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For further deepening the energy-saving potential in the residential and commercial buildings: The impact of energy efficiency labeling

Naoko Doi
Senior Economist, Manager, Energy Efficiency Group
Climate Change and Energy Efficiency Unit
The Institute of Energy Economics, Japan

Energy efficiency and conservation, with its cost-effective options, has been designated as the “first fuel of choice” - an energy source that should be tapped into first. The world is stepping up energy efficiency and conservation measures as we face rising energy prices. Japan, too, is implementing measures to promote behavioral change, such as providing points for saving energy, in light of the current tight power supply and demand situation. For the future, not only short-term measures but also long-term measures for existing residential and commercial buildings must be strengthened to achieve the goal of carbon neutrality.

The European Commission presented a revised draft of the Energy Performance of Buildings Directive (EPBD) late last year. One of the most important aspects of the proposed revision was the promotion of energy-saving renovations of the existing residential and commercial building stock with low energy efficiency. With this measure, Europe aims not only to combat climate change, but also to reduce its dependence on imports of Russian natural gas to ensure energy security, reduce electricity and gas payments by energy-poor households, and create jobs.

Specifically, the bottom 15% of the residential and commercial building stock with the poorest performance in each member country will be classified as Class G. And a goal is set that commercial buildings will be renovated and improved to Class F by 2027 and to Class E by 2030. For residential buildings, the goal is to improve to F by 2030 and then to E by 2033. To achieve these goals, Germany has proposed a draft plan to appropriate a government budget of 56 billion euros (2023–2026) for energy-saving renovation of homes and buildings.

As the basis for working on building stock, EU has a grading system called the Energy Performance Certificate (EPC), which provides seven levels of labeling from A to G. EPCs must be obtained by owners when newly building, purchasing, leasing, and renovating homes and buildings. They must also be obtained for energy-saving renovations carried out with government subsidies, to confirm performance improvements before and after the renovations.

EPCs also provide information on the extent to which the energy efficiency of houses and buildings

can be improved by upgrading to higher insulation levels and replacing air conditioning, ventilation, hot water supply, lighting, and other systems. In a Danish case study, survey results showed that EPCs had the strongest appeal to owners of low energy efficiency homes with grades D to G, and about 40% of these homeowners made some kind of improvements.

In the U.K., even bolder measures are already in place for rental housing. Regulations prohibiting the lease of properties with a low energy efficiency performance (Class F and G) have been introduced starting in 2020. The regulations apply to owners of properties that fall in those classes and are already being or will be leased in the future, and require the owners to install insulation and take other measures worth up to 3,500 pounds, including VAT. As a further enhancement, studies are under way to introduce regulations to raise the required class to C by 2025 for new leased properties and by 2028 for existing leased properties.

Stricter regulations like these have a significant impact on real estate investment. In the U.K., the sales of Class A to C properties accounted for about 30% of the sales of properties for lease until 2019 before the introduction of the regulation, but this percentage has increased to 50% since 2020. While it is true that demand for more energy-efficient properties is increasing, the costs associated with improving the class will inevitably be passed on to rents, and therefore, it is necessary to consider how to mitigate the impact, especially on lower-income households.

What about Japan? The Building Energy Efficiency Act requires that sellers and lessors make an effort to indicate the energy consumption of their buildings. This does not incentivize businesses, which sell or lease properties that are not necessarily energy efficient, to introduce labeling. In addition, since there are no regulations for obtaining energy efficiency labeling for existing properties, it is impossible to implement detailed measures based on performance, which is a challenge.

Looking to the future, the Japanese government has set a goal of “ensuring an energy-saving performance on a par with that of Zero Energy House (ZEH) and Zero Energy Building (ZEB) standards on average for the building stock” in order to achieve carbon neutrality by 2050. However, the author estimates that 80% of new floor area in commercial buildings must start meeting the ZEB standards right now to meet the 50-year stock average target. Given that the ratio of ZEBs is only 0.42% of new constructions, a significant increase in new ZEBs is unrealistic, which means that the wider application of the ZEB standard must be achieved by renovating existing buildings rather than new ones. In other words, it is necessary to make energy efficiency labeling mandatory as a motivator and to implement regulations; to build a database to grasp the current status in order to accelerate renovations; and to introduce subsidies. Through a comprehensive approach like this, it is essential to stimulate investment in energy-efficient real estate.