

## ENERGY SAVING TECHNOLOGIES

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Nowadays, saving energy is very important. Energy-saving technologies are one of the best ways to make our world cleaner and more sustainable. They help us use less electricity, protect nature, and save money. Every country should pay attention to this topic, because it influences our future life and climate.

In industry, smart systems and renewable sources play a big role. Modern factories use smart grids and sensors to control how much energy they spend (Gorina et al., 2024). These systems can change energy use automatically, depending on the time of day or production load. In construction, good insulation, double or triple windows, solar panels, and geothermal heating help to reduce heat losses. Every new building should include at least some of these technologies (Ali, 2024).

In transport, energy-saving solutions are becoming more popular. Electric cars and hybrids are great examples of how we can reduce fuel use and air pollution. Hydrogen engines and regenerative braking systems make vehicles more efficient, especially in big cities. Public transport that uses electricity instead of gasoline or diesel helps to cut emissions and noise. In the near future, most cities will use electric buses and trains (Wang et al., 2023).

At home and in offices, smart homes are one of the most interesting energy-saving ideas. They allow people to control heating, lighting, and air conditioning through their phones. For example, the system can turn off the lights automatically when no one is in the room. This helps save about 15–25% of electricity, which also means smaller bills. Such systems will soon be a standard part of every modern home (Ali, 2024).

Of course, there are some problems. Energy-saving technologies are often

expensive at first, and many people do not know much about them. Governments should create programs that help families and businesses buy this kind of equipment (Gorina et al., 2024). Also, digital technologies like the Internet of Things (IoT) bring many new chances but also need better safety rules and new professional skills.

To sum up, energy-saving technologies are very important for all areas – industry, transport, and households. They make life more comfortable, help the planet, and support global goals for sustainable development. Using them is not only smart but necessary for our future.

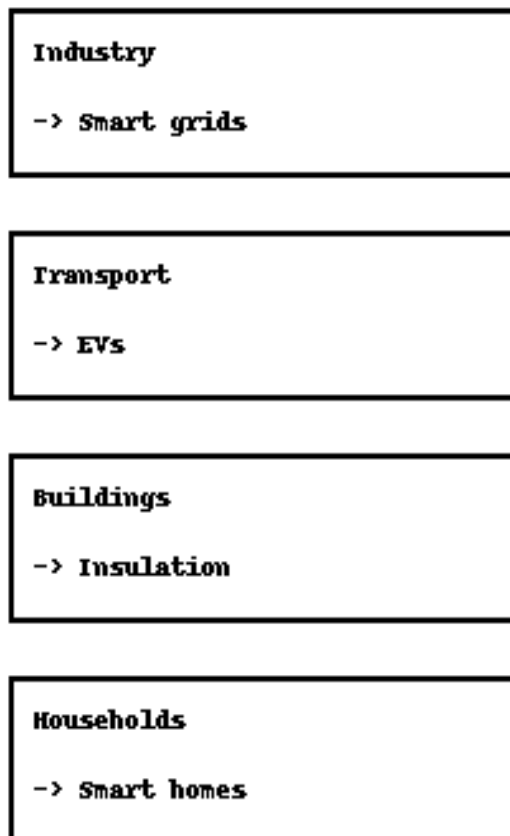


Figure 1. Energy Saving Technologies by Sector

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