

# green entrepreneurs



## George Herrman, Ean Cargoe

by John Gruidl, Professor, Illinois Institute for Rural Affairs at Western Illinois University



**Product.** Portable, solar-rechargeable power source

**Product Uses.** Disaster situations like Haiti earthquake

**Business Started.** 2008

**Background.** Ham radio operator, electronics experience in Army

**Business Motto.** "One box, One radio, Indefinite Communications"

George Herrman, an avid ham radio operator in the Quad Cities, has taken a hobby and parlayed it into a new business venture. George's company, Ean Cargoe, produces a portable, solar-rechargeable power source that enables backup radio communications and allows the recharging of cell phones, walkie-talkies and other communication devices. The power source has many possible uses, particularly in crisis situations when electric systems are down and emergency workers need to charge their radios, cell phones, radio repeaters, and other communication devices.

The story of Ean Cargoe (the company name is derived from the first letters of the names of George and his brothers) began in the summer of 2008 when George was asked to lend a hand in a Boy Scout event taking place near Springfield, Illinois. The organizers of the event wanted to ensure that there were reliable communications along a 25-mile trail in case of an emergency even though some areas did not have cell phone coverage. Knowing that George was an experienced ham radio operator (call sign KC9OEN), the organizers asked him to bring a power source to support his ham radio. After an extensive Internet search, George was unable to find a power supply unit that could run either by plugging into an electric outlet or by using solar panels for charging, negating the need for a gas-powered generator. So he decided to build one himself.

With \$100 in parts from a Farm and Fleet store, George constructed a portable power box. He then added a solar panel purchased from a California company. When he took his new invention to the Boy Scout

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gathering, many people were impressed with it. In fact, several law enforcement officers expressed an interest in purchasing one as a power backup.

Having graduated from Western Illinois University with a master's degree in Instructional Technology and Telecommunications in 2003, George had the educational background to design a power box capable of running a ham radio. In addition, his work experience in electronics, including the repair of missile launchers for the military, gave him the needed skills to make his power box functional.

Thinking back to the great Indian Ocean tsunami of 2004, George realized his power box had the potential to save people's lives. During the tsunami, the affected coastal areas had quickly lost electrical power as transmission lines were pulled down. Soon after, virtually all communication capabilities were lost. George speculated that if his portable power box used at the Boy Scout event had been available, with modifications, to power communication devices during the tsunami, the death toll might have been reduced.

The tsunami and other natural disasters and emergencies motivated George to start Ean Cargoe. Lacking a business background, he realized that he needed help in developing a business plan. He credits the Northwest Entrepreneurship Center as a key source of support for helping him think through the business model and develop a solid business plan. Meanwhile, George continued to improve the design of product. For example, he configured the equipment so that it all fit into a Pelican case which is considered the industry standard for strength and durability.

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With an excellent design in hand, the next step was to develop a prototype. Again, the Northwest Illinois Entrepreneurship Center was helpful by finding two grant opportunities. George used the grant funds to produce



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five prototypes and to gain e-commerce capability for the company website. George also credits the Small Business Development Center at Blackhawk College for significant help in launching his business.

Today, the Ean Cargoe product can supply power to laptop computers and radios, and recharge cell phones. Using a 100-watt ham or military radio and the proper antenna, communications can reach 2,000 miles and the power source can last 3-4 days before needing to be recharged by the solar panels. George refers to his invention as “one box, one radio, indefinite communications”.

To begin manufacture of his product, George has developed a partnership with The Arc of Rock Island County. The Arc provides support and work opportunities for individuals with developmental disabilities. One of its programs, Arc Industries, provides product processing, packaging, warehousing, and shipping for local businesses. It will assemble the Ean Cargoe power product in its modern 65,000-square-foot production facility as well as handle delivery of input materials and shipment of the finished product, an orange box, to customers. The decision to partner with Arc was based on its locality, its focus on quality control, and its ability to provide a wide assortment of manufacturing services. This type of partnership has also allowed George to concentrate on marketing.

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George is the first to admit that his main competition is the “\$600 gas-powered generator at Lowes”. Since the Ean Cargoe product sells for approximately \$2500, it obviously has to be marketed as an upper niche power source that provides emergency backup. George has identified his target market as local, state, and federal agencies, such as police and fire departments, Homeland Security, the military, and FEMA. He would like to “see an orange box on every fire truck” capable of supplying power for emergency lighting in rescue situations.

***George would like to “see an orange box on every fire truck”***



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Although George appreciates the grant support that he received, nearly all the funds were spent

on developing the prototypes, leaving little for marketing. In the case of Ean Cargoe, marketing is especially challenging because the product is new and its advantages are not readily understood. The face-to-face discussion to explain how the orange box has distinct benefits over the standard gas generator seems to be the most effective marketing tool. Like many green entrepreneurs, he is finding that people's notions of products change slowly and it is difficult to convert them to new technologies.

Like most entrepreneurs, George is gaining new skills while trying to find what works. But the often slow entrepreneurial process can be frustrating. In 2010, a magnitude 7.0 earthquake occurred in central Haiti. Electric power stations and transmission lines had been destroyed and communications were shut down except for limited cell phone coverage in Haiti's capitol, Port Au Prince. The Red Cross airlifted 400 gas-powered generators across that helped power communication devices for a limited time—until the generators ran out of fuel. Unfortunately, many roads were virtually impassable, causing long delays in fuel delivery during which time communications were shut down again. George followed the global rescue efforts and wished that his orange boxes had been made, marketed and in place where they were needed.

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*Green Entrepreneurs: Ean Cargoe* is one of a series of case studies conducted with support from the Center for Food and Agricultural Research. Additional case studies are available on the Institute for Rural Affairs website at [www.IIRA.org](http://www.IIRA.org).



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