



# Transforming energy.

The game-changing impact  
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Renewable energy's emergence has taken place in ways that go beyond its clean-energy nature. In fact, as solar-power arrays, wind turbines and renewable microgrids take hold, so do the more practical – and vital – benefits they provide.

Nowhere is that more apparent than in South Africa. Here, for example, a solar solution's ability to provide an independent source of power has heightened relevance, especially in the country's mining industry, where remote locations are the norm. Quickly, local mining companies are embracing renewable's off-grid approach, one that helps reduce diesel-generating costs while also delivering environmental protection credits.



Sir Richard Branson's Necker Island

## Extending renewable energy's efficiency story.

Solar isn't the only renewable solution South Africans are embracing. Another example is microgrid technology – emerging for its ability to solve traditional, yet pressing, energy challenges. In simple terms, a microgrid looks at a customer's existing energy resources and develops a stand-alone energy approach independent from a larger grid. Typically, it creates a decentralized, two-way network of small power systems. For example, the microgrid now being put into place on Necker Island (located 1,100 miles off the U.S. mainland) incorporates solar, wind, battery storage and a unique energy management system – with the renewable sources ultimately driving much of the solution and reducing diesel fuel consumption by at least 75%. Diesel, of course, is particularly expensive given the island's remote location. In the energy world, islands don't necessarily have to be surrounded by water.

In South Africa, for example, many mining operations are located in remote mountainous settings and can benefit from a microgrid solution in much the same way as a tropical island.

Another proof point is reliability. For countries where grid performance is an issue with serious bottom-line impact, the ability of a company or community to take control of its energy needs through a microgrid or solar array can be reason enough to install this type of approach. In simple terms, a non-traditional solution delivering traditional benefits.

This real-world applicability of renewable energy has become its most meaningful message. As energy costs get scrutinized along with every budget item, they provide an ever-present motivator for companies to look at proven renewable approaches to reduce costs, gain control and increase profits.

# From inspiring to growing – renewable energy takes hold.

To deliver an array of renewable solutions, NRG Energy has created a separate business unit, NRG Renew. Already, its list of designed-and-delivered products spans a diverse range of customers – from hotels to agriculture – ranging from hundred megawatt utility-scale renewables to off-grid power solutions employing small wind turbines and batteries. As its mission takes hold, so does its presence on a global scale. Recently, in fact, NRG Renew Africa was formed to focus on delivering renewable projects and solutions, starting with the South African market.

The new company can build upon a proven model of success. In the hospitality industry, the NRG Renew team has recently equipped two of the world's leading hotel chains, Starwood Hotel & Resorts and MGM Resorts International, with iconic solar solutions.



Mandalay Bay Resort Convention Center. Las Vegas, NV.

At Starwood's Phoenician resort in Scottsdale, Arizona, a 568-kW solar installation will generate clean, reliable power and is the first of three projects planned across the globe. Each will help Starwood attain its publically-stated corporate sustainability goals while also providing a reliable source of power and helping reduce overall energy expenditures. The next two projects are planned for Hawaii (Westin Maui) and the Caribbean (Westin St. John Resort & Spa).

Elsewhere, MGM and NRG Renew completed installation of a rooftop solar photovoltaic array at the Mandalay Bay Resort Convention Center in Las Vegas, taking full advantage of the resort's sunny, desert locale. Besides serving as a symbol of sustainability and environmental stewardship, the project is expected to produce nearly 20% of the resort's power demand. That's 20% that MGM doesn't have to purchase from the grid.

In this regard, renewable energy has gone past its introductory phase to become a more lasting "good for business" solution grown from something that can dazzle, to a solution that can also endure.

## Extending the efficiency story.

As renewable energy solutions take hold, a natural offshoot is that it becomes both easier for new companies to visualize how a solution can work and more efficient to implement them. In other words, the process to identify, visualize and embrace renewable energy is now quicker and more self-evident than ever.

Another factor is the range of solar technologies and approaches being put in place. For a technology "agnostic" provider like NRG Renew, this provides the ability to deliver a solution that is both tailored and proven – along with quicker to execute and more affordable. Financing options add to the implementation equation.

On all projects, NRG Renew incorporates a Power Purchase Agreement (PPA) that allows a solar installation to be completed with little upfront capital from the company itself. Also, once a renewable project is installed, measuring its positive effect and ROI impact is also becoming more seamless, thanks to equally innovative metrics.



## The future of renewable energy.

Looking ahead, expect an extended "exponential growth" phase for renewable energy approaches, with many companies throughout South Africa and the world integrating solutions that are innovative, yes, and also more reliable, flexible and affordable than what they're replacing.

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**FOR MORE INFORMATION**

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