

Energy sector of Pakistan.

The energy sector is a category of stocks that relate to producing or supplying energy. The energy sector or industry includes companies involved in the exploration and development of oil or gas reserves, oil and gas drilling and refining. The energy industry also includes integrated power utility companies such as renewable energy and coal.

The energy sector is large and all encompassing term that describes a complex and interrelated network of companies, directly and indirectly, involved in the production and distribution of energy needed to power the economy and facilitate the means of production and transportation. Energy companies are based on how the energy that they produce is sourced and will typically fall into one of two categories: Renewable energy companies and nonrenewable energy companies.

Renewable energy companies focus on producing energy from sources that are naturally replenished and sustainable over long term i.e solar, wind, hydro, geothermal.

Biomass energy whereas non-renewable energy companies produce energy from sources that are finite and will eventually deplete. These

sources include fossil fuels, Nuclear energy.

Renewable energy sources generally have a lower environmental impact, are sustainable and are mostly more reliable whereas non-renewable sources cause significant pollution, non-sustainable and can be dependent on environmental conditions.

The power sector of Pakistan can be divided into 3 sectors i.e. Generation, Transmission and Distribution. The total installed generation capacity of Pakistan is 38,719 MW which comprises both renewable and non-renewable energy resources. Renewable sources include hydro, wind, solar, and bagasse. As of 2020 24,817 MW is thermal, 9,861 MW hydroelectric, 1,248 MW wind and 427 MW SPPs. Total installed capacity for CPPA-G system is 35,735 MW and for KE is 2,984 MW, whereas peak hour demand for NTOC and KE is 26,252 MW and 3,804 MW respectively.

The step after generation is transmission, this system is divided into 2 entities, KE to Karachi and some other surrounding regions whereas rest

relies on NTDC (National Transmission
Distribution Companies).

National Transmission and Despatch
company (NTDC) manages the national
grid transmitting electricity from
power plants to distribution companies
across most of the ~~countries~~ country.

Each DESCO is responsible for
delivering electricity to end consumers
in a specific region. They receive power from
the national grid or KE and distribute
it through a network of substations and
power lines into home, business and industries.

Pakistan uses a variety of resources
to generate electricity including fossil fuels,
hydropower, nuclear power, and renewable
sources. Natural gas is the most used source

for energy production in Pakistan about
35.3%, hydropower 24%, nuclear 11.7%.

almost 588,000 barrel oil per day

consumed in power production, 83000 is

produced locally where as 500,000 barrels

imported. 1 billion cubic feet per day gas

is used, 36% produced locally. 7.53 ton coal

is produced in dec 2011 from which 6500

Mega watt is produced per day, 2500 MW

generated by local coal while other imported

coal. all the imported and local producers

handover oil to PSO, refined or crude then it gives to other companies. Sindh and Balochistan gas is supplied by Sui Southern and Sui Northern supply gas to KPK and Punjab.

There are many problems to the energy sector of Pakistan. such as load shedding and expensive electricity. In summer 2022, short fall was more than 10,000 MW that is why there was load shedding for 8 hours a day in urban areas and 16-18 hours a day in rural areas. Pakistan generates the most expensive energy in Asia and third most expensive energy in this world. The domestic unit vary from 24 to 64 PKR which vary by how much unit people use.

There are many reasons of expensive electricity such as expensive hydrocarbons, expensive agreements with IPPs, the conditions of OMF, transmission loss and many more. The most expensive energy source is Diesel and 12000 MW electricity units are installed capacity of diesel is in Pakistan, more than

7000 MW of LNG and 6500 MW of coal and all these hydrocarbons are very expensive which Pakistan imports in dollars. Another reason is expensive IPP (Independent power producers).

42000 MW is installed capacity of Pakistan and Maximum demand is 28000 MW in summer in Pakistan and least is 14000 MW in winter

as the country is paying capacity payment in dollars and third reason is when IMF gives loan. It put condition that price per unit should be increased and there is

also 17% line loss in Pakistan

because our majority lines are expired in 2010. The expensive electricity and energy crisis has

so many implications such as industries in worst condition in Pakistan and there is no improvement

in agriculture as 30% of agriculture depends on tubewells which run on electricity and due to expensive

electricity the product of Pakistan is expensive in international market and is least bought.