

Status and trend analysis of solar energy utilization technology. T Q Sun, D L Cheng, L Xu and B L Qian. Published under licence by IOP Publishing Ltd IOP Conference Series: Earth and Environmental Science, Volume 354, 2019 International Conference on New Energy and Future Energy System 21-24 July 2019, Macao, China Citation T Q Sun et al ...

Firstly, focus on the two main solar energy utilization modes, photovoltaic and photothermal, we systematically introduced the main types, research status and development trend of photovoltaic technologies, as well as the current situation and development trend of thermal power generation, building heating and refrigeration, seawater desalination and industrial heating in photothermal ...

the current situation of solar energy utilization technology is analyzed. Secondly, the current situation of solar energy utilization technology in China is introduced. Finally, the solar power generation is discussed. Keywords Solar Power, Photovoltaic Power Generation ???????????????????

The identified challenges include developing new materials, enhanced performance, accelerated system installation and improved manufacturing processes, ...

The large-scale use of primary energy such as fossil energy has brought a large amount of carbon emissions, which has aggravated environmental pollution and negatively affected human survival, so the development and utilization of clean energy has become a hot topic in research in countries around the world [1], and solar, biomass, wind, etc., are all ...

Countries are promoting more renewable energy for economic and environmental concerns. Solar energy is one of the best alternatives amongst renewable energy sources (Márquez et al., 2018). Furthermore, the deployment of solar energy utilization is affecting the development of power systems (Gonzalo et al., 2019, 2020), and can create alternative ...

Solar heating systems can be either photovoltaic driven or solar thermal [14]. By keeping in view the importance of solar energy (SE), the Korean Photovoltaic ...

The building sector currently accounts for approximately 33 % of the world's total energy consumption, with a significant 25 % of this energy demand attributed to domestic hot water (DHW) production [1]. The dominant sources for DHW are natural gas (55 %), petroleum products (20 %), and electricity (15 %), with only a minimal 8 % contribution from solar energy [2].

The global capacity of renewable sources of energy is 2357 GW in 2019 with a rise of 176 GW from 2018.

Among them, solar energy is dominant with a total installed ...

Solar Photovoltaic Technology: Central to understanding solar energy is grasping the functioning of photovoltaic (PV) technology. Solar cells, often composed of semiconductor materials like ...

Investments in solar energy technology and changes in energy policy are among the other tools at a government's disposal for the development of renewable energies. The Iranian Energy Ministry guarantees the purchase of electricity generated from utility-scale solar power plants at a price of 3200 IRR/kWh (approximately 0.105 USD/kWh), which is above the ...

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