



What is building energy saving (BES)? Building energy saving (BES) is mainly implemented by improving resource utilisation and building efficiency to minimise the energy consumption of indoor heating, air conditioning and refrigeration, lighting, ventilation, humidity and other environmental improvement behaviours.



What are the advances in energy-efficient building service systems? Advancements in energy-efficient building service systems are summarized. Renewable energy integrated advanced building technologies are reviewed. Power grid, energy storage and district heating/cooling systems are highlighted. Challenges and future directions on building energy technologies are demonstrated.



What is smart city infrastructure? The new generation of information infrastructure in SCC, represented by high-speed intelligent Internet, has formed a highly integrated smart city infrastructure. New infrastructure is conducive to building a stable energy Internet and strengthening the monitoring of environmental emissions (Tang et al., 2021).



What is smart city construction? Smart city construction (SCC) has emerged as an innovative approach to address the challenges of urbanization by reconciling economic development and energy utilization.



How does a central city affect the energy of the surrounding cities? The theory of spatial economics shows that the central city has siphon effectson the energy of the surrounding cities, leading to a gathering shadow area of the central city (Fujita et al., 2001).





Why is building energy consumption important? In addition to consuming large amounts of energy, the building sector also produces approximately one-third of the world???s greenhouse gas emissions.

Therefore, effectively controlling and reducing building energy consumption (BEC) is a global focus.



The results of this case study shows that 60% energy savings, totaling 350 MWh in a year, can be achieved by retrofitting fluorescent lights with LEDs and occupancy sensors. This energy savings translates to a reduction ???



The paper developed by S?rensen et al. [1] analyzes energy flexibility in buildings, focusing on electric vehicles (EVs) in Norwegian apartment buildings along with photovoltaic ???



Buildings account for more than 30% of CO 2 emissions worldwide, and one of the six missions of The MIT Climate Project focuses on building cities that are resilient and adaptable in the face of climate change. ???



In the face of global climate change, there is a pressing and significant need to find low-carbon solutions for China's construction industry. This research focuses on green public buildings in Dalian, a municipality ???





The concept of utilizing microgrids (MGs) to convert buildings into prosumers is gaining massive popularity because of its economic and environmental benefits. These pro-sumer buildings ???



The results show that when the thermal conductivity of exterior wall is ideally variable, the energy-saving ratio can reach 7???15 % in seven cities, corresponding to energy ???



In November 2014, the State Council of China issued the Strategic Action Plan for energy development (2014???2020), confirming energy storage as one of the 9 key innovation ???



In recent years, smart cities have emerged with energy conservation systems for managing energy in cities as well as buildings. Although many studies on energy conservation ???



Meanwhile China is extending reform of energy SOEs, supporting development of the non-public sector, and conducting active yet prudent mixed-ownership reform in the energy industry to boost the vitality and motivation of ???





Green Building and Sustainable Mobility in Freiburg. Market square in Freiburg. Freiburg remains at the forefront of the implementation of green building technologies. The city mandates that all new construction uses only ???



12th Five-year Plan National Support Program in China: Technology Research and Demonstration of Building Energy Saving and Efficiency Upgrade in Northeast Cold Regions, Leader of Project Technical standard for thermal ???





In hot summer and cold winter (HSCW) zone of China, the local populace's demand for winter heating is burgeoning [1]. The proposition of an active-passive hybrid technology system, ???