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Updates to Chicago Energy Transformation Code Address Climate Change



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Construction

Environmental

In an effort to remain one of the leading major U.S. cities in environmental conservation, the City of Chicago passed the 2022 Chicago Energy Transformation Code, which amends the previous 2019 code. The amended code expands upon Chicago's commitment to addressing climate change, building energy efficiency and reducing its carbon footprint. Statistics show that buildings in Chicago produce 69% of the city's emissions. These amendments aim to reduce carbon emissions by 62% from 2017 levels by 2040. This article focuses primarily on the commercial provisions of the code, the scope of which apply to "commercial buildings (all buildings not included in the definition of 'residential building'), the building site and associated systems and equipment." Importantly, the amended code only applies to permit applications that require architectural plans that began on or after November 1, 2022 with certain additional requirements being phased in for projects commencing after January 1, 2023.

According to the Chicago Department of Buildings, the 2022 code will follow a three-pronged approach ¹:

- **Increased Energy Efficiency** – The first prong focuses on increasing efficiency of the building envelope through the use of higher rated building materials (i.e. cladding and insulation) in an effort to reduce air leakage and heat gain/loss as well as energy efficient HVAC systems and lighting. The code also requires placement of windows in new buildings to minimize energy demands due to the solar heat gain in the summer. According to the city, this will result in a 40% energy efficiency improvement when compared to the 2001 ordinance.
- **Clean Energy Transition** – The code encourages that buildings incorporate electrification infrastructure which allows buildings to easily switch to electric powered appliances and heating systems.
- **Solar Energy Adaptation** – The third prong focuses on requiring that low to mid rise projects, with flat roof space, set aside certain areas for future rooftop solar installations.

There is no doubt that higher energy efficient buildings, decarbonization and renewable energy considerations are good for the environment, and go a long way for making the building more comfortable for the end users. However, it is important to remember what impact these requirements may have on your design, budget and schedule. Below are a few considerations to remember when complying with the 2022 code:

Energy Efficient Materials

With the potential use of specialty materials such as cladding components, windows and the like, considerations must be given potential supply chain disruptions and the impact this may have on your project schedule. If specialty materials become unavailable, are cost effective alternatives available which would still be code compliant?

Electrification Considerations

In the Midwest, natural gas continues to be one of the most common types of heating fuel, especially with residential applications. This includes not only furnaces but also many kitchen appliances. With the new 2022 code encouraging electrification infrastructure, it is important to consider: (i) The end user's preference (i.e. is gas preferred over electric?); (ii) Overall energy costs associated with continued use of gas powered equipment versus electric; and (iii) Additional costs associated with installing both gas and electric hookups to meet current code requirements (even though gas equipment may be preferred).

Solar Adaptation

The aforementioned solar requirements pose numerous issues which must be considered. Not surprisingly, you will likely need to reinforce roofing components such that they will be able to withstand the additional weight and engage the necessary licensed professionals all of which will increase your project's budget. Additionally, you will want to consider the impact a rooftop system may have on the overall use of your rooftop structure: (i) do you intend on having any rooftop common area spaces; (ii) will the [future] system pose any accessibility issues; (iii) how will the solar equipment be serviced given the proposed location/layout? You will want to at least discuss the future implementation of a rooftop solar array system with your insurer as well to understand what potential issues may arise by incorporating such a system so as to address any future insurability concerns during the construction phase. Finally, you should consider the aesthetics of such a system given its intended location on your building and how to properly address any visual issues during the design process.

Although the 2022 Chicago Energy Transformation Code will be viewed as a step in the right direction from a sustainability perspective, many of the new requirements present important issues to consider from a constructability standpoint. By assembling the right team and having the proper pre-construction procedures in place early on, you will not only be constructing a more energy efficient building which is capable of being even more "green" in the future, but will be able to address the impacts these additional code requirements may have on your project early on so as to limit their impact on budget and completion timelines.

For more information, or to discuss any of the issues presented in this article, contact a member of Gould & Ratner's [Construction Practice](#).