

Energy Resources in Pakistan

Introduction to Energy Resources in Pakistan

Pakistan uses different types of energy to run homes, industries, transport and public services. These energy sources are divided into two main groups: renewable and non-renewable. The country often faces shortages because the demand for electricity and fuel is higher than the available supply. Understanding these resources helps Pakistan plan better for a stable and secure energy future.

Renewable Energy in Pakistan

Renewable energy comes from sources that naturally refill themselves, such as sunlight, wind, and flowing water. Pakistan has excellent potential for these clean energy options because of its climate and geography. Solar and wind energy are especially strong in areas like Balochistan and Sindh. Renewable energy is important for Pakistan because it is clean, cheaper in the long run, and reduces reliance on imported fuels.

Solar Energy as a Renewable Example

Solar energy is one of Pakistan's most promising renewable sources. The country receives bright sunlight throughout the year, which makes solar power a practical option. Solar panels can be used in homes, schools, businesses and remote villages where electricity from the national grid is not available. The government supports solar projects because they reduce electricity bills and help control the national energy shortage.

Non-Renewable Energy in Pakistan

Non-renewable energy comes from sources that take millions of years to form and cannot be replaced once used. In Pakistan, the main non-renewable sources are natural gas, oil, and coal. These fuels provide most of the country's energy, but they also create pollution and are becoming more expensive. Since local reserves are limited, Pakistan imports large amounts of oil and LNG, which increases economic pressure on the country.

Natural Gas as a Non-Renewable Example

Natural gas is Pakistan's most commonly used non-renewable energy source. It is used in households for cooking and heating, and in industries for production. Most of Pakistan's natural gas comes from Sindh, but domestic supply is decreasing every year. This causes gas shortages, especially during winter months. To fill the gap, Pakistan imports LNG, but it is costly and affects the country's economy.

Distribution of Energy Resources in Pakistan

Energy resources are unevenly spread across Pakistan. Solar potential is strongest in Balochistan and southern Punjab. Wind energy is mainly found in the Sindh coastal belt. Hydropower is

concentrated in northern areas like Khyber Pakhtunkhwa and Gilgit-Baltistan. Oil and gas reserves are mostly located in Sindh and Balochistan. This uneven distribution affects planning and investment in different regions.

Exploitation and Challenges

Pakistan faces several challenges in using its energy resources effectively. These include poor management, outdated pipelines, low investment and security issues in some resource-rich areas. Non-renewable resources are becoming more difficult and expensive to extract. However, the country is slowly increasing its use of renewable energy because it is cleaner and more sustainable. Better policies and modern technology can help Pakistan use its resources more efficiently.