

# COMMENTARY

## ALTERNATIVE SOURCES OF ENERGY

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### ABSTRACT

*Through alternative energy sources we look for energy that can help replace the use of coal and petroleum. Coal became popular when it replaced wood as the main source of fire and fuel. However, it is still being used extensively in power plants to produce electricity. Though a considerable switch to renewable energy sources is gaining momentum, it may take a while to produce the amount of power needed to run our daily lives. Similarly, petroleum is still a leading source of fuel to run vehicles today.*

## VARIOUS ALTERNATIVE ENERGY SOURCES USED IN V4 COUNTRIES

When it comes to energy, solar energy is ultimately the alternate source. Sunlight is required in the production of all fuels – including the non-renewable ones. On its own, it has plenty of applications. Solar energy is an efficient way to heat materials. With the help of solar panels, batteries and the right equipment, we can use solar water heaters, solar cookers and solar powered bulbs. There are no moving parts involved in most applications of solar power. There is no noise associated with photovoltaics. This compares favorably to certain other green-techs such as wind turbines. It can also be used to generate electricity in both small and large amounts. It is being used extensively these days in order to reduce electricity bills and become less dependent on the fuel-based economy.

Another alternative energy source that is renewable and has the potential to solve the energy crisis is wind energy. This is where windmills become our greatest ally. Large wind farms have been erected in areas where the wind is both fast and consistent. As the wind turns the blades of the power plant, it activates the turbine motor, the turning of which can produce electricity. Unlike solar energy, this cannot be transported or used directly. However, it has brought us one step closer to closing the gap between demand and supply. As a means of alternative energy, it is clean and produces no pollution. More than that, it requires much less investment than other forms.

Utility-scale turbines range in size from 100 kilowatts to as large as several megawatts. Larger wind turbines are more cost-effective and are grouped together into wind farms, which provide bulk power to the

electrical grid. In recent years, there has been an increase in large offshore wind installations in order to harness the huge potential that wind energy offers off the coasts of the U.S.

Single small turbines, below 100 kilowatts, are used for homes, telecommunications, or water pumping. Small turbines are sometimes used in connection with diesel generators, batteries, and photovoltaic systems. These systems are called hybrid wind systems and are typically used in remote, off-grid locations, where a connection to the utility grid is not available.

Wind does not cost anything and therefore operational costs are close to zero once a turbine starts running. Research efforts in the field of technology are going on to address the challenges to make wind power cheaper and a viable alternative for individuals and businesses to generate power. On the other hand, many governments offer tax incentives to create growth for wind energy sector.

## HOW TO IMPROVE ENERGY POLICY?

Currently, the V4 countries differ regarding their national security of supply measures and the level of their market integration. The Czech Republic and now Poland are considerably more diversified than Slovakia and Hungary owing to the access to western hub-based gas. I, personally, would suggest building more solar panels where possible, as well as turbines for the wind energy. As I described their pros and cons, I still believe that this move can make a huge profit for the future of energetics between V4 countries.

## SOURCES

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