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Concentrating Solar Panel Systems

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Concentrating Solar Panel Systems

Concentrated solar power systems refer to where the sun's heat is directed to one point for steam to be produced. The idea was first noticed in 1973, but due to technological developments, new ideas have been introduced on ways to direct the sun's heat for use. With that, the application of the practice has increased over time whereas in 2010; more than 34 CSP stations were built across the globe, which is about 880.45 MW. The United States is the leading in this practice, where over sixteen plants are operational while thirty-six of them are underway. Other countries ventured into this technology are Spain, Algeria, Italy and Egypt.

The solar panel technology is a renewable source of energy where several benefits are noted. According to research, solar-generated power prices have dropped by 80% in recent years and more such trends are expected in the future (De & Cavalcante, 2017). More so, the onshore wind energy prices have also dropped by 25%, and the offshore wind would also lead to lower prices future (De & Cavalcante, 2017). The sources of energy are therefore reliable compared to gas and fossils fuels whose prices are increasing and variations evident from one region to the other.

The technology has boosted the overall value chain since every area can access it, meaning local workers are hired, and their lives improved as well as the general economy. Concentrated solar panel systems are also crucial in ensuring long term certainty for energy. Notably, the building of a solar plant takes about thirty years, but the in-charge creates time for innovation. The technology is increasing with time, and it is expected better results would be achieved. Currently, oil prices are at about \$70 per barrel, and more costs are foreseen in future (De & Cavalcante, 2017). The solar systems, therefore, guarantee long term certainty that power would be generated at lower prices.

Solar panel systems affect the living organisms and the physical globe in the following ways. The cost of installing the technology is high, making humans spend a lot of

money compared to the non-renewable sources of energy. Also, the lands occupied by the solar plants are too vast that the vertebrates are directly affected (Zhang et al., 2017). For instance, the visibility of birds is affected, making them quickly collide with the stations leading to deaths. Considering the extensive lands needed for the establishment of the plants, deforestation is evident. It affects animals, especially those migrating from one area to the other as their ecosystem is altered. On the other hand, the concentrated solar energy stations demand severe sun rays and are therefore built in the semi-arid regions called sun belts. Normally, thermal cycle back end needs water to cool in the point called a wet cooling tower. Since water supply in the semi-arid regions is little, depletion is evident, like in the Mena Region, which affects the few organisms and plants living in these areas.

One of the actions to reduce the above effects is proper siting decisions while establishing solar panel systems. Here, the government and the involved stakeholders would ensure the areas selected do not cause a land disturbance. For example, the areas picked should not alter migration patterns for animals, and the settlement displacing should be minimal. The action preserves the environment because living things would not be impacted while renewable energy production would be increased. The other needed action is the passage of regulations to ensure the wastes from the plants are disposed of in the right manner (De & Cavalcante, 2017). As noted above, the plants are established in semi-arid areas where national parks are also placed. If the waste materials are handled right, chances for polluting the wildlife's ecosystem is reduced but ensuring environmental sustainability.

The actions are necessary for ensuring the benefits of concentrated solar panel systems are attained while lowering the adverse effects on living organisms and the environment (Zhang et al., 2017). As a result, people would access cheap energy while the surrounding is preserved for future generations.

References

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