

How to switch from NEPA to Solar Energy Completely

Electricity has become one of the most crucial aspects of modern life. Yet, a significant 69% of the Nigerian population reports an average of 1 to 9 hours of power supply, an unimpressive figure. This means most Nigerians spend about fifteen to twenty-three hours without electricity if they don't seek alternatives.

With such a low power supply range on an average day and the looming possibility of blackouts caused by national grid collapse, there are more reliable power supply sources than NEPA, and switching to solar energy is one of them.

What to Consider Before Choosing Off-Grid Solar

Going off-grid isn't a one-step transition. Here are some factors you must consider before cutting ties with the national grid:

1. Evaluate Your Energy Need

The first thing to consider is how much energy you need. Your home or business's average daily energy consumption will mainly determine the size of your off-grid solar system. Thus, assess your energy needs by determining how much power you currently use.

So ask questions like, "How many appliances do I have? How much energy do they consume? How many people will be using the power? Once you have drawn a rough estimate of your energy needs, you can determine the size of the off-grid solar and battery system.

However, you don't need to make these calculations alone. An off-grid solar expert can help you determine the size of the solar system for your home or business based on your energy needs.

2. Factor in Your Future Plans

When switching from NEPA to solar energy, you must also consider your future energy needs because upgrading your off-grid solar system could cost you more than necessary. Thus, when determining your solar power size, you must factor in your plans. Do you intend to buy more electronic appliances? Would you expand your business?

For instance, would you upgrade from standing fans to air conditioning systems? If your plans require increased energy consumption, it's best to account for this need by investing in a larger solar system or additional battery storage ahead of time.

3. Consider the Availability of Sunlight in Your Location

Next, consider the availability of sunlight in your location, as climate greatly influences solar energy generation. Determining the amount of sunlight in your area is crucial. Sun irradiation—the electromagnetic radiation emitted by the sun—will also affect how much energy your off-grid solar system can generate.

While Nigeria has a general tropical climate, solar irradiation varies from region to region. Thus, the solar expert will typically determine how much sunlight you get when deciding the size of your solar package.

Your solar specialist will also consider factors like shading from trees, average sun hours, and the land's topography. Overall, these will help you decide on the best location and tilt to maximize sunlight for your solar panels.

4. Decide on Your Days of Autonomy

Days of autonomy refer to the number of days an off-grid solar power system can supply electricity without any input from solar panels, typically during periods of low sunlight or bad weather.

Switching from NEPA to a solar system is a great decision, but it is not foolproof because solar energy depends on the sun. Hence, lack of sunlight during the rainy season will lead to little or no energy generation. So, you must determine your days of autonomy to ensure a reliable power supply for your off-grid system during these periods.

There are two ways to ensure a continuous electricity supply during the rainy season: You could increase the battery size of your off-grid solar system to reduce the generator runtime, or you could increase the generator runtime to reduce the battery bank size. Either way, you can minimize cost, so decide what works best for you.

Benefits of Completely Switching from NEPA to Solar Energy

If you are still determining if completely switching from NEPA to solar energy and saying goodbye to the power grid is the best option. Here are some benefits of choosing zero energy to consider:

1. Independence and Greater Control

The independence that comes with living off the power grid is a great incentive to choose an off-grid solar system. You no longer have to rely on NEPA, where you don't have control over when you get an electricity supply.

However, solar energy is a different story entirely. With a solar package, you become self-sufficient by generating your own energy. You also gain independence and control your electricity supply, deciding when you need it and how much energy you consume.

2. Staying Above Blackouts

When connected to the power grid, blackouts lasting days or even weeks could occur at any time during extreme weather or a national grid collapse. This could hamper activities and cause discomfort.

However, when you go off-grid, you eliminate blackouts by generating your own electricity and having complete control over when you turn it on. Even on rainy days, you can use stored energy or rely on generators during prolonged rainy periods.

3. Environmentally Friendly

One great advantage of switching from NEPA to solar energy is that you can be more environmentally friendly. Solar energy is a renewable energy source that produces zero carbon emissions. Hence, you contribute to a cleaner, greener, and more sustainable Earth.

4. Reduce Electricity Costs

With electricity supply costs rising frequently, going off-grid reduces electricity costs dramatically. Although the initial cost of an off-grid solar system is high, there are no further expenses after your one-off payment, and maintenance costs are very low, making it cheaper in the long run.

Conclusion

With the national grid unreliable and the electricity tariff high, switching entirely from NEPA to solar energy offers the best protection against blackouts and electricity price hikes.

When transitioning from the national power grid to off-grid solar, evaluate your energy needs, factor in your plans, consider the sun's availability, and determine your desired autonomy. An off-grid solar expert will be in the best place to help you on your journey and ensure you get the most suitable package for your home or business.