# AMITY UNIVERSITY RAJASTHAN

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## Plans to upgrade existing buildings to higher energy efficiency

Amity University Rajasthan (AUR) established a plan for upgrading existing buildings to higher energy efficiency with a systematic and comprehensive approach. The plan includes the following key steps and considerations for improving the energy efficiency of existing buildings:

- Conduct an energy audit of the building to identify current energy consumption patterns, areas of inefficiency, and potential opportunities for improvement.
- Collect historical energy usage data, utility bills, and any available information about the building's systems and equipment.
- Define clear objectives including reducing energy consumption, lowering operational costs, and achieving specific energy performance targets for the energy efficiency upgrades.
- Determine the budget available for the upgrades. Explore financing options, including grants,
- List energy efficiency measures based on their potential impact, return on investment (ROI), and alignment with objectives.
- Consider the following energy efficiency measures, based on the building's specific needs and opportunities:
    - Upgrade to energy-efficient lighting systems, such as LED technology.
    - Optimize or replace heating, ventilation, and air conditioning (HVAC) systems. Implement zoning and programmable thermostats.
    - Improve insulation and seal gaps and leaks in the building envelope to reduce heat loss or gain.
    - Install energy-efficient windows and doors to enhance insulation and reduce drafts.
    - Implement building energy management systems (BEMS) to monitor and control energy use in real-time.
    - Consider incorporating renewable energy sources, such as solar panels or wind turbines, if feasible.
    - Implement water-efficient fixtures and systems to reduce water heating energy.
    - Educate and engage building occupants in energy-saving practices.
    - Replace older, less efficient appliances and equipment with ENERGY STAR-rated alternatives.
    - Engage architects, engineers, and contractors with experience in energy-efficient retrofits to design and implement the selected measures.
- Ensure that designs and installations comply with local building codes and regulations.
- Install energy monitoring and management systems to track energy use and verify that upgrades are performing as expected.
- Conduct commissioning to ensure systems operate efficiently.
- Provide training to building occupants on energy-efficient practices and the operation of new systems and equipment.

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- Develop a preventive maintenance plan to ensure that all systems and equipment continue to operate efficiently. Regularly change filters, inspect HVAC systems, and service equipment as needed.
- Periodically review the building's energy performance and adjust settings and operations as necessary to maintain efficiency.
- Regularly report energy savings and improvements to building occupants, management, and stakeholders to maintain transparency and accountability.
- Engage with employees, and other building occupants to encourage energy-efficient behaviors and obtain their feedback on comfort and energy performance.
- Continuously explore opportunities for rebates and incentives from utility companies and government programs for additional cost savings.
- Keep up to date with emerging technologies and best practices in energy efficiency and consider further improvements as new opportunities arise.