

Towards post-carbon cities



STEFANO PAOLO CORGNATI
Vice-president of REHVA,
TEBE Research Group, DENERG,
Politecnico di Torino, Italy,
stefano.corgnati@polito.it

The challenge set by the European Commission with regard to nearly Zero-Energy Buildings should necessarily evoke a wider scenario, not only in terms of time but also in terms of scale of the problem.



North Korea, pollution in Pyongyang, 2005.



China, Shenzhen Building International Low-Carbon City project.

Indeed, nZEBs will be regulated until 2020, but the common perspective is already the creation of a vision towards 2050. Moreover the Commission is increasingly moving the question from the single building level to the building's district and to the city. In practice, the direction to take in order to provide a strong lead in promoting a reduction of the building environmental impact is nowadays the *post-carbon city* one. This future projection of cities carbon free with respect to the building stock should have a decisive effect on the building concept, in terms of building elements, structures, building systems but also, and above all, in terms of sociology, with respect to the interaction modes between end-users and the whole building. Nowadays this challenge is often analyzed only with regard to its energetic and economical aspects. A new kind of analysis, whose drivers become motivational and behavioral, reveals to be necessary in order to win this global challenge. In this visionary process of a path towards the post carbon city it is important to reflect upon the technological and innovative perspectives related to air conditioning, with reference to their current and future applications to buildings.

In this Special Issue our aim is to deal with new HVAC frontiers, by analyzing what currently is realized as innovative experience, but also what can be explored as innovation of the building envelope-system unit. ■