A New Code Compliance Support Strategy: Delivering Energy Savings Through Third-Party Plan Review

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ABSTRACT

Policy goals are driving many jurisdictions beyond model energy codes and toward stretch codes and advanced building practices, yet compliance with *current* energy codes is still lacking in many areas. This presents a significant opportunity for energy savings and demonstrates a need for innovation in energy code compliance support programs, which will only become more critical as codes become increasingly complex. Since many code officials lack the time and technical expertise to thoroughly review commercial energy code requirements, an effective strategy to improve compliance is to provide direct support for code enforcement through third-party plan review. This targeted intervention ensures that design teams receive immediate feedback and can bring plans into compliance before construction begins.

Over a four-year period, the project team worked with four cities across Minnesota to provide no-cost, third-party plan review for new commercial buildings, targeting 38 commonly missed mandatory and prescriptive measures with high energy impacts and conducting in-depth reviews of energy simulations for performance path projects. We found an initial average compliance rate of 36%, showing that many key measures would have otherwise gone unenforced. In addition to supporting overburdened code officials, this program provided cost-effective energy savings for utilities, practical education to designers, and insights into design challenges and areas of non-compliance that can help target other compliance support activities. This paper will present compliance data and energy savings results from projects reviewed in Minnesota, as well as insights on program design that can be used to replicate this approach across the country.

Introduction

Energy code compliance support programs have historically focused on educating code officials and designers so they can more effectively interpret, apply, and enforce the energy code. While these programs have largely been successful, this approach is reaching a point of diminishing returns as efficiency improvements in the code have increased the number and complexity of requirements (Landry 2018). At the same time, typical building department staffing has remained largely constant, leaving code officials with inadequate resources to thoroughly review energy code requirements (Cadeo 2024). Third-party plan review is unique in targeting specific measures that present an opportunity for significant energy savings. This differs from more traditional code compliance programs, which emphasize comprehensive compliance with the entire energy code and are not focused on individual construction projects.

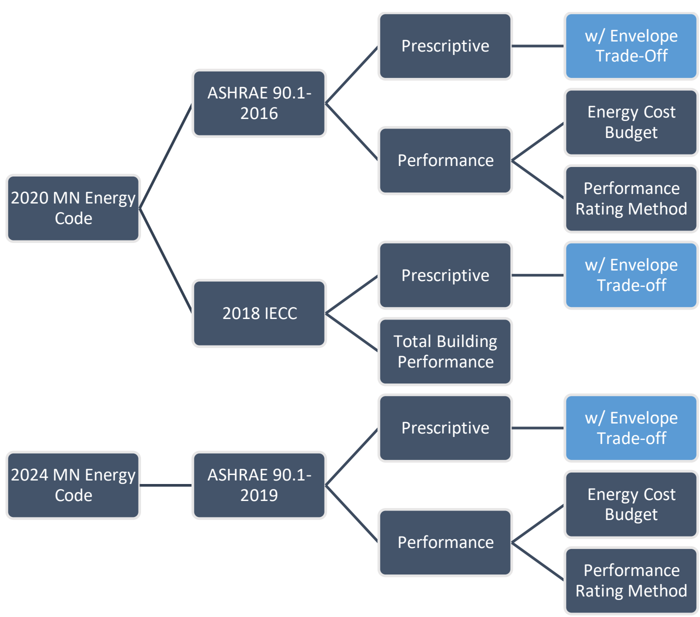
The project team first piloted this third-party plan approach review from 2015–2017, assessing the feasibility of the program design and developing a methodology for evaluating compliance and calculating energy savings impact (Landry 2018). After a successful pilot, a full program was launched with three participating cities, funded by Xcel Energy and CenterPoint

Energy, Minnesota's largest electric and natural gas utilities. Thirty projects were reviewed from 2021–2023. After the initial funding period, funding utilities moved away from direct plan review support and shifted their programmatic focus to broader compliance support through a circuit rider and training program. At the same time, the project team received a federal funding award from the U.S. Department of Energy through the Resilient and Efficient Codes Implementation (RECI) program in late 2023 that allowed the project team to continue offering plan review support without utility funding. Two participating cities from the pilot program continued to participate, and the team recruited an additional city and reviewed an additional 25 projects from 2024–2025. This paper will describe program design, compliance results, and energy savings resulting from program implementation under both funding models.[1]

Background

The Commercial Energy Code in Minnesota

In Minnesota, building and energy codes are adopted statewide; local authorities having jurisdiction (AHJs) are not allowed to go beyond state codes. The current Minnesota Commercial Energy Code (ASHRAE 90.1 – 2019 with Minnesota amendments) went into effect in 2024. Projects were also reviewed under the 2020 Minnesota Commercial Energy Code (2018 IECC and ASHRAE 90.1 – 2016 with Minnesota amendments). As shown in Figure 1, several compliance pathways are available under both the 2020 and 2024 energy codes. In 2023, the Minnesota legislature adopted an aggressive efficiency goal for the commercial energy code, mandating an 80% reduction in energy use over a ASHRAE 90.1 – 2004 baseline by 2036. This legislation also requires the state to review and adopt model codes as they are released every three years, without any weakening amendments, putting Minnesota on a path to more frequently updated and increasingly stringent codes (Minnesota Statutes 2023).



[1] Compliance data is available for 25 projects reviewed under the federally funded phase of program implementation. Energy savings results are available for a subset of nine projects reviewed under the utility-funded phase and submitted for program evaluation.

Figure 1. Available compliance pathways for projects reviewed under current and previous Minnesota commercial energy codes

The Compliance Opportunity

In Minnesota, over 400 AHJs enforce the state building and energy codes. Code officials face several barriers to enforcing the commercial energy code that cannot be fully addressed through training and educational resources alone. First, the time required to complete a thorough energy code review for a large commercial project can be substantial, and code officials are often under pressure from elected officials to approve building permits as quickly as possible. Plan review and inspections typically focus primarily on fire and life safety issues, followed by accessibility, with energy code as a lower priority (Cadeo 2024). Even in cities with sustainability and climate goals, political leaders often do not view energy code noncompliance as a critical issue that should impede construction.

Building departments are also not typically structured or staffed to facilitate an expert, in-house energy code review of large commercial buildings. The energy code falls under the building permit application and building plan review process, but energy code requirements stretch across multiple disciplines and construction drawing sets (e.g., architectural, mechanical, and electrical). While building plan reviewers are typically comfortable with reviewing architectural drawings, and many AHJs have a dedicated mechanical inspector on their staff, responsibility for reviewing and enforcing lighting requirements is often unclear. Because state inspectors enforce the electrical code in Minnesota, AHJs do not review electrical drawings, and electrical inspectors are not responsible for addressing energy code requirements. Finally, very few code officials have adequate training to thoroughly review energy simulations for performance path projects (Cadeo 2024).

The level of stringency in energy code enforcement also varies between AHJs. As a result, compliance is often reactive, rather than a priority in the design process. This means that construction documents are often missing information necessary to determine compliance at the time of permit application, requiring repeated back and forth between code officials and design teams before plan review can fully begin (Cadeo 2024).

Recent compliance studies in Minnesota have confirmed that there is room for improvement in commercial energy code compliance. A statewide study conducted in 2020 found average compliance rates of 69–84% in commercial construction and significant statewide energy savings potential from missed requirements (Slipstream, 2020). Third-party plan review is an innovative way to achieve these potential energy savings by addressing many of the barriers inherent to the existing code enforcement process, including lack of time, limited expertise, and inconsistency in enforcement and construction document clarity.

Program Design

Onboarding and Review Process

The project team recruited several AHJs to participate in the program through professional networks, regional training events, and direct communication with building departments, targeting larger cities that were likely to see a higher volume of large commercial new construction projects. Participating AHJs selected projects for third-party review on a case-by-case basis. The project team's role was purely advisory, with building departments retaining full control over permitting decisions. Code officials completed their review of all other applicable building codes in parallel to the third-party review of energy code requirements to avoid delays in the permitting process.

Figure 2 shows the review process and communication between the review team, AHJ, and design team. Upon receiving a project for review, the team screened submitted construction documents to identify project scope and compliance pathway. Reviewers flagged obvious omissions such as missing mechanical schedules, lighting power calculations, or energy modeling documentation, and followed up with the AHJ as needed so code officials could request missing items from design teams. Next, plan reviewers conducted a comprehensive assessment, categorizing each measure as compliant, noncompliant, not applicable, or indeterminate (inadequate design clarity).[2] All compliance findings were compiled into a final report.

A distinguishing feature of the program was an emphasis on producing reports that were technically rigorous but still accessible to non-specialist audiences. Each report included a visual summary table enabling code officials to quickly understand the project's compliance status without delving into the full narrative. Detailed findings were presented with specific, actionable guidance for recommended corrections. Participating code officials commented that these reports were not only useful as a code enforcement tool but were also a powerful learning resource that helped them better understand the energy code and common reasons for noncompliance.

During program implementation, the project team identified a recurring barrier: most permit sets lacked enough drawing and specification detail to determine compliance. For example, although most projects included a mechanical schedule, many submitted mechanical schedules did not include a sequence of operations detailing HVAC control settings. As a result, the review team often needed to request an additional resubmittal before plan review could begin, frustrating permit applicants. To address this issue, the team developed an internal documentation checklist used during preliminary screening to ensure that the information contained in construction documents was adequate to determine compliance or noncompliance for reviewed measures. This allowed reviewers to set expectations for construction document clarity before beginning plan review.

Most projects required at least one round of review-directed updates to construction documents before the review team recommended permit approval. About half the prescriptive projects reviewed required one or two additional reviews. Performance path projects averaged about four rounds of review. Subsequent reviews involved a narrower scope, as only previously identified deficiencies or newly introduced design changes required evaluation. In addition to written feedback, the review team often met with designers, with code officials participating as needed, to discuss findings and resolve issues on performance-path projects or complex building systems.

[2] "Not applicable" indicated that a measure was not required for a specific project. For example, prescriptive requirements for roof and wall insulation would not apply to projects using the envelope trade-off compliance pathway. "Indeterminate" indicated that not enough information was available to determine compliance, for example, if R-values were not documented for components of a wall assembly.

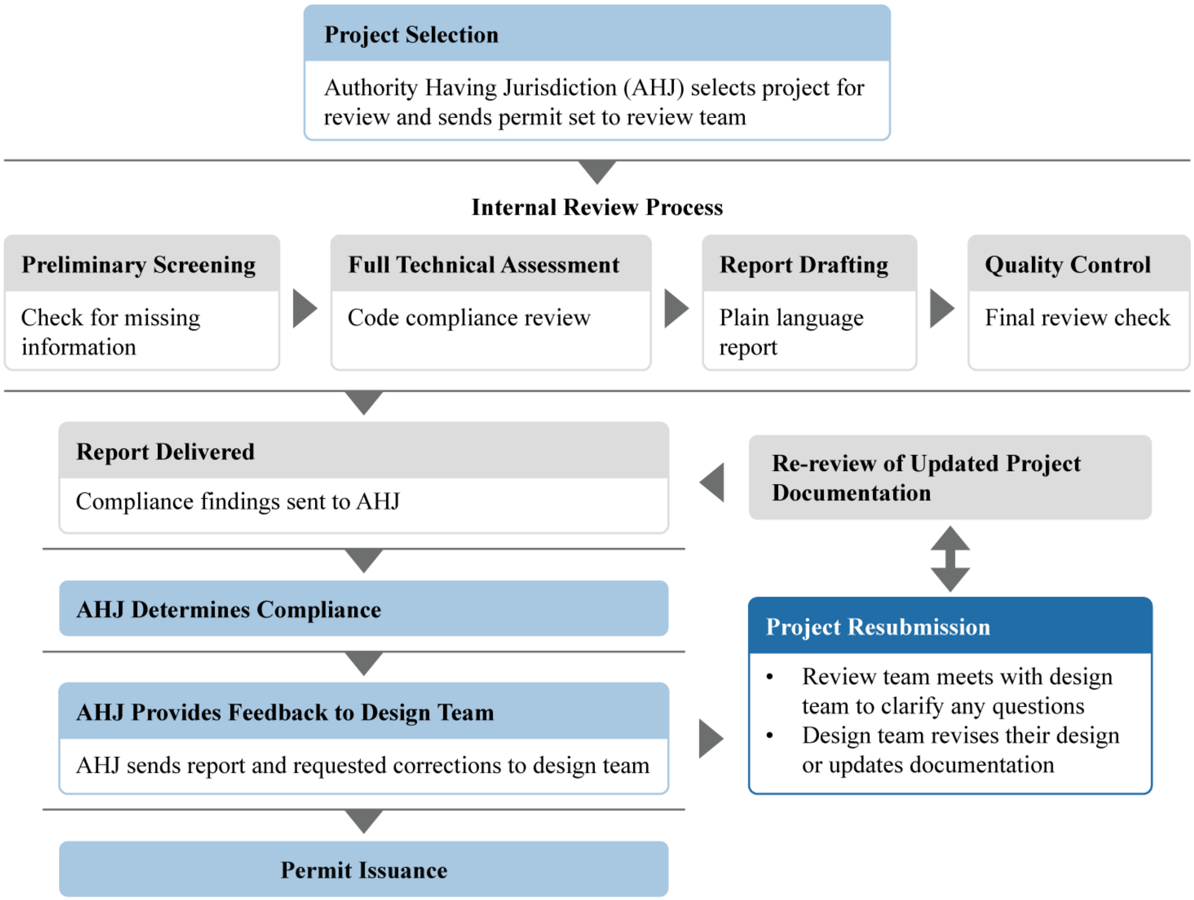


Figure 2. Review process for projects submitted for third-party plan review. Activities highlighted in blue were completed by the AHJ and items highlighted in gray were completed by the project team.

Measure Selection

The project team developed an initial list of targeted measures for the pilot program implemented in 2015. Measures were chosen based on previous studies of compliance in Minnesota, interviews with code officials in other states that had already been enforcing a similar combination of energy codes, changes from the previous energy code, and an engineer's line-item review of the likelihood of an item being missed. In addition to weighing the likelihood of being missed by designers and the magnitude of energy impact, the project team also considered the level of effort involved in determining compliance. For example, heating and cooling equipment sizing was omitted from the list because the information needed to determine compliance is typically not part of a construction drawing set and would not be easily accessible to reviewers. The measure list was updated in 2020 and 2024 when new codes were adopted to reflect additions or changes. Several measures were also added after receiving feedback from code officials. For example, the requirement for controls that reduce heating or cooling when an exterior door is opened was added to the list after being flagged as a frequently noncompliant measure by one of the participating AHJs.

Table 1 lists the mandatory and prescriptive requirements reviewed. For projects following the prescriptive pathway, all applicable requirements were reviewed, including verifying accuracy of COMcheck reports submitted for projects using the envelope-tradeoff compliance pathway. For projects following a performance pathway, applicable mandatory measures were reviewed, and the baseline and design energy simulations were reviewed for accuracy. As shown in Figure 3, about half the selected measures were mandatory requirements, focused primarily on commissioning, testing, and controls.

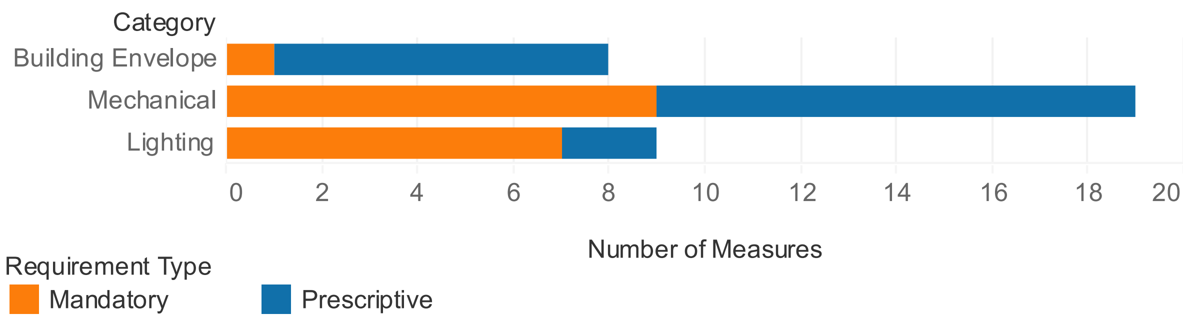


Figure 3. Number of targeted measures selected for review by discipline and requirement type.

Table 1. Prescriptive and Mandatory Measures Reviewed

Category	Sub-Category	Measure Name
Building Envelope	Commissioning and Testing	Whole Building Air Leakage
	Envelope Insulation	Roof Insulation
		Above-Grade Wall Insulation
		Slab-on-Grade Floor Insulation
	Glazing and Windows	Window U-Factor
		Window SHGC
		Window Area
		Window Orientation
	Envelope Trade-Off	Design Performance[3]
		Analysis Quality[4]
Lighting	Commissioning and Testing	Lighting Verification and Testing
		Lighting Commissioning
	Lighting Power	Interior Lighting Power Density
	Lighting Controls	Automatic Off Lighting Controls
		Automatic Daylight Responsive Controls
		Multi-Level Lighting Controls
		Exterior Photocell Controls
		Exterior Partial-Off Controls
Mechanical	Commissioning and Testing	HVAC Commissioning
	Systems	Air Economizer
		Energy Recovery Ventilation
		Fan Power
	Mechanical Controls	Economizer Fault Detection and Diagnostics

[3] Whether the submitted COMcheck report showed envelope performance better than the reference building
[4] Whether the submitted COMcheck report inputs align with the design show in construction documents

		Economizer High-Limit Shutoff
		Demand Control Ventilation
		Thermostat Dead Band
		Heating Setback
		Cooling Setback
		Optimum Start
		Door Switches
		Supply Air Temperature Reset
		Occupied-Standby Controls
		Multi-Zone VAV System Ventilation Optimization
		Demand Control of Service Water Heating Recirculation Pump
	Construction	Duct Sealing and Testing
		Intake and Exhaust Damper Leakage
	Domestic Hot Water	Pool Cover
Other	Controls	Automatic Outlet Shutoff
	Efficiency Package	Additional Efficiency Package

Energy Savings Calculation Methodology

During the utility funded phase of program implementation, a combination of initial prototype building modeling and data from participating buildings was used to estimate program impact. Whole-building energy simulations were used to quantify the energy penalty of non-compliance for each measure targeted by the program. The simulations were based on DOE reference buildings that provide detailed baseline EnergyPlus models for a variety of common commercial buildings, with numerous design details tailored to specific energy code versions and climate zones (DOE 2017). The building prototype simulation process was supplemented with engineering calculations for a limited number of items, including the assumption that commissioning saves 8% of HVAC system energy use following an approach used by PNNL (Rosenberg et al. 2016). The simulation results were then used to develop tables of normalized savings for all reviewed measures in each prototype building. This approach generated reasonably accurate savings estimates that could be cost-effectively scaled to many participating buildings.

The normalized savings tables were used with design information from each of the participating project reviews to determine program impact. For each building, the compliance status for every targeted measure was noted (i.e., compliant, noncompliant, not applicable, or indeterminate), along with quantification of both the value of every non-compliant item (e.g., a window U-factor that exceeds the maximum allowed) and the quantity of that item in the building (e.g., window area that is noncompliant). This information was used to calculate the energy penalty for each noncompliant measure. For instances of inadequate design clarity (i.e., items marked “indeterminate”), assumptions of the expected noncompliant value were made based on conservative engineering judgement (e.g., for measures that were updated in the most recent code cycle, the previous code’s requirement was assumed). The combination of clearly noncompliant and assumed values provided estimates of the program impact (if the program intervention brought all projects into full compliance with the targeted measures).

Results

Building Type and Compliance Pathways Followed

Most projects reviewed (65%) were multifamily buildings, which reflects the new commercial construction market in most Minnesota cities during program implementation. Reviewed projects ranged from 2,500 square feet to over 750,000 square feet, with an average size of 124,459 square feet across all projects. While the project team anticipates that more buildings will follow a performance pathway as the prescriptive pathway becomes increasingly complex under future codes, most projects reviewed (85%) followed the prescriptive compliance pathway. Most of those prescriptive projects opted to use the envelope trade-off, as shown in Figure 4. The performance path projects reviewed tended to be larger buildings, averaging 277,551 square feet.

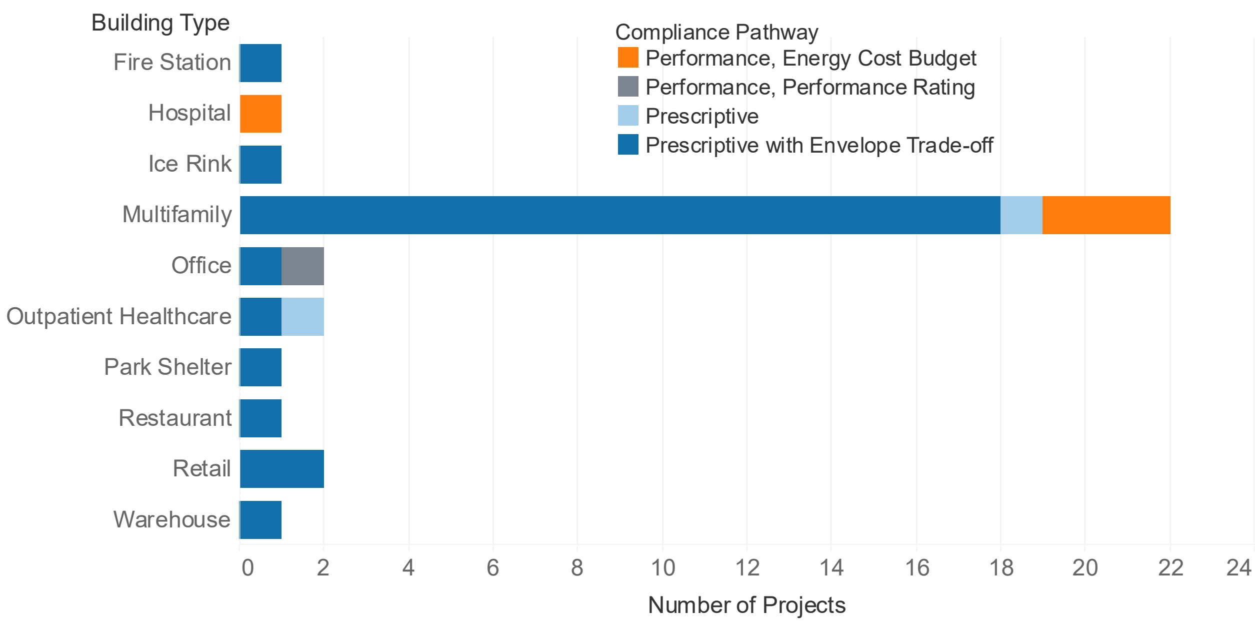


Figure 4. Distribution of building types reviewed and compliance pathways projects followed

Compliance Results – Prescriptive and Mandatory Requirements

Across reviewed projects, the average compliance rate for applicable measures was 36%; more than two-thirds of projects initially complied with less than 50% of applicable measures. Building envelope measures had the highest compliance rates overall, followed by mechanical, with lighting measures having the lowest compliance rates overall. Most noncompliance stemmed from missing or incomplete documentation rather than a fundamental misunderstanding of code requirements. Although design teams could often correct these deficiencies once reviewers identified them, the frequency of omissions suggests persistent gaps in understanding both the requirements themselves and the documentation needed to demonstrate compliance. As shown in Figure 5, average compliance rates did not differ significantly between prescriptive and performance path projects. This suggests that inadequate documentation and noncompliance with mandatory commissioning and testing requirements are widespread across both compliance pathways, underscoring the need for continued support for prescriptive path projects.

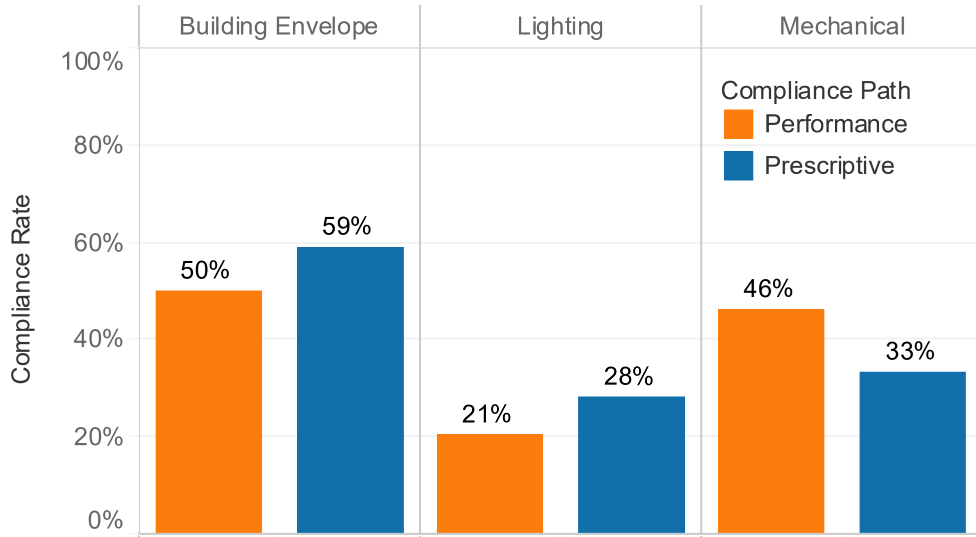


Figure 5. Compliance rates for mandatory and prescriptive requirements across all projects by discipline and compliance path

Building Envelope Requirements

Envelope measures demonstrated the highest relative compliance rates among the three disciplines (56% average across all projects). Most design teams were able to meet insulation, fenestration, and assembly performance requirements when design documentation was adequate and clear. However, key details were frequently omitted. In some cases, prescriptive envelope requirements required substantive design revisions, such as adjustments to window-to-wall ratios and glazing specifications, occasionally pushing projects to utilize the envelope trade-off pathway instead of strictly prescriptive compliance. Figure 6 shows detailed compliance results for each reviewed measure.

Discrepancies between COMcheck inputs and construction documents were also a recurring issue, with only 20% of projects following the envelope trade-off submitting an initial COMcheck report that was free from errors and where inputs matched values on construction documents. On average, initially submitted COMcheck reports indicated that projects were approximately 1.6% better than code. However, in some instances, correcting discrepancies identified during review shifted projects into noncompliance. Regardless of whether the revised results ultimately remained above or below the code threshold, the review team consistently required that COMcheck reports be updated to accurately reflect documented design conditions to ensure that the envelope trade-off analysis provided a reliable and defensible basis for code compliance.

For projects complying prescriptively without using the envelope trade-off, window orientation requirements were the most common issue, with an initial compliance rate of 20%. Manual takeoffs involved in determining compliance can be time intensive for designers and reviewers, and many designers were not aware of this requirement and did not prioritize window orientation early in design. In several cases, achieving compliance required reconsideration of window sizing and placement.

Air leakage testing requirements were also a common area of noncompliance, with a compliance rate of 43%. Although this requirement applies to most projects and offers significant potential energy savings, many design teams were unaware of this requirement and had not engaged providers at the time of permit application. Even on projects for which teams made an initial effort to ensure compliance, specifications often lacked sufficient detail regarding testing procedures and performance thresholds.

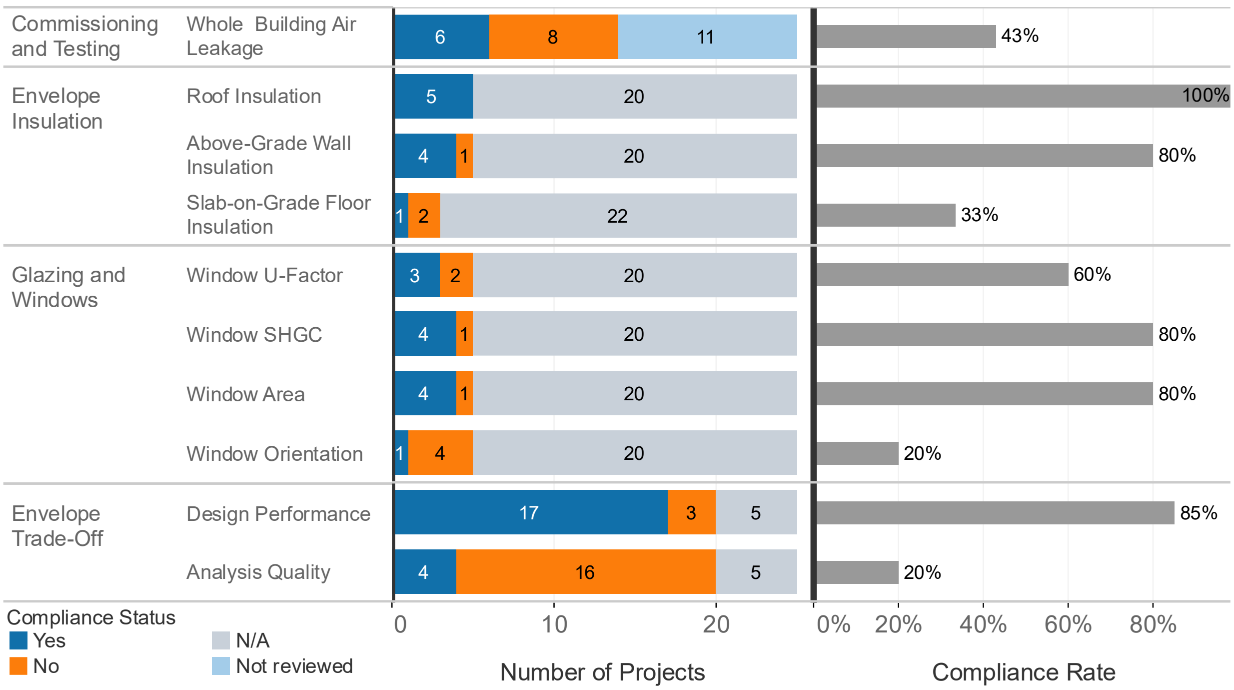


Figure 6. Measure-level compliance status and overall compliance rates across building envelope measures reviewed from initial submissions. Measures marked "not reviewed" were added to the measure list after the start of the program, so data is unavailable for some projects.

Mechanical Requirements

Mechanical measures had much lower compliance rates overall (36% across all projects). Figure 7 shows detailed compliance results for each reviewed measure. Construction document clarity was a significant challenge during review. Mechanical control sequences were frequently absent or inadequately detailed. While some mechanical measures reviewed were newer or significantly changed in Minnesota's recent code update, some requirements, such as heating and cooling setbacks and thermostat dead band, have been mandatory requirements in the energy code for over a decade and are simple to specify and review. In these cases, noncompliance was often a documentation issue, such as the absence of clearly identified initial heating and cooling setpoints. These measures are relatively low-effort opportunities for improved compliance. Other measures in this low-effort category include damper leakage and duct sealing requirements.

Several measures related to larger, more complex HVAC systems did not apply to most projects in our sample. Multifamily buildings typically have individual systems serving each unit and only rely on central systems for corridors and common areas. Examples of this type of requirement include occupied standby controls, supply air temperature reset controls, VAV ventilation optimization, and fan power limitation. Because of our small sample size, it was more difficult to find patterns and understand common reasons for noncompliance with these more complex requirements.

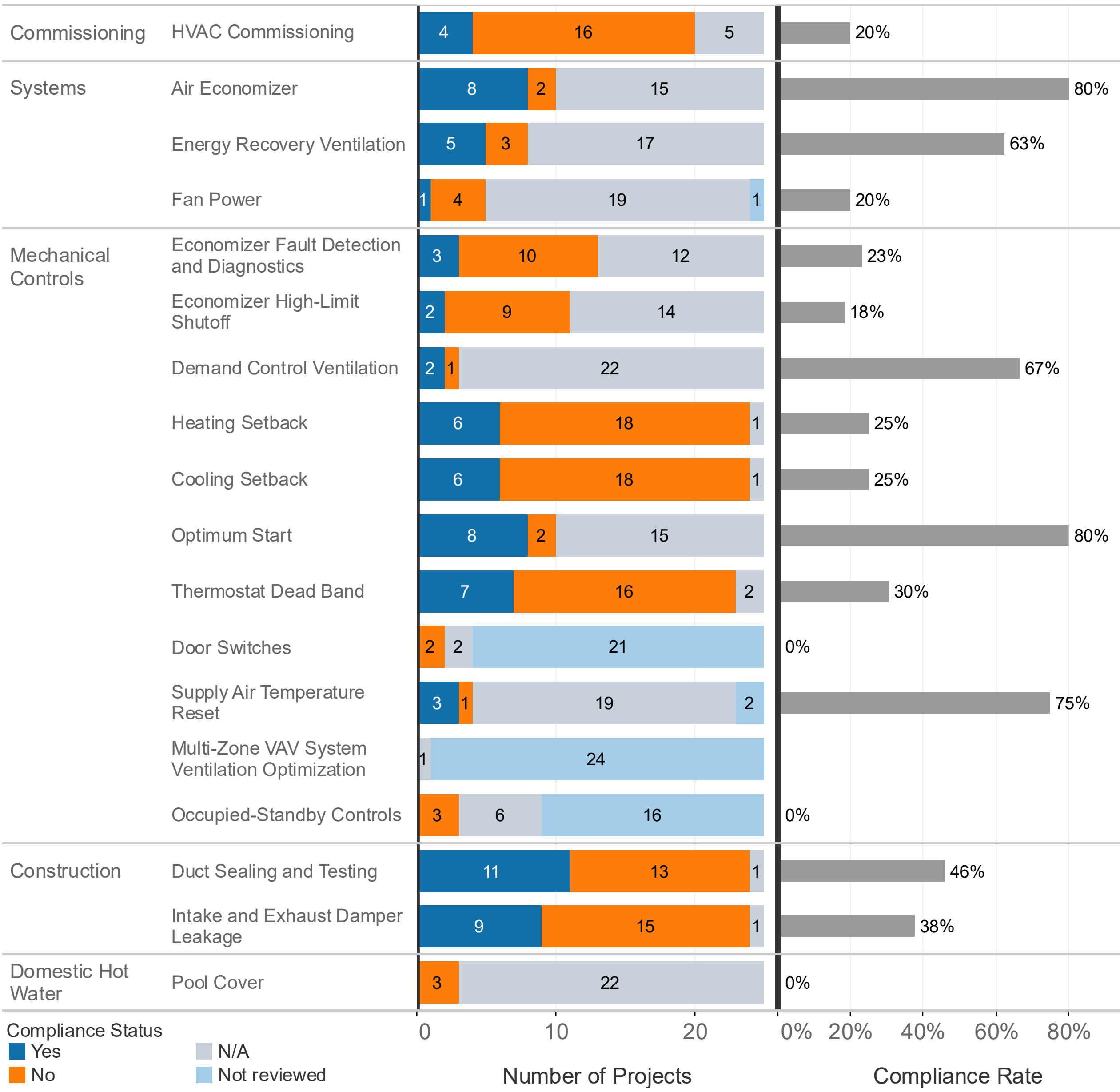


Figure 7. Measure-level compliance status and overall compliance rates across mechanical measures reviewed from initial submissions. Measures marked “not reviewed” were added to the measure list after the start of the program, so data is unavailable for some projects.

HVAC commissioning was one of the most frequently noncompliant measures and a significant area of confusion for design teams. The 2024 energy code update lowered the threshold for required commissioning from 50,000 square feet to 10,000 square feet, meaning many more projects needed to comply with this requirement under the new code. Many design teams were unaware that commissioning was required. Even when design teams made an effort to comply, documentation was often incomplete and several design teams voiced uncertainty regarding the scope of requirements. Specifications suggested that some design teams misunderstood commissioning as a discrete inspection occurring at the end of construction rather than a process beginning in design and continuing through construction and occupancy. When checking for compliance, reviewers looked for clear indication of a qualified commissioning provider, the systems to be commissioned, and commissioning related deliverables required by the code.

Lighting Requirements

Lighting measures had the lowest overall compliance rates across projects (27%). While lighting power density requirements did not appear to present significant compliance challenges under the current code with the efficiency of LED products available, the project team found particularly low compliance rates for most lighting control measures. Control intent was often unclear on construction documents. These results suggest that specifying and documenting required control strategies remains a persistent challenge. Lighting commissioning was also initially noncompliant on most projects, for similar reasons to mechanical commissioning as discussed. Figure 8 shows detailed compliance results for each reviewed measure.

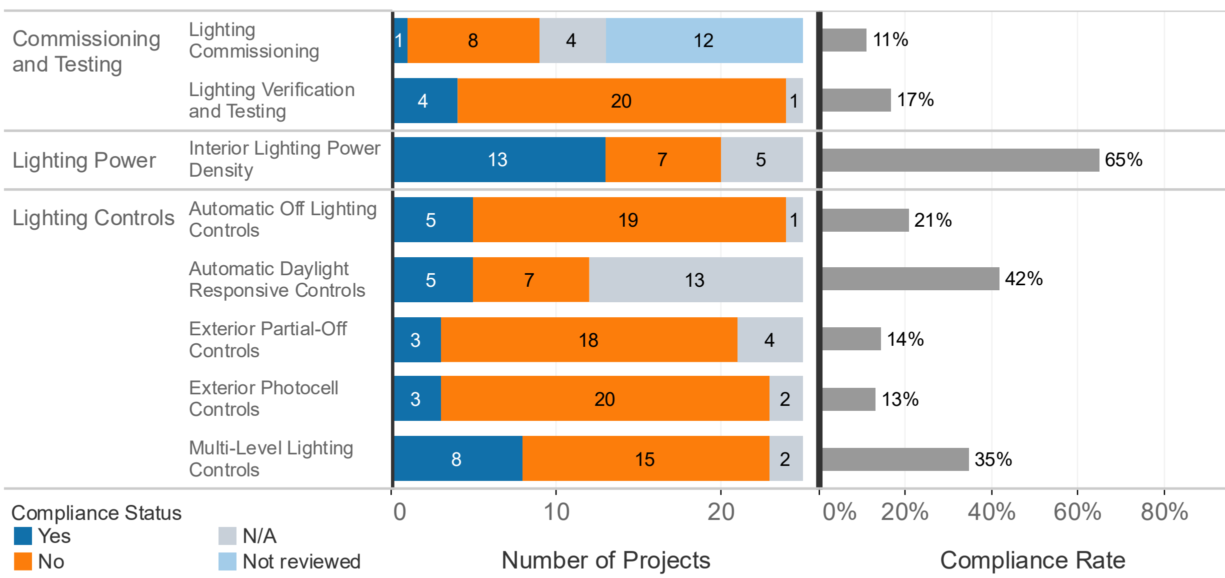


Figure 8. Measure-level compliance status and overall compliance rates across lighting measures reviewed from initial submissions. Measures marked "not reviewed" were added to the measure list after the start of the program, so data is unavailable for some projects.

Compliance Results – Energy Simulation Review

A total of six performance path projects were reviewed in the last phase of program implementation. Generally, program staff had to request additional performance path submittal documentation before an initial review could be performed. Once adequate documentation was received, the project team reviewed the baseline and design simulations and recommended approval or suggested updates based on a combination of the improvement beyond threshold reported and the number and estimated impact of various analysis biases.

Figure 9 shows the reported percentage improvement of the proposed design beyond the compliance threshold at the time of initial review and the time of recommended approval for the six projects. One of the projects reviewed was recommended for approval after the initial review, while the others required from two to five rounds of review before approval was recommended. All the performance path projects ultimately used the Energy Cost Budget Method. Of the four other projects the review team asked to make analysis updates, three showed little change or a more favorable comparison after the update. However, one project showed what was an initially reported 26% savings beyond the threshold drop dramatically to only 2% above the threshold.

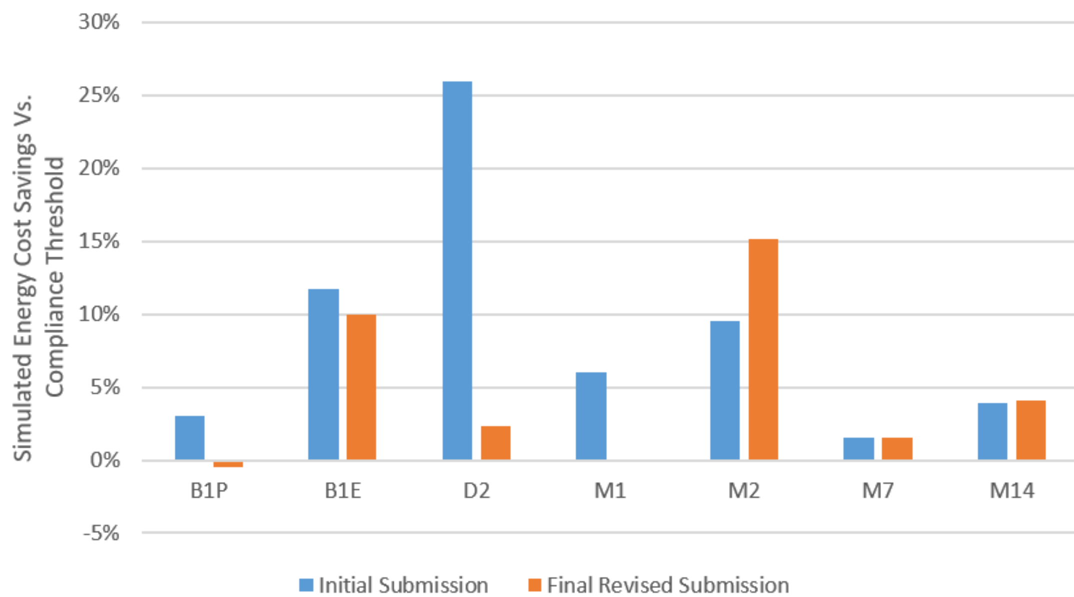


Figure 9. Improvement beyond the compliance threshold at the time of initial review and recommended approval.

The types of issues commonly identified in the performance path reviews fell into the following major categories:

- Insufficient analysis documentation
- Insufficient design documentation
- Basic modeling issues affecting both simulations
- Design model inputs inconsistent with the design
- Baseline model inputs inconsistent with requirements

Most design teams only initially submitted a summary report of the simulation results and were asked to submit much more complete simulation input and output reports before initial review began. There were several instances of unclear design documentation for items including window performance, design outdoor air ventilation rates, design fan power, and design lighting power. This was like many of the design clarity issues affecting prescriptive projects reviewed and meant the review team could not determine whether the design simulation accurately reflected the proposed building. The review team also found several basic modeling issues affecting both simulations (or the comparison between them) on multiple projects, including inaccurate window area, wall areas, and/or orientations, inaccurate energy sources and/or utility rates, and inaccurate elevators, service water heating, and/or plug load comparisons.

The number of occurrences of various types of inconsistencies between construction documents and simulation model inputs and either the actual design or baseline simulation requirements are detailed in Figure 10. While the review team expected a reasonable number of inconsistencies in the design models, we were surprised that there tended to be nearly as many instances of issues with the baseline models. It appears that part of this tendency was related to the use of a newer energy modeling software that did not have a robust, automatic option for setting up the baseline simulation model.

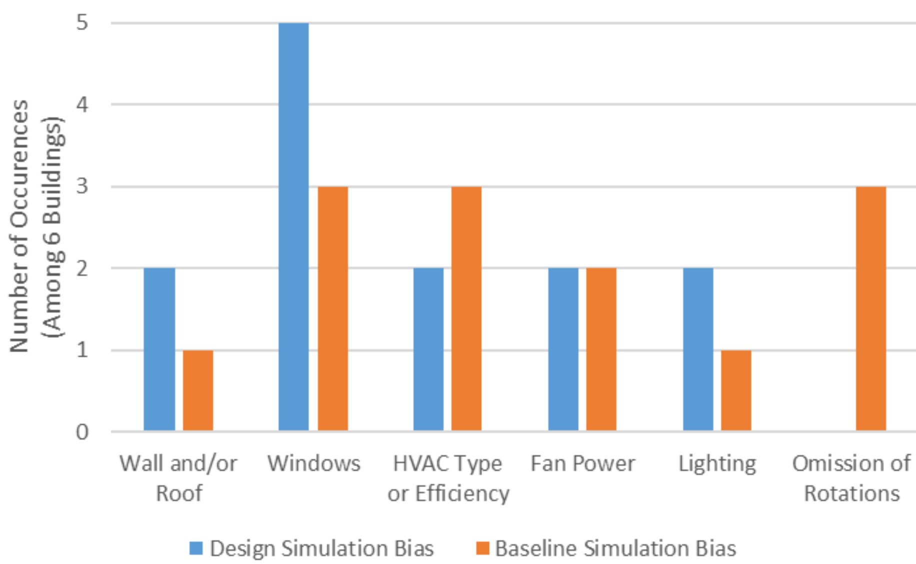


Figure 10. Types of errors prevalent in design and baseline energy simulations

Energy Savings Results

Energy savings results are available for only a subset of nine projects reviewed during the utility program phase of implementation. Overall, across the 30 projects reviewed, per project savings averaged 8,734 therms and 146,247 kWh. Figure 11 shows normalized gas and electric savings by type of requirement. Mechanical controls represented the biggest opportunity for energy savings, followed by glazing and window requirements. Commissioning and testing requirements for both lighting and mechanical systems were also significant opportunities for savings. It is important to note that commissioning savings were likely much higher for projects reviewed after the 2024 Commercial Energy Code increased the number of projects where commissioning was required, which are not represented in this sample.

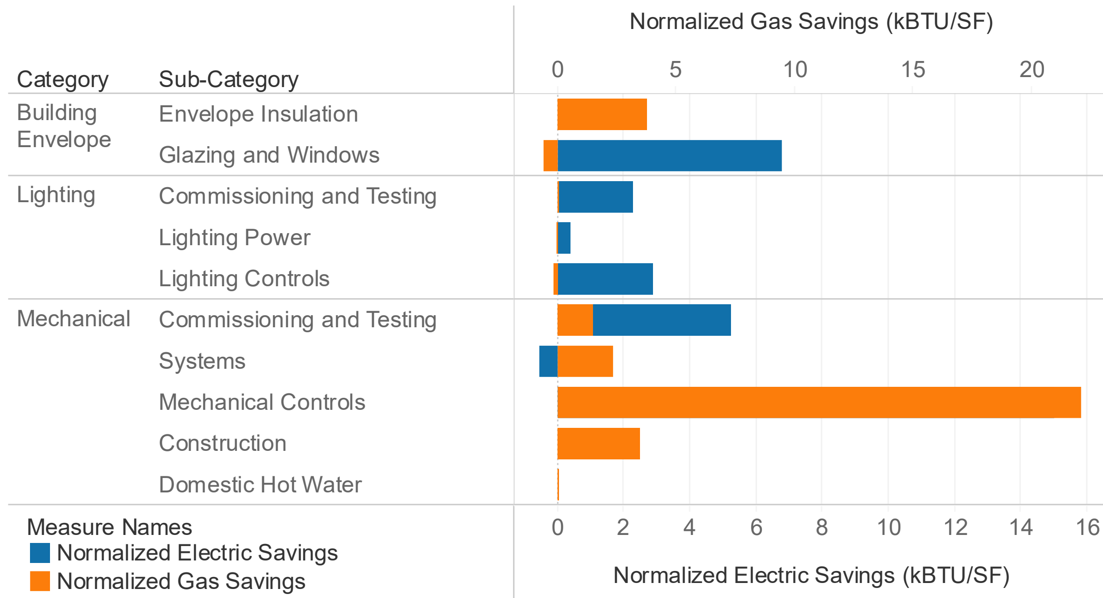


Figure 11. Electric and gas savings for a subset of nine projects reviewed during the first phase of program delivery

Conclusions

Several key takeaways from third-party plan review in Minnesota may be relevant to other states looking for innovative approaches to increase commercial energy code compliance:

- **Low compliance rates across all disciplines, compliance pathways, and building types demonstrate a significant opportunity for energy savings, even in least-cost, code-driven commercial construction.** The project team found very low levels of compliance with the high energy impact measures targeted by this program. This was true not only for new or particularly complex measures, but even for measures that are relatively simple to understand and have been required by code for a long time (e.g., thermostat setbacks). This indicates that even as above-code programs have begun to push the market toward higher-performance buildings, energy code compliance support is still needed and can deliver significant energy savings.
- **A targeted, incremental approach can still yield significant energy savings and address barriers not targeted by education and training alone**. Conducting targeted reviews of selected high priority code requirements saved the project team time and cost over doing a comprehensive review for all requirements in the energy code, while still delivering energy savings. Participating code officials noted that the resulting review was still more thorough than what they would have been able to without program support.
- **Inadequate construction document clarity remains one of the biggest barriers to effective code enforcement.** The project team consistently found that one of the primary reasons for noncompliance is inadequate documentation. Acquiring enough information to determine compliance was difficult and often required multiple rounds of back and forth between the project team, code officials, and designers. More education for design teams on construction document clarity and the importance of earlier consideration of energy code requirements is needed.

- **Many of the biggest opportunities for improved compliance and energy savings are mandatory controls, commissioning, and testing requirements.** These types of requirements had broad applicability to most projects we reviewed. Commissioning is a powerful tool to ensure design intent is realized, yet commissioning requirements were often poorly understood, implemented, and documented. Ensuring project teams are effectively implementing required commissioning now will set projects up for success as tightening energy codes increase the complexity of commercial buildings.
- **Working within existing code enforcement processes is an effective intervention, but implementation challenges remain.** Plan review can be time-consuming, especially for larger buildings and performance path projects, but expected permitting timelines often necessitate relatively quick review turnarounds. The project team found it was important to set clear expectations for when reviews would be completed and support AHJs in communicating expectations around required documentation to design teams to help speed up the review process.
- **Findings from third-party plan review can be leveraged to inform other codes work.** The project team successfully leveraged data collected from reviewed projects to target other energy code-related program work. Items with broad applicability to many projects and/or low compliance rates were prioritized for inclusion in training and educational resources. Items with higher compliance rates, such as lighting power density, were brought forward as energy savings opportunities in the code development process.

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