p><i>Innovative Energy Proposals:</i> “. . . we recommend that FCG allow risk to trump certification. If a developer acting in good faith proposes a project with new, risky technologies that may offer a chance at breakthrough energy performance, and if that riskiness is enough to jeopardize FCG’s usual preferred form of certification, then we suggest that the county accept a commitment to proceed with the risky process in lieu of a commitment to the certification (though maintaining a reporting component to the commitment) and proceed with the risky project (Sec. 5.4)</p> <p>“. . . certification guidelines (though not Portfolio Manager reporting) should not be applied rigidly if a developer wishes to be a test case for unproven energy-efficiency techniques or technologies. . . . FCG should coordinate with DOE programs to recruit suitable experimentation developments, and it should apply flexibility to its guidelines so that policies meant to encourage a minimum level of environmental stewardship do not hamper attempts to exceed it.” (Sec. 6.4)</p>			
	<p>Staff: Concurs with the general approach outlined above. The Comprehensive Plan is a guide—it can therefore support the approach recommended by MITRE should such an opportunity arise. The county has a long history of implementing cutting-edge concepts and its innovative and successful efforts consistently attract national recognition.</p>	<p>Stakeholders: No specific comments.</p>	<p>Further discussion needed? If so, on what issue(s)?</p>	<p>EC Position: Support for the staff and MITRE perspectives, with clarification of the use of the term “risky” to reference unproven or emerging technologies.</p>

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Recommendation regarding Public Reporting

5	<p>“[W]e . . . recommend that FCG encourage building owners to make public their energy consumption performance. From developers, FCG should negotiate access to the consumption data through Portfolio Manager, and the County should post the annual benchmarking results publicly online. . . . Additionally, each facility should have posted its ENERGY STAR scores from each benchmarking along with its LEED Certification.” (Sec. 5.4; see also Sec. 6.5)</p>			
	<p>Staff: Staff supports the tracking and evaluation of energy use but has concerns about public reporting of private building energy use. Concerns include uncertain legal authority to require public disclosure of private data, the extent to which applicants would be willing to commit to disclosure, uncertain means to enforce voluntary commitments, and lack of staff resources to maintain and publicize energy use data.</p>	<p>Stakeholders: Considerable support for energy benchmarking and tracking and the use of Portfolio Manager in particular.</p>	<p>Further discussion needed? If so, on what issue(s)? If the committee supports public disclosure, should the county pursue MITRE’s recommendation or another version of disclosure? If the latter, does the committee have a particular approach to disclosure that it would recommend?</p>	<p>EC Position: {Issue needs more discussion}</p>

