

White Paper:

# Staying connected has created an immense need for portable power.

GOAL ZERO, the category leader in the Portable Solar Power Industry, has harnessed the sun and created an endless option for recharging mobile devices "on the go".

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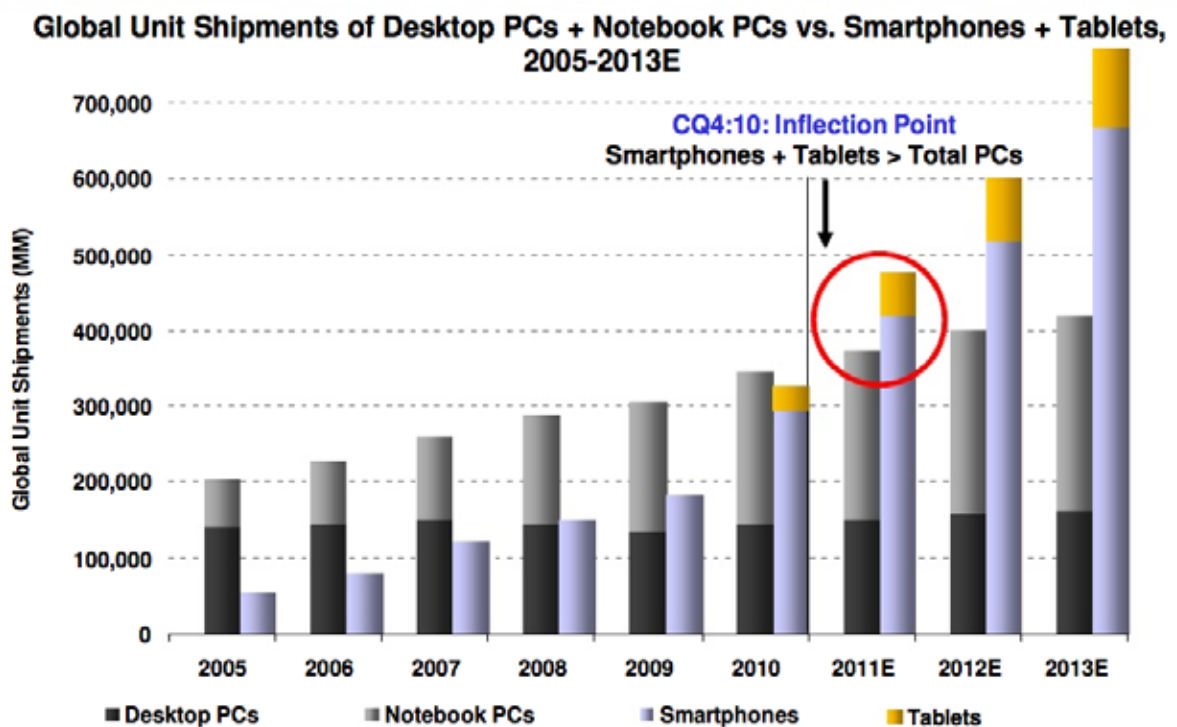
## The Situation: There are now more cell phones and tablets in the USA than Americans!<sup>1</sup>

Over the past several years, the mobile device industry has revolutionized the way we work, entertain, and communicate by providing us advanced mobile devices such as MP3 players, cell phones, smart phones, tablets, and laptops. As part of this revolution, users are now given the tools to access the internet and work remotely: whether it's on a plane, a beach, or a car, users are now consuming power in places where they previously did not. But there is a problem. Most of these places do not have accessible power which creates a problem. Users are finding themselves without power during inopportune moments.

A study conducted by ABI Research was released in October 2010 that examined user needs and available solutions. It concluded that:

As people carry and use increasing numbers of portable electronic devices, they have a growing need to charge their batteries on the go. Today's road warriors can tell you it's not always feasible to plug a cellphone handset into a wall outlet or car adapter for a quick charge.<sup>2</sup>

Research director Larry Fisher of NextGen, ABI Research's emerging technologies research incubator, said, "the advanced charging revolution is about to take off."<sup>3</sup> In this same report, ABI projected that this industry, the "Advanced Charging Technologies" industry, which includes portable solar chargers, is currently estimated at \$1.5 billion in revenue and is expected to grow to \$34 billion in 2015. That is a robust CAGR, at 86%. Another graph illustrating the growth in this sector is below [see Graph Inflection Point] which highlights how there are now more smartphones and tablets than there are total PCs. This graph projects that the variance will grow wildly in the coming years.



Source: KPCB

<sup>1</sup> [http://newsfeedresearcher.com/data/articles\\_t42/wireless-ctia-million.html](http://newsfeedresearcher.com/data/articles_t42/wireless-ctia-million.html)

<sup>2</sup> <http://www.abiresearch.com/press/3539>

<sup>3</sup> <http://www.abiresearch.com/press/3539>

## **The Problem:** The current methods to recharge mobile devices away from the grid are inadequate.

As portable devices grow in popularity and use, the market for portable power to recharge these devices has grown exponentially. However, the majority of the solutions provided by the industry giants do not meet the true needs of users. To better illustrate this point, it is important to recognize there are two types of power needs for portable devices: **LOW-ENERGY USE AND HIGH-ENERGY USE.**

**LOW-ENERGY USE:** Users needing to power small devices such as MP3 players, cell phones, smart phones, tablets, and e-readers are mostly aware of power solutions that charge from a wall plug or car outlet; however, the ability to charge “on the go” has been limited to **alkaline batteries**, such as Energizer and Duracell’s AA, AAA, C, and D batteries. These power solutions of the past will not meet the needs of the future because they are not renewable and result in being too heavy, expensive, and environmentally unfriendly. For example, most of these alkaline batteries weigh as much as the product itself and cost as much as 100,000% more than the power from a wall outlet. Not only that, but they must be disposed of after each use. This isn’t practical for remote locations, like a combat in Iraq or hiking Mt. Everest and creates added weight, and hazardous waste.

**HIGH-ENERGY USE:** Users needing to power the Low-Energy devices as well as larger devices such as TV, DVD players, refrigerators, and lighting are mainly using a **gas generator** to meet their power needs. Gas generators are very popular and affordable for the amount of power created. However, a user experiences many undesirable outcomes when using these generators. For example, they are noisy, they cannot store power, they are heavy and bulky, they are prone to mechanical failures, they are wasteful, and they are potentially very dangerous because they require gas to function. In fact, these generators cause many deaths each year as people are exposed to the fumes containing Carbon Monoxide. A recent study concluded that deaths from portable gas generators have increased over 400%.<sup>4</sup> Here’s an example of how wasteful these gas generators can be: If a user has a 2,000 Watt generator and is recharging an iPad, which draws only 5 Watts, the user would be wasting 1,995 Watts. Not to mention the expense of transporting gas to a remote location.

Not only are the Off Grid charging solutions inadequate but there are times when the power grid is not reliable. When Hurricane Irene recently struck the east coast of the United States, one of the first and major needs was power for lighting and communication. Over 2 million people were without power during this storm and that is because it was less severe than anticipated.<sup>5</sup> In the Northeast Blackout of 2003, over 55 million people lost power and many for several days.<sup>6</sup> In these situations, consumers typically cannot find the batteries and gas needed for the conventional solution for generating power.

The bottom line is that most consumer needs for portable power today fall in between the Low-Energy and High-Energy uses where few solutions exist. The groups of people needing these power solutions typically come from the following markets: Outdoor, Emergency Preparedness, Military & Government, Electronics, Travel, Medical, and environmentally conscience consumers.

<sup>4</sup> [http://www.alpc-law.com/index.php?option=com\\_content&view=article&id=21&Itemid=36](http://www.alpc-law.com/index.php?option=com_content&view=article&id=21&Itemid=36)

<sup>5</sup> <http://abcnews.go.com/US/hurricanes/hurricane-irene-dead-million-power/story?id=14393026>

<sup>6</sup> [http://en.wikipedia.org/wiki/Northeast\\_Blackout\\_of\\_2003](http://en.wikipedia.org/wiki/Northeast_Blackout_of_2003)

## The Basic Solution: Is there a solution that actually works?

Until recently, the conventional approach for portable power has been limited to batteries and gas generators; however, with the recent declines in solar prices (as much as 75% decrease in the past 3 years) a few manufacturers are now using solar panels as a better option for generating power in remote locations. Solar panels are an attractive solution because they are renewable, affordable, portable, powerful, and long lasting. Consumers can now carry a 10 oz solar panel in their backpack that will recharge their MP3 players, cell phones and tablets from the sun for up to 20 years.

If these solar panels are so great then why aren't they more popular? This is a "cottage" industry right now and few manufacturers are actually producing these portable solar panels due to the small market potential and the relatively new demand. Those that are offering a solution typically have a limited product offering (usually 1-2 products), a limited exposure in retail, and a lack of financial ability to scale. Until now, no manufacturer has gained significant penetration in retail, or achieved over \$10 million in annual revenue in this industry. These constraints have limited growth and ability to drive consumer adoption but are not a problem for GOAL ZERO.

## The Conclusion: Why GOAL ZERO is the best solution

GOAL ZERO was born from a cause to empower people. The Founder and CEO, Robert Workman, is a successful entrepreneur who spent over 30 years building a family business, Provo Craft, into an industry leader. In 2007, he desired to dedicate himself to a humanitarian cause and founded an organization called TIFIE (which stands for Teaching Individuals and Families Independence through Enterprise). He set out to educate and assist the people in the Democratic Republic of Congo (DRC) on how to create jobs and economic stability by creating successful businesses. Robert recognized a primary need for power in remote locations. His efforts to identify a reliable and affordable option were fruitless. As an inventor, he decided to create the solution. That is how GOAL ZERO was born.

GOAL ZERO's mission is to be the leader in producing the most innovative and dependable products that empower people with freedom. In order to accomplish this goal, GOAL ZERO identified the following key criteria that would be required for mass adoption of its products:

- **Affordable**—Consumers will find that GOAL ZERO's products are typically priced 30-50% lower than comparable products. By providing significantly more value, GOAL ZERO has grown customer adoption. The most popular products sell for as low as \$39.99
- **Available**—Consumers are now able to purchase GOAL ZERO portable solar panels at 1,000's of retail locations including Costco, Lowe's, REI, Cabela's, Bass Pro, and Amazon, which previously did not carry such products.
- **Easy to Use**—Consumers are able to use these solar powered generators as a "Plug & Play" system that works immediately out of the box and is simple to use. It also has the capability to customize products for specific uses, such as communication devices for the military.

- **Complete product line**—Consumers are able to choose from GOAL ZERO's 70+ SKU's. For simplicity, GOAL ZERO has THREE (3) main product lines which offer the following solutions to consumers:
  - ◇ **Small**—The Guide product line delivers USB power and an LED light capable of charging MP3 players, cell phones, smart phones, and even the iPad tablet.
  - ◇ **Medium**—The Sherpa product line is designed to deliver all of the “Small” device needs as well as ability to power laptops, TVs, and DVD players with its 12-20 volt DC output and the 110 to 220 volt AC output.
  - ◇ **Large**—The Extreme product line is able to power all of the “Small” and “Medium” devices as well as the majority of all AC products such as refrigerators, lighting, and even hair dryers with its 1,500 watt AC output.



Because of GOAL ZERO's financial strength and leadership, it has been able to offer more product solutions than any other portable solar manufacturer. Within one year of launching its products, GOAL ZERO has built the most extensive retail distribution network in the industry and is now considered to be the market leader. Until now, GOAL ZERO has primarily focused its efforts on the consumer market and is now exploring new market segments such as Military and Government and is looking for a partner to help guide the development and sales approach.

In closing, GOAL ZERO is not an inventor of new technology, but rather is an innovator of solutions. The mission is focused on empowering customers with innovative solutions and using existing technology in a way that has not been done before. Its solutions provide customers a better way to collect, store, and use Power Anywhere.