

Peltier Air Conditioning System for Preventing Ambient Heating: An Alternative to Gas Air Conditioners

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Abstract : After discovering and using Freon as refrigerant in refrigerators and air conditioners, researchers have been working hard to minimize massive environmental damage caused by this type of systems, including ozone depletion, heat production, and urban warming. However, there is a growing concern for global warming and climate change and its impacts on climates. Although gas air conditioners can provide comfort in short term, there are long-term consequences and effects, including global warming, polar ice melting, sea level rising, rising sea surface temperatures, reduction in seasonal precipitation, tropical storms, and drought. In this theoretical and practical study, Peltier electronic chip was used with no gas in the structure and operation. In fact, cooling and heating are based on bipolar electronics. With an innovative method, Peltier air conditioners provide cooling in warm seasons and heating in cold seasons in buildings. Such a system prevents ambient warming. The problem of air circulation between high buildings in large cities and draught will be considerably resolved through the use of the silent fan in the system. In addition, the system is designed and developed in accordance with international standards such as LEED and Energy Star.

Keywords : energy, Building cooling and heating, peltier, leed, energy star

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