

**FAIRFAX COUNTY PLANNING COMMISSION
ENVIRONMENT COMMITTEE
THURSDAY, SEPTEMBER 29, 2016**

PRESENT: James R. Hart, Commissioner At-Large
Ellen J. Hurley, Braddock District
John Ulfelder, Dranesville District
Frank A. de la Fe, Hunter Mill District

ABSENT: Janyce Hedetniemi, Commissioner At-Large
Timothy Sargeant, Commissioner At-Large
Julie Strandlie, Mason District
Kenneth A. Lawrence, Providence District

OTHERS: Maya Dhavale, Planning Division (PD), Department of Planning and Zoning (DPZ)
Denise James, PD, DPZ
Noel Kaplan, PD, DPZ
Kambiz Agazi, County Executive Office
Susan Hafeli, Department of Cable and Consumer Services
Jill G. Cooper, Director, Planning Commission
Inna Kangarloo, Senior Deputy Clerk, Planning Commission

ATTACHMENT:

- A. MITRE Corporation Building Energy Technology Recommendations to Fairfax County Table, May 26, 2016
- B. MITRE Recommendation 4b: Third Party Certifications and Performance Guidelines Decision Flow Chart
- C. MITRE Recommendation 4c: Energy Benchmarking Decision Flow Chart
- D. Fairfax County Comprehensive Plan, 2013 Edition, Environment, Amended through 7-1-2014 (Page 19 - 22)

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Chairman James Hart called the meeting to order at 7:01 p.m., in the Board Conference Room, 12000 Government Center Parkway, Fairfax, Virginia, 22035.

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Noel Kaplan, Planning Division (PD), Department of Planning and Zoning (DPZ), provided a summary of the edits to the MITRE report, "Electric Vehicle Charging Infrastructure Recommendations to Fairfax County" that were suggested at the previous Committee meeting.

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Mr. Kaplan, PD, DPZ; Kambiz Agazi, County Executive Office; and Maya Dhavale, PD, DPZ, continued the discussion with the Committee on the following sections of the MITRE report:

- MITRE recommendation 4b: Designed to Earn the ENERGY STAR (third party certifications and performance guidelines);
- MITRE recommendations 4c and 5: Energy Benchmarking And Public Reporting Of Energy Use; and
- MITRE recommendation 1: Building Technologies.

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Commissioner Hart stated that the next scheduled meeting date would be October 19, 2016.

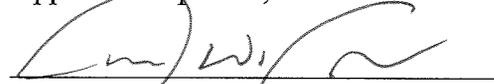
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The meeting was adjourned at 8:06 p.m.
James R. Hart, Chairman

An audio recording of this meeting is available in the Planning Commission Office, 12000 Government Center Parkway, Suite 330, Fairfax, Virginia 22035.

Minutes by: Inna Kangarloo

Approved: April 19, 2017



John W. Cooper, Clerk to the
Fairfax County Planning Commission

MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of May 26, 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> Bbecause 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



MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of May 26, 2016)

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: Concur. 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: Concur. 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>

MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of May 26, 2016)

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)				
	<table border="1"> <tr> <td data-bbox="268 345 722 469">Staff: Concurs.</td> <td data-bbox="722 345 1136 469">Stakeholders: No specific comments.</td> <td data-bbox="1136 345 1577 469">Further discussion needed? If so, on what issue(s)?</td> <td data-bbox="1577 345 1940 469">EC Position: Support for the staff and MITRE perspectives</td> </tr> </table>	Staff: Concurs.	Stakeholders: No specific comments.	Further discussion needed? If so, on what issue(s)?	EC Position: Support for the staff and MITRE perspectives
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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)				
	<table border="1"> <tr> <td data-bbox="268 646 722 950">Staff: Concurs.</td> <td data-bbox="722 646 1136 950">Stakeholders: No specific comments.</td> <td data-bbox="1136 646 1577 950">Further discussion needed? If so, on what issue(s)?</td> <td data-bbox="1577 646 1940 950">EC Position: The committee supports the concept but does not recommend proactive pursuit at this time in light of impediments. There may be future application as this technology evolves.</td> </tr> </table>	Staff: Concurs.	Stakeholders: No specific comments.	Further discussion needed? If so, on what issue(s)?	EC Position: The committee supports the concept but does not recommend proactive pursuit at this time in light of impediments. There may be future application as this technology evolves.
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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)				
	<table border="1"> <tr> <td data-bbox="268 1089 722 1206">Staff: Concurs. Staff views the recently-revised green building policy as consistent with this recommendation.</td> <td data-bbox="722 1089 1136 1206">Stakeholders: No specific comments.</td> <td data-bbox="1136 1089 1577 1206">Further discussion needed? If so, on what issue(s)?</td> <td data-bbox="1577 1089 1940 1206">EC Position: Support for the staff perspective</td> </tr> </table>	Staff: Concurs. Staff views the recently-revised green building policy as consistent with this recommendation.	Stakeholders: No specific comments.	Further discussion needed? If so, on what issue(s)?	EC Position: Support for the staff perspective
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MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of May 26, 2016)

4b ¹	<p><i>Designed to Earn ENERGY STAR:</i> “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) “. . . because LEED only considers design, FCG should also encourage at least Design to Earn ENERGY STAR certification . . . (Sec. 6.4)</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: {Issue discussed on May 26, 2016; additional committee discussion and possible development of position anticipated on September 29, 2016needs more discussion}</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.

MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of May 26, 2016)

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: {Issue needs more discussion}</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>

MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of May 26, 2016)

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>

MITRE Corporation Building Energy Technology Recommendations to Fairfax County (As of May 26, 2016)

Recommendation regarding Public Reporting

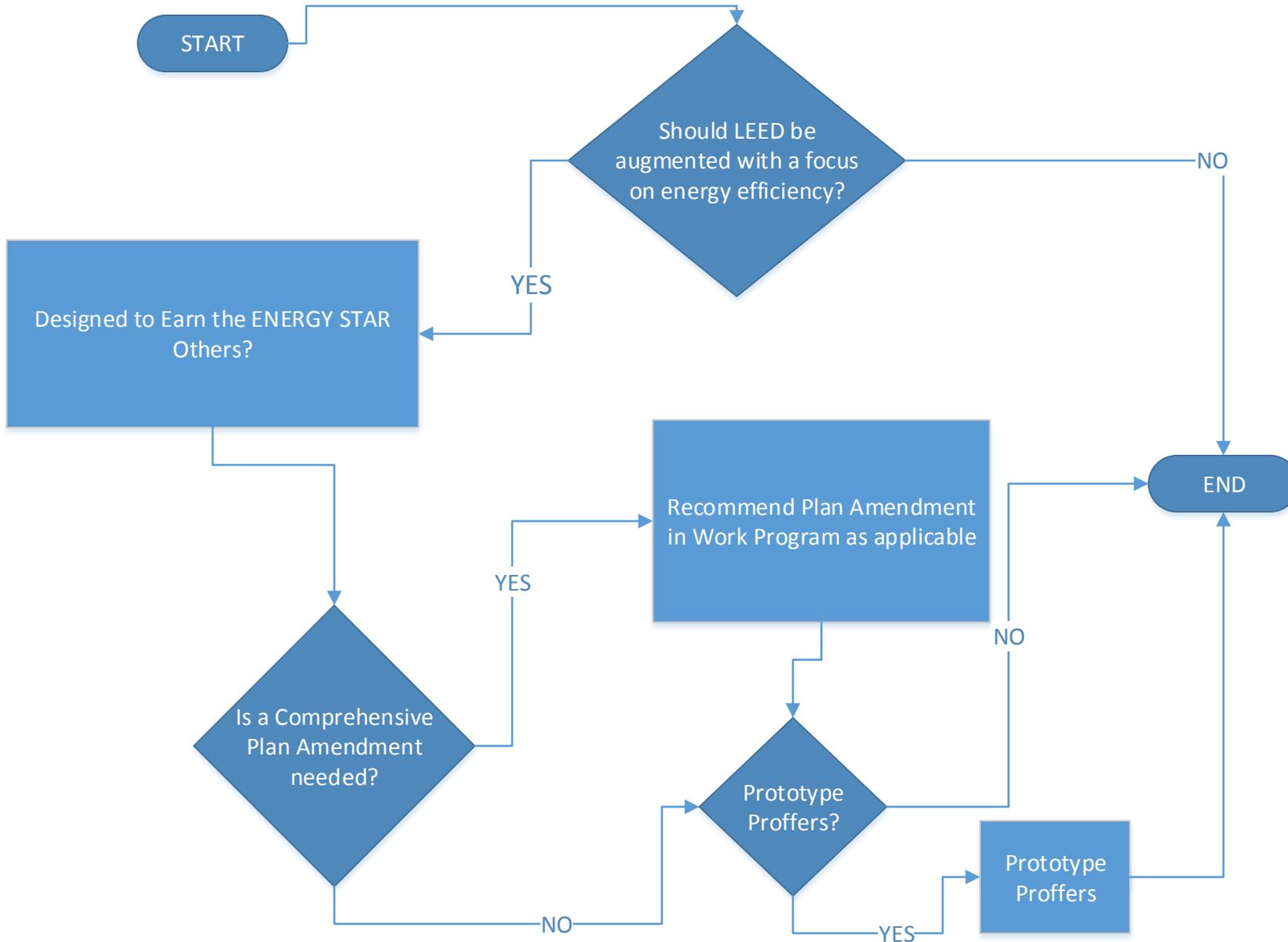
5	<p>“[W]e . . . recommend that FCG encourage building owners to make public their energy consumption performance. From developers, FCG should negotiate access to the consumption data through Portfolio Manager, and the County should post the annual benchmarking results publicly online. . . . Additionally, 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>

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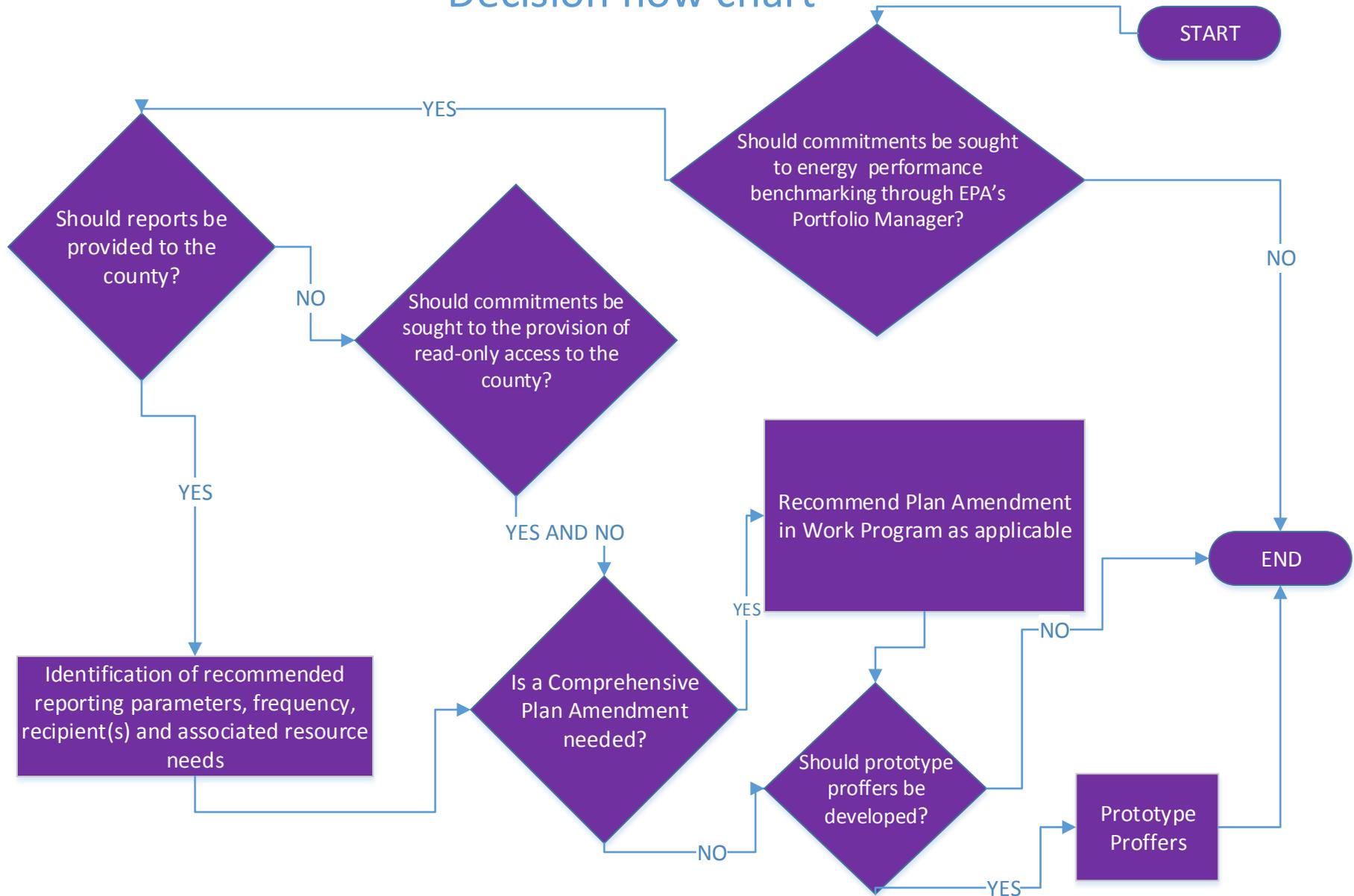
MITRE Recommendation 4b: Third Party Certifications and Performance Guidelines

Decision flow chart



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MITRE Recommendations 4c: Energy Benchmarking Decision flow chart



- Policy b: Establish a centralized environmental planning and monitoring function with responsibility for coordinating the actions of individual county agencies to effect a comprehensive program to preserve and improve the environment.

RESOURCE CONSERVATION AND GREEN BUILDING PRACTICES

The energy shortage in the United States in the 1970s highlighted the finite nature of our natural resources. Since the 1970s, efforts have been pursued at the federal level to enhance energy efficiency and the efficient use of water resources. While such efforts are best addressed at the federal level, local efforts to conserve these resources should be encouraged. Recent events and trends have highlighted the increasing need for energy and resource conservation and efficiency, greenhouse gas reduction and green building practices. Many jurisdictions are now engaging in community energy planning and other strategies to best use available resources.

The “green building” concept provides a holistic approach to the reduction of adverse environmental impacts associated with buildings and their associated facilities and landscapes.

Objective 13: Design and construct buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.

- Policy a. In consideration of other Policy Plan objectives, encourage the application of energy conservation, water conservation and other green building practices in the design and construction of new development and redevelopment projects. These practices may include, but are not limited to:

- Environmentally-sensitive siting and construction of development;
- Application of low impact development practices, including minimization of impervious cover (See Policy k under Objective 2 of this section of the *Policy Plan*);
- Optimization of energy performance of structures/energy-efficient design;
- Use of renewable energy resources;
- Use of energy efficient appliances, heating/cooling systems, lighting and/or other products;
- Application of best practices for water conservation, such as water efficient landscaping and innovative wastewater technologies, that can serve to reduce the use of potable water and/or reduce stormwater runoff volumes;
- Reuse of existing building materials for redevelopment projects;
- Recycling/salvage of non-hazardous construction, demolition, and land clearing debris;
- Use of recycled and rapidly renewable building materials;

- Use of building materials and products that originate from nearby sources;
- Reduction of potential indoor air quality problems through measures such as increased ventilation, indoor air testing and use of low-emitting adhesives, sealants, paints/coatings, carpeting and other building materials;
- Reuse, preservation and conservation of existing buildings, including historic structures;
- Retrofitting of other green building practices within existing structures to be preserved, conserved and reused;
- Energy and water usage data collection and performance monitoring;
- Solid waste and recycling management practices; and
- Natural lighting for occupants.

Encourage commitments to implementation of green building practices through certification under established green building rating systems for individual buildings (e.g., the U.S. Green Building Council's Leadership in Energy and Environmental Design for New Construction [LEED-NC[®]] or the U.S. Green Building Council's Leadership in Energy and Environmental Design for Core and Shell [LEED-CS[®]] program or other equivalent programs with third party certification). An equivalent program is one that is independent, third-party verified, and has regional or national recognition or one that otherwise includes multiple green building concepts and overall levels of green building performance that are at least similar in scope to the applicable LEED rating system. Encourage commitments to the attainment of the ENERGY STAR[®] rating where available. Encourage certification of new homes through an established residential green building rating system that incorporates multiple green building concepts and has a level of energy performance that is comparable to or exceeds ENERGY STAR qualification for homes. Encourage the inclusion of professionals with green building accreditation on development teams. Encourage commitments to the provision of information to owners of buildings with green building/energy efficiency measures that identifies both the benefits of these measures and their associated maintenance needs.

- Policy b. Within the Tysons Corner Urban Center, Suburban Centers, Community Business Centers, Industrial Areas and Transit Station Areas as identified on the Concept Map for Future Development, unless otherwise recommended in the applicable area plan, ensure that zoning proposals for nonresidential development or zoning proposals for multifamily residential development incorporate green building practices sufficient to attain certification through the LEED-NC or LEED-CS program or an equivalent program specifically incorporating multiple green building concepts, where applicable, where these zoning proposals seek at least one of the following:

- Development in accordance with Comprehensive Plan Options;
- Development involving a change in use from what would be allowed as a permitted use under existing zoning;
- Development at the Overlay Level; or
- Development at the high end of planned density/intensity ranges. For nonresidential development, consider the upper 40% of the range between by-right development potential and the maximum Plan intensity to constitute the high end of the range.

Where developments with exceptional intensity or density are proposed (e.g. at 90 percent or more of the maximum planned density or intensity), ensure that higher than basic levels of green building certification are attained.

- Policy c. Ensure that zoning proposals for residential development that are not otherwise addressed in Policy b above will incorporate green building practices sufficient to attain certification under an established residential green building rating system that incorporates multiple green building concepts and that includes an ENERGY STAR Qualified Homes designation or a comparable level of energy performance. Where such zoning proposals seek development at or above the mid-point of the Plan density range, ensure that county expectations regarding the incorporation of green building practices are exceeded in two or more of the following measurable categories: energy efficiency; water conservation; reusable and recycled building materials; pedestrian orientation and alternative transportation strategies; healthier indoor air quality; open space and habitat conservation and restoration; and greenhouse gas emission reduction. As intensity or density increases, the expectations for achievement in the area of green building practices would commensurately increase.
- Policy d. Promote implementation of green building practices by encouraging commitments to monetary contributions in support of the county's environmental initiatives, with such contributions to be refunded upon demonstration of attainment of certification under the applicable LEED rating system or equivalent rating system.
- Policy e. Encourage energy conservation through the provision of measures which support non-motorized transportation, such as the provision of showers and lockers for employees and the provision of secure short-term and long-term bicycle parking facilities for employment, retail, institutional, and multifamily residential uses.
- Policy f. Encourage applicants involved in public-private partnerships where land is leased or provided by the county to meet or exceed county guidelines for green building certification for capital projects.
- Policy g. Encourage provision of or readiness for charging stations and related infrastructure for electric vehicles within new development and redevelopment proposals, particularly for residential where other opportunities are not available.

- Policy h. Encourage and participate in periodic regional and local evaluations of the outcomes achieved through the application of sustainable land use principles and technology, in coordination with the energy and resources providers and industry. Such evaluations should be based on pooled, anonymous-source data, and should provide information helpful in decisions regarding the costs and benefits of green practices, including evaluations focused on innovative approaches and technology.