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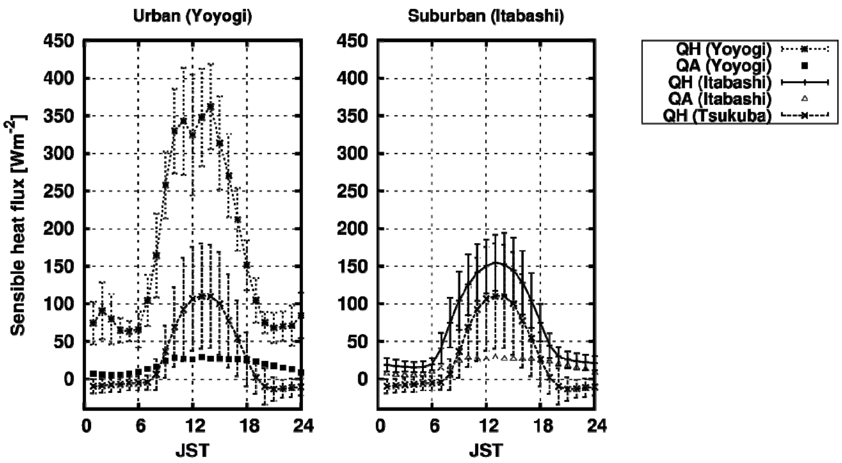

Figure 1. Urban heat excess reaches 200 Wm-2 of the sensible heat flux (Q_H) in daytime. Q_H was measured value in summer, and the anthropogenic heat flux (Q_A) was acquired from the energy consumption inventory.

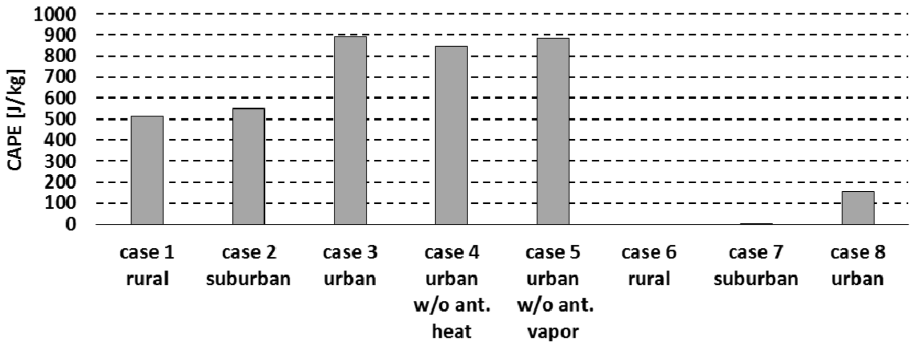

Figure 2. CAPE in cities (case 3) was increased comparing to the rural (case 1) and the suburban (case 2) by the heat excess shown in Fig. 1. The anthropogenic vapor has some influence (case 5), although it should be negligible.

- Influence of urban heat excess on atmospheric stability leading to convective precipitation was investigated in Tokyo.
- Convective Available Potential Energy (CAPE) was evaluated in an idealized situation. Although its ideality, the reality of our analysis was achieved by using the observed results in Tokyo for the model inputs.
- Urban heat excess of 200 Wm^{-2} increased CAPE by 75%. The anthropogenic vapor flux also increased CAPE, but was near negligible (1% in CAPE).
- The neutral stratification in the urban area in the morning increased CAPE by five times its rural value.