

Will the “smart” movement lead to an improved indoor environmental quality?

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SUMMARY

The present talk will present some of the initiatives from ASHRAE regarding “smart” in general and then focus on indoor environmental activities related to “smart” ventilation. The ASHRAE society theme for 2018/19 is “Building Our New Energy Future”. In the future, our buildings will be interconnected through a “Smart Grid” in general the electricity grid.

KEYWORDS

Smart grid, indoor environment,

1 THE “SMART” MOVEMENT

Today “smart” has become a buzz word like Smart-cities, Smart-grid, Smart-buildings, Smart-ventilation. Buildings are connected by the electrical grid. Increasing amount of electrical energy will in the future come from natural energy sources like sun, wind and hydro and be intermittent. Buildings are the electricity sectors number one customer. Therefore, to optimize the energy use the grid and building must be connected in a “smart” way. Besides we will in many cases have electricity flowing in both directions. In many countries, the electricity is not the only grid. Buildings also get tap water from a “grid”. Many places buildings get hot/cold water from district heating and/or cooling “grids”. In this way the grids, the buildings and the occupants are interconnected and will influence the optimal use of energy. This has initiated an initiative in both the EU-commission and US-Green Building Council (USGBC) to describe a “smart readiness building”. The supply of fresh air is then the only important resource for the occupants, that is not delivered through a “grid”. Could that change in the future?

2 WELL BEING INDOOR

It is important that the focus on “smart grid” and “smart buildings” do not impair the indoor environmental quality. To focus on this ASHRAE has formed a multiple task group, mtg:

“Health and Wellness in the Built Environment”. The scope is to get an overall evaluation of ASHRAE’s activities related to this topic. ASHRAE has numerous standards and guidelines dealing with the indoor environment and especially the required ventilation in buildings. A new certification scheme for wellbeing in buildings, called the “WELL BEING Standard” is gaining interest around the world. The talk will evaluate how International standards and the “WELL BEING standard” relate to each other and how they comply with the AIVC definition of “Smart Ventilation”