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## **Towards a Reduction in Energy Consumption with Adaptive Set Point Temperatures: The Case of Seville**

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### **Abstract**

Currently, climate change and carbon dioxide emissions are one of the main problems of the society. Given this, it is essential to reduce energy consumption by anthropogenic activities. In this sense, buildings have an important role to reduce energy consumption globally. Their high energy consumption is mainly responsible for the use of HVAC systems. This consumption depends on the use of the setpoint temperatures of the users. For this reason, this communication analyzes the potential of the energy saving achieved using different setpoint temperatures. For this, the adaptive thermal comfort models are used. These setpoint temperatures based on different thermal comfort models as energy conservation measures have been analyzed in previous studies. A total of 5 building models were analyzed for this communication. The results were obtained through a simulation process performed with DesignBuilder. The results reflected the potential for the energy saving obtained by using adaptive setpoint temperatures in the 5 building models.

**Keywords:** setpoint temperature, adaptive thermal comfort, consumption, building, HVAC system