Zacks Small-Cap Research

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ForceField Energy, Inc. (FNRG-NASDAQ)

FNRG: Continuing announcements on LED sub-distribution agreements & LOIs for LED projects

Current Recommendation	**Neutral**
Prior Recommendation	Underperform
Date of Last Change	02/12/2012
Current Price (12/11/13)	$5.83
Six- Month Target Price	**$6.50**

OUTLOOK

Last year, ForceField Energy expanded into two new "green technology" segments: LED lighting and ORC (Organic Rankin Cycle) technology. ForceField's growth initiatives into these two alternative energy industries are transforming the company, which should benefit from the secular trend towards more efficient energy generation and consumption. Multiple new relationships and trials have been announced over the last few months. In the legacy TCS market, polysilicon prices have rebounded from the December lows, and a recovery appears to be underway.

SUMMARY DATA

52-Week High	**$5.83**
52-Week Low	**$3.32**
One-Year Return (%)	**15.45**
Beta	**-0.70**
Average Daily Volume (shrs.)	**6,061**
Shares Outstanding (million)	**16.4**
Market Capitalization ($ mil.)	**$95.6**
Short Interest Ratio (days)	**1.64**
Institutional Ownership (%)	**14.7**
Insider Ownership (%)	**25.4**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/M**
P/E using 2013 Estimate	**N/M**
P/E using 2014 Estimate	**N/M**
Zacks Rank	**3**

Risk Level	**Above Average**
Type of Stock	**Small - Growth**
Industry	**Energy – Alt.**
Zacks Rank in Industry	**9 of 15**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2011	7.75 A	10.16 A	7.47 A	2.96 A	28.34 A
2012	0.51 A	0.53 A	0.23 A	0.87 A	2.13 A
2013	0.29 A	0.22 A	0.29 A	0.33 E	1.12 E
2014					3.00 E

Earnings per Share
(EPS is operating earnings before non recurring items)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2011	-$0.02 A	$0.00 A	-$0.00 A	-$0.14 A	-$0.17 A
2012	-$0.03 A	-$0.04 A	-$0.04 A	-$0.09 A	-$0.21 A
2013	-$0.04 A	-$0.04 A	-$0.04 A	-$0.04 E	-$0.17 E
2014					-$0.17 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

ForceField converted to a calendar year on 12/31/2011. Prior results adjusted.

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KEY POINTS

- ForceField's management team seeks out the favorable investment opportunities in the emerging and fast-growing "green energy" and alternative energy markets.
- In 2012, ForceField entered the **LED lighting** and **Organic Rankin Cycle (ORC) systems** industries through an exclusive distribution agreement with **Shanghai Lightsky and** the acquisition of a controlling interest of **TransPacific Energy**, both in August. The company now operates in three business segments: the LED lighting, ORC systems and solar energy markets.
- Management's primary focus is to generate increasing revenue streams from the LED and ORC businesses.
- In **LED lighting**, ForceField, through its exclusive distribution agreement with Shanghai Lightsky, offers commercial LED lighting systems and products through at least nine sub-distributors and by bidding on large commercial projects. In addition, several commercial trials are underway.
  - ForceField Energy offers competitive pricing for quality turn-key LED lighting solutions and can provide attractive financing options so that the reduction of maintenance and operating costs can fund the cost of installation and operation within three years of implementation. The company has signed agreements with two unnamed "Top 10" U.S. banks for LED project financing support.
  - The conversion from traditional lighting to energy-saving LED lighting is expected to continue at a rapid pace. Consumption of LED lamps in the U.S. increased 50.5% in 2012. It is possible that LED technology could dominate the lighting market by 2016 as the marketplace adopts energy-efficient LED lighting.
    - ElectroniCast Consultants forecasts that U.S. consumption of LED lighting will reach $2.77 billion in the year 2017, up from the $891 million recorded in 2012.
    - Navigant Research forecasts that global revenue from LED lamps will grow to more than $8.5 billion annually in 2021 from approximately $1.5 billion in 2013.
  - ForceField Energy has enlisted sub-distribution partners in the U.S, Germany and Ireland to aid in the marketing and sale of LED installations and retrofits. Most provide energy saving consultancy services that can demonstrate the economic benefits of converting to LED lighting.
  - The company is pursuing several direct distribution opportunities in the U.S., Latin America and the Caribbean, notably in Costa Rica and Guatemala.
  - Management is very optimistic that many of the current trials and LOIs will convert into large contracts for LED systems to be installed on a continual basis into the future.
- Through a controlling interest in and non-exclusive distribution agreement with TransPacific Energy, ForceField is **installing two ORC units** at Zibo Qilin Fushan Iron & Steel Company in China. The units that convert waste heat into electric energy will be owned by ForceField who will sell the electricity generated to Zibo Qilin at a discount to the local utility's price. The anticipated annual revenue run rate is estimated to be approximately $550,000.
- In March 2013, ForceField Energy entered into a cross-distribution agreement with PowerOneData International, giving ForceField the ability to **distribute smart meters**. A trial for the installation of residential electric smart meters by Empresa de Servicios Públicos de Heredia (a Costa Rican manager of utility services) has already been announced.
- With majority ownership positions in two Chinese companies (90% the Zibo **Baokai** trichlorosilane distribution company and 60% of the **Wendeng** trichlorosilane production facility), ForceField is positioned to benefit from a recovery of the solar-grade polysilicon market. Spot prices for polysilicon bottomed in December 2012. Baokai and Wendeng are low-cost producers in China and should be able to take advantage of the Chinese government's $454 billion commitment to renewable energy projects in China's five-year plan.
- Management cites that over $125 million in revenues would be generated over a multi-year period if the current projects under signed initial agreements, Letters of Intent (LOI), bids and trials are successfully financed and completed. More than $40 million in LOI are in Costa Rica alone.

RECENT NEWS

ForceField Energy Up-listed to NASDAQ

On October 15, 2013, the stock of ForceField Energy was approved for listing and registration to **NASDAQ**. The **up-listing** should benefit the company through better institutional investor awareness and increased share liquidity.

Financial results for the third quarter

On November 14, 2013, ForceField Energy reported third quarter financial results for the period ending September 30, 2013. Revenues increased 29.0% to $291,075 compared to $225,697 for the comparable quarter last year. The Wendeng segment generated $257,180 (or 88% of total revenues) while the LED and ORC segments contributed 3.7% and 7.8% of total revenues, respectively.

For the third quarter, the gross margin of the Wendeng operations improved to 4.2% while the gross margins for the LED and ORC segments were 20.0% and 34.8%, respectively. General and administrative expenses increased 15.1% to $809,613 versus $703,640 in the third quarter last year.

For the quarter, the company reported a loss of $814,912 (with a loss of $696,446 or -$0.04 per diluted share attributable to ForceField shareholders) versus a loss of $754,419 reported for the comparable quarter last year (of which a loss of $640,387 or -$0.04 per diluted share was attributable to ForceField shareholders). The weighted average number of basic and fully diluted shares outstanding was 16,256,120, an increase of 4.4% from 15,572,388 shares for the three months ended September 30, 2012.

During the third quarter, the company raised $360,000 through private placements of stock, bringing the total of net proceeds to $801,900 for the first three quarters of 2013. In addition, the company received $150,000 from issuing convertible debentures during the quarter.

On September 30, 2013, the company had a working capital deficit of $6,633,202, of which the vast majority is attributable to the related party payable of $6,505,104 owed to the minority shareholder of the Wendeng subsidiary. The minority shareholder is not currently requesting repayment; however, it nevertheless is an interest-free demand loan which must be categorized as a current liability.

Recent Sub-Distribution Agreements

On March 12, 2013, ForceField Energy announced that a **cross-distribution agreement** has been signed with **PowerOneData International**, Inc. for energy efficiency products in the United States, Canada, Mexico, and Latin America. Initially PowerOneData will focus on distributing the LED products for street light systems, and ForceField will concentrate on distributing PowerOneData's Geenii™ smart meters and database management software. Smart meters enable by utility companies to monitor residential, commercial and industrial energy consumption to manage better energy distribution systems, for example, by detecting the deterioration of aging transformers, theft of power and faulty lamps. PowerOneData's Automated Street Light Management (ASLM) solutions track and control LED street light systems by managing energy consumption through power conditioning, timing lights and regulating lighting based on traffic flow. The cross-distribution agreement adds a potential new revenue stream (smart meters) and strengthens ForceField's LED street light initiative with PowerOneData's ASLM system.

In April 2013, **On-Site Analysis** Inc., after the successful completion and three-month test of an LED installation at its 15,000 square-foot Massachusetts facility, became a sub-distributor of ForceField's LED lighting products. On-Site Analysis is an automated fluids analysis company based in Palm Beach Gardens, FL with a customer base composed of companies, militaries, municipalities and other fleet

service providers, all of whom are targeting effective solutions to reduce the operating costs of maintaining their fleets. Given On-Site's relationship and credibility with its clients, the selling cycle for the implementation of LED lighting projects should be short. On-Site lists over 100 high profile customers on its webpage, including Chevron, ExxonMobil, Joy Mining, Phelps Dodge, John Deere, Navistar, Volvo Trucking, Ford, General Motors, Toyota, Honeywell, Pratt Whitney, the US Navy and the cities of Los Angeles, Dallas and Charlotte.

On May 28, 2013, ForceField Energy announced the signing of an exclusive three-year sub-distribution agreement with **Prime Energy Solutions AG** of Wiesbaden, Germany. Prime Energy can maintain its exclusive distribution rights within Germany if at least $15 million of ForceField's LED products are purchased during the first 12 months. Prime Energy Solutions focuses on consulting on delivering energy saving solutions to public and commercial facilities, including buildings, streetlights and other diverse applications. In addition, Prime Energy has non-exclusive rights to distribute ForceField's LED products outside of Germany.

Prime Energy's first project is for the installation of LED lighting products at two public schools located in Germany. Upon the successful completion of the trial, Prime Energy is expected to target 243 other schools across Germany for LED conversion. Management estimates that between 18 and 24 months would be needed to obtain the approval of the various school districts involved and complete the installation of the lighting systems.

On June 25, 2013, ForceField Energy signed an LED distribution agreement with **International Sales Network**, Inc., a Georgia-based company with a large sales force of independent representatives across the U.S. Several test installations in Louisiana may be attributed to this relationship, including LED High Bay Lights (which are generally used in warehouses with high ceilings) at a division of Jacobson Warehouse Company in Plaquemine, a division of International Paper in Bogalusa, JohnPac, Inc. in Crowley and Harbor Pallets & Packaging, Inc.

On September 9, 2013, ForceField announced the signing of a three-year sub-distribution agreement with **First Choice Energy Ireland**, which hold the exclusive rights to distribute ForceField's full Lightsky LED product line in Ireland as long as minimum purchase thresholds are achieved ($250,000 over the first 90 days and $12.0 million during the first 12 months). Falling below thresholds would lower First Choice Energy's distribution status to a non-exclusive global sub-distributer. First Choice Energy Ireland is a consultancy company focused on providing energy saving solutions.

Commercial Trials with Lightsky LED Products

On November 20, 2013, ForceField Energy announced the signing of an agreement with **QSR International** to purchase and installation of ForceField's LED lighting products at two QSR restaurant locations (one KFC and one Quiznos). Management expects the installation at the two trial locations to be complete before the end of 2013.

QSR operates 145 franchise restaurants (31 KFCs, 102 Quiznos 8 Teriyaki Experiences, 2 Smashburgers, one Cinnabon and one Centenario Rum Bar & Café) in 15 countries throughout Latin America and the Caribbean. Potentially, QSR could roll-out ForceField's lighting solutions across the entire network of QSR restaurants. Also, over the next few years, QSR has commitments to open another 92 restaurant units (57 additional Quiznos, 26 Smashburgers, 5 Teriyaki Experiences and 4 KFCs). Providing LED lighting solutions to a growing, quick-service restaurant operator fits perfectly with management's prime target market of growing multi-location commercial companies.

On August 5, 2013, ForceField announced the receipt of a small initial purchase order from a division of **a Fortune 100 oil company** for LED High Bay lights. Also LED lighting trials will be conducted at three additional locations of the same oil company.

On August 22, 2013, ForceField Energy signed an agreement with **Sabia Corporation** to supply and install LED lighting at Sabia's Fantastic Proceres Casino in Guatemala City. Sabia Corporation distributions and operates slot machines and progressive systems for table games as well as owning and operating 14 casinos (five in Panama, five in Guatemala, three in Mexico and one in Congo-Africa). The agreement was arranged by DEK International, a subsidiary of Sabia Corporation, which supplies gaming products to more than 100 casino clients.

LED Streetlight LOI and Smart Meter Trial in Costa Rica

On July 16, 2013, ForceField Energy announced that a Letter of Intent (LOI) had been signed with **Empresa de Servicios Públicos de Heredia** (a Costa Rican utility management company based in Heredia) for the installation of 19,000 LED streetlights. The project entails removing and disposing of the utility's existing streetlights and installing SL3 streetlights (in various wattages). The project, which is subject to the signing of a definitive agreement and financing, is estimated by management to generate revenues of more than $21 million over a ten-year term based upon a shared savings model whereby ForceField will be compensated through a pre-determined percentage of the value of energy and maintenance savings achieved by the LED retrofit project.

On July 25, 2013, ForceField Energy announced that the LOI for 19,000 LED streetlights was expanded in size and scope to include a 30-day residential home trial of smart electric meters provided by ForceField's partner, PowerOneData International. If successful, management believes that approximately 80,000 smart meters could be installed in residential homes within Empresa de Servicios Públicos de Heredia's jurisdiction, for a total project value of over $20 million. Both the LED and smart meter projects are subject to the signing of a definitive agreement and financing

LED Contracts

On November 14, 2013, ForceField Energy announced the receipt of a **$175,000 LED lighting purchase order** from **Motivating Graphics** Inc., a Fort Worth-based printing and packaging company. The project involves the conversion to LED lighting of the printing company's Fort Worth facilities including the administrative offices and approximately 180,000 square feet of production space. The project is expected to be completed by late December 2013.

On December 6, 2013, ForceField Energy was **awarded a contract** through a competitive bidding process for 25 100W SL3 LED **street lights for the parking facility** of the Comptroller General's Office **in Costa Rica**.

In addition, ForceField Energy announced the formation a strategic alliance with the **University of Costa Rica**. A **demonstration project** is currently underway to study the benefits of LED lighting on professors, university employees and students. Existing fluorescent tubes are being replaced with ForceField's LED tubes and panels in three academic buildings. The results of the study, along with the accompanying energy savings, may lead to further LED retrofits across the University.

LED Consulting

On September 30, 2013, ForceField Energy announced the signing of a **consulting and sales agreement** with LNHA Service Corporation for LED lighting products to members of the **Louisiana Nursing Home Association**, which represents over 250 nursing facilities and assisted living communities in Louisiana. The consulting mandate may assist in the penetration of the nursing home and long-term care markets in the United States.

Polysilicon Pricing

Polysilicon pricing update: In Greater China, polysilicon prices appear to have stabilized in the last few months. Having risen from the $15.35/kg bottom in December 2012 to $18.60/kg in April, pricing has

since settled into the $16.15-to-$18.34 range. As of early December, the price of photovoltaic polysilicon is $17.66/kg.

Financing

During the first three quarters of 2013, the company has raised $801,900 in net proceeds through the issuance of common stock and $200,000 from issuing convertible debentures. Since September 30th, ForceField has received $930,000 in gross proceeds from the issuance of 232,500 common shares. In addition, $550,000 in 9% three-year convertible notes has been issued.

OVERVIEW

A Nevada corporation with administrative offices in New York City, ForceField Energy (FNRG: OTC), formerly SunSi Energies, is a manufacturer, distributor and licensee of green energy products and systems. ForceField operates in the LED lighting, Organic Rankin Cycle technology and solar energy industries through the exclusive distribution of LED lighting products in North America, distribution TransPacific Energy's ORC units and the manufacture of trichlorosilane in China.

In August 2012, ForceField entered into a five-year, exclusive North American distribution agreement with Shanghai Lightsky Optoelectronics Technology Co., Ltd. (Lightsky), a manufacturer and marketer of **LED lighting products** and systems located in Shanghai, China. Subsequently, ForceField was granted exclusive distribution rights for the Caribbean, Central and Latin American and parts of Europe. In the United States, the LED lighting market is growing at a 25.5% compound growth rate due to the lower electrical power consumption and longer lives of LED lamps, along with government regulation designed to phase out inefficient incandescent light bulbs. Management is targeting the **commercial lighting market**, which also includes the industrial, institutional and governmental segments, where the additional advantages of LED lighting are also important selling points, specifically reduced maintenance costs (lower frequency of bulb replacements) and lower heat generation (reduced air conditioning costs). ForceField has announced seven sub-distribution deals and many commercial trials during 2013, along with multi-million dollar proposals to retrofit LED streetlights and install smart meters in Costa Rica.

ForceField owns a 50.3% controlling interest of **TransPacific Energy** (TPE) and holds a distribution agreement to provide TPE's modular **Organic Rankine Cycle (ORC) units**. Utilizing blends of proprietary refrigerants, TPE's ORC units capture heat energy from heat sources (such as industrial flue gas, geothermal sources and biomass processes) and convert the waste heat into electrical energy. TPE's competitive advantage lies in the broad range of temperatures (from 75° F to 1000° F) at which the units can operate and the benign attributes of the refrigerants (non-toxic and non-flammable). ForceField has already negotiated the installation of two ORC units at Zibo Qilin Fushan Iron & Steel Company in China. ForceField will own the ORC units and sell the electricity generated to Qilin at a discount to the local utility's price at an anticipated revenue run rate of $550,000 annually

In the **solar industry**, ForceField produces and distributes **trichlorosilane (TCS)**, the basic chemical ingredient used in the production of purified polysilicon[1], an essential raw material in the production of solar cells for photovoltaic (PV) panels. Between December 2010 and March 2011, the company acquired majority ownership positions in two Chinese companies (90% the Zibo **Baokai**[2] trichlorosilane distribution company and 60% of the **Wendeng**[3] trichlorosilane production facility), which together control TCS production of approximately 55,000 MT. With the acquisition of 90% of the Zibo Baokai distribution company, ForceField began to report revenue in the beginning of 2011. The following quarter, ForceField reported the company's first profitable quarter. However, subsequently, a glut reduced the pricing for all products in the photovoltaic (PV) supply chain (from solar cells to polysilicon), and ForceField Energy has

[1] Polysilicon is properly known as polycrystalline silicon.
[2] On December 8, 2010, SunSi HK acquired a 90% equity interest in Zibo Baokai Commerce and Trade Co., Ltd.
[3] On March 18, 2011, SunSi HK acquired a 60% equity interest in Wendeng He Xie Silicon Industry Co., Ltd.

reported losses in the ensuing quarters. Management prudently shut down TCS operations in December 2011 to minimize the financial impact of the industry's downturn.

On February 27, 2013, the company's name was official changed to **ForceField Energy** in order to better reflect the broader scope of operations within the alternative energy industries, especially through the acquisitions of a controlling interest in TransPacific Energy (ORC technology) and of the exclusive North American rights to distribute LED lighting products manufactured by Shanghai Lightsky (LED technology).

DISTRIBUTION OF LIGHTSKY LED PRODUCTS

ForceField's LED strategy is primarily focused on targeting multi-location commercial companies where **retro-fitting existing facilities** with the installation of LED lighting products is able to reduce the level of electrical energy consumption and future maintenance costs. Prime targets for the rapid adoption of LED lighting are warehouses, casinos, corporate campuses, parking structures, airports and 24/7 lighting applications. In addition, ForceField has expanded its marketing efforts to the **outdoor LED display** marketplace where Lightsky has a proven record of designing and installing large outdoor LED display screens. The Lightsky has also produced indoor LED display signs, a market segment which includes information resources at airports, stock markets, banks, malls and exhibitions.

The installation of LED lighting offers significantly lower ongoing energy consumption, reduced maintenance costs and attractive payback periods. Currently, many building owners are concerned about the maintenance costs associated with building operations (specifically energy consumption), along with the desire to implement cost-effective green projects. ForceField's management is seeking opportunities to deploy and demonstrate the energy saving capabilities of LED lighting utilizing Lightsky LED lighting products.

ForceField Energy has made significant progress increasing awareness and building a sub-distribution network for LED lighting systems. Thus far, the level of interest generated and amount of development achieved over the last year has exceeded management's expectations.

LED Relationship with Shanghai Lightsky

On August 27, 2012, ForceField Energy acquired the **exclusive North American rights** to sell and distribute LED lighting products manufactured by **Shanghai Lightsky Optoelectronics Technology Co., Ltd.** (aka Lightsky). The five-year distribution agreement automatically renews when ForceField achieves certain performance milestones. ForceField issued 150,000 shares of restricted common stock (valued at $780,000) to acquire the distribution rights for the United States, Canada and Mexico. Subsequently, ForceField was granted exclusive distribution rights for the Caribbean, Central and Latin American and parts of Europe. ForceField also may distribute Lightsky's LED products on a non-exclusive basis elsewhere in the world.

Shanghai Lightsky Optoelectronics Technology Co., Ltd.

Shanghai Lightsky was established by Shanghai Academy of Science and Technology (SAST) and Shanghai Zhongbo Capital Co., Ltd. in 2007. Lightsky continues to work closely with SAST. Lightsky's 2,000 square-meter **R&D center** is located in Shanghai's Zhangjiang Hi-Tech Park, which is situated in the Pudong New Area District (a Special Economic Zone or SEZ) in east Shanghai. The **5,000 square-meter factory** is in central Shanghai in Pujiang Town (Minhang District).

Lightsky manufactures LED lighting products for commercial, institutional and residential applications, primarily in the categories of **illumination lighting**, **architectural lighting** and **video display systems**. Lightsky produces over 140 LED commercial and residential lighting products, including spotlights, down

lights, desk lights, display lights, ceiling lights, panel lights, tube lights, candle lights, street lights, traffic lights and light bars. Lightsky offers LED lights in three color temperature ranges: warm white (3000K ± 150K), neutral white (4000K ± 250K) and cool white (5700K ± 300K).

Shanghai Lightsky not only provides LED lamps and lighting fixtures, but also designs and operates integrated **LED lighting and display projects**,. Noteworthy projects include six Pavilions at the Expo 2010 in Shanghai (UAE, the Philippines, Tibet, China State Shipbuilding Corporation, Algeria and Turkmenistan Pavilions) and extra-large outdoor LED displays at the Kunshan World Trade Center (138 square meters), Jinlin (255 square meters) and Shanghai (285 square meters). In addition, Lightsky supplies RL06 LED down lights to the Shanghai Pudong International Airport, Hong Kong University and the Shanghai Jingan Science Museum and also SL 40w solar LED solar street lights for a project in Mexico.

ForceField's LED Strategy and its Execution

ForceField's strategic LED business plan involves aggressively introducing Lightsky's LED products in the North American market by rapidly building a **network of sub-distributors** that can target large-scale customers (commercial, industrial, institutional and governmental) that would benefit from upgrading to LED lighting. An ideal client is a multi-location entity where economic evaluations strongly influence the decision-making process. The rationale to transition to LED lighting products is compelling considering the relatively short payback period (sometimes under two years) and long-term cost benefits. In addition, ForceField is **pursuing specific opportunities** for large contracts related to the conversion to LED lighting. **ForceField is actively pursuing distributing prospects** not only in its exclusive Lightsky territories, but also in elsewhere in the world as exemplified by sub-distribution relationships announced for **Germany** and **Ireland**.

Sub-Distribution Agreement Timeline

- September 2012 *Global Resource Group*
- October 2012 Strategic alliance with *Commonwealth Energy Group, LLC*
- January 2013 *Gonneville, Inc.* for both LED products and ORC systems.
- February 2013 5-year agreement with *DEK International* for both LED and ORC
- March 2013 Cross-distribution agreement with *PowerOneData International*
- April 2013 Distribution agreement with *On-Site Analysis*
- May 2013 3-year agreement - *Prime Energy Solutions AG* (Wiesbaden, Germany)
- June 2013 distribution agreement with *International Sales Network, Inc.*
- September 2013 3-year agreement - *First Choice Energy Ireland* (Ireland)

ForceField is expanding the presence in the LED through multiple sub-distribution agreements. In early September 2012, ForceField retained the services of **Global Resource Group**, Inc. to help generate immediate interest in Lightsky's LED product line. Thus far, Global Resource Group has negotiated LED trials with a private hospital group in the Midwest and the Gold Rush Gaming Room, LLC, in Texas. In October 2012, ForceField entered into a strategic alliance with **Commonwealth Energy Group, LLC**, an energy consulting firm that can offer to its customers not only the turnkey LED lighting solutions that utilize Lightsky products, but also the energy audits required to secure tax savings, rebates and/or grants. Through the strategic alliance, Commonwealth is expected to offer to its customers turnkey LED lighting solutions utilizing Lightsky products. In addition, ForceField expects to employ Commonwealth's service platform, especially the ability to provide energy audits and facilitate the paperwork required to secure tax savings, rebates and grants. In January 2013, ForceField entered into a distribution agreement with **Gonneville, Inc.** for both Lightsky's LED products and TransPacific Energy's ORC systems. Gonneville is a Service-Disabled, Veteran-Owned, Small Business Enterprise (SDVOB) and a Small Business Enterprise (SBE) which specializes in the distribution of MultiQuip (MQ) power generation and lighting equipment. Gonneville's customers include California and federal government agencies, which generally require multiple bids. The economic advantages of LED lighting and ORC waste heat conversion systems, along with Gonneville's SDVOB/SBE status, should lead to the awarding of contracts. As stated

by Don Gonneville, President of Gonneville, Inc., "Lightsky and ORC waste heat conversion system products … integrate seamlessly into our business model …." And in February 2013, a 5-year distribution agreement for both LED and ORC technology products was signed with **DEK International**, a global supplier of to the gaming industry with a core market presence in Latin America. Initially, ForceField's LED products will be marketed by DEK on its website and marketing materials. Headquartered in Panamá, DEK operates through a network of offices in more than 25 countries with a core presence in Latin America. Through DEK, ForceField Energy signed an agreement with Sabia Corporation to supply and install LED lighting at Sabia's Fantastic Proceres Casino in Guatemala. Recently, five other sub-distribution agreements have been announced, which are described in the RECENT NEWS section above.

In December, 2012, ForceField expanded the scope of its LED effort by announcing the launch of a marketing campaign targeting the **outdoor LED display market**. Shanghai Lightsky has designed and installed several large, customized, high-resolution, outdoor LED displays in China as cited above. LED Display Screen Competitors include Shenzhen EASTAR Electronic Co., Ltd (CreateLED Electronics) in ShenZhen, China, Shenzhen Chip Optech Co., Ltd. in Shenzhen China, Mitsubishi Electric (Diamond Vision LED displays), Impact Video (ProStar and Smartvision LED displays) and Panasonic (Astrovision LED displays).

Commercial LED Lighting Market

ForceField is targeting the widespread opportunities in the commercial lighting market, which also includes the industrial, institutional and governmental segments. The rapid adoption of LED lighting by commercial enterprises is a favorable tailwind for ForceField and other providers of commercial energy solutions. Most large-scale commercial customers are rationale consumers who make informed decisions, especially when related to cost centers.

LED lighting is an energy-efficient alternative to both incandescent and florescent lighting. LED products usually consume over 80% less energy than conventional incandescent bulbs and can last 20 times longer. The comparison versus florescent lighting is also positive with comparable LEDs costing at least 20% less to operate and lasting five times longer. The stimulus of immediate and significantly lower energy costs, along with longer useful lives, facilitates the transition to LED lighting.

Decisions by commercial customers are driven also by other factors, including the total cost of purchasing, operating and maintaining a lighting system, such as the initial capital cost of lamps and fixtures; the cost of installation; the frequency of bulb replacement and the attendant labor costs; the heat effect of lamp operation on HVAC (heating ventilation and air conditioning) systems, etc. The cost benefits of LED lighting can be clearly demonstrated by calculating the expected payback period, which for most LED systems is between 18 and 24 months.

Another important driver in the commercial marketplace is also the ability to provide turnkey LED lighting solutions. As the manufacturers of LED product attempt to gain market share in the rapidly growing LED marketplace, dramatically higher LED sales allows for more efficient utilization of fixed cost resources, which results in price competition. Two respected market analysis firms, Groom Energy and Greentech Media (GTM Research), have noted that LED fixture prices declined 24% in the past two years and that prices should continue to fall. However, the commercial and industrial lighting systems category (especially the application-ready or turn-key system sub-segment) is less vulnerable to the pricing pressure.

As a distributor of Shanghai Lightsky LDE lighting products and systems, ForceField offers a selection of LED products for commercial interior & exterior lighting, warehouses, light factories, multiple franchise locations, schools & universities, retail & grocery stores, museums, casinos, government buildings, parking garages & lots, pedestrian walkways, street lighting, tunnel lighting, construction zones and indoor & outdoor displays.

LED TECHNOLOGY

A **light emitting diode** (or **LED**) is a semiconductor (or solid-state) electronic device that efficiently converts electricity into light. Since LED chips consume less electricity than both incandescent and compact fluorescent (CFL) lights (and also do not utilize mercury), they are considered a **"green" source of light energy**. Over the next decade, it is expected that there will be an extensive transition from incandescent to LED lighting technology in warehouses, offices, homes and on the streets.

Incandescent lamps (or conventional light bulbs and sometimes known as Edison bulbs) generate a glowing light when an electric current passes through a resistive filament. A "warm" yellow light is produced as the glowing filament emits a broad range of visible light frequencies and significant amount of heat energy. Incandescent lamps are inefficient with at least 90% of the electrical energy input being converted to heat as the tungsten filament glows. However, having been mass produced for over a century, the production costs of incandescent lamps are low, making the bulbs **relatively inexpensive**. A typical AC incandescent light bulb has a **life span between 750 and 1,000 hours**. The luminous efficacy of a representative 120-volt 100-watt bulb is **11.8 lumens per watt**[4]. Most light fixtures are designed to accept the standard the size and shape of traditional incandescent bulbs.

Fluorescent lamps produce visible light by converting ultraviolet light (which is created by passing electricity through low pressure mercury vapor) through a process known as fluorescence, whereby a coating of fluorescent material (called a phosphor) transforms shorter wave length UV light into longer wavelength visible light, though traditional fluorescent lamps emit an uneven spectrum of light causing certain colors to appear differently than when illuminated by incandescent light bulbs or daylight. The life expectancy of a fluorescent lamp is dependent on the number of on/off cycles, with frequent cycling lowering the bulb's life; however, based on 3 hours per cycle, the average **life span** of a fluorescent lamp is **between 18,000 and 20,000 hours**. The life expectancy of fluorescent lamps can be increased improving the efficiency of the UV-conversion by utilizing coatings that are composed of rare earth triphosphor blends. The average efficacy of representative fluorescent lamps is between **50 and 70 lumens per watt**. Approximately **22%** of the electrical energy input[5] into a fluorescent lamp is converted to useful visible light. Since fluorescent lamps contain hazardous substances (mercury and phosphor), accidental breakage and disposal present health and environmental risks. Also, the color rendering properties of fluorescent lamps are inferior to incandescent lamps with the misperception colors and the light often described as drab.



Incandescent bulb | Compact fluorescent lamp (CFL) | LED lighting

LED lamps are efficient, low-voltage, solid-state lighting devices that **consume at least 75% less electricity** and **last 35-to-50 times longer than incandescent bulbs**.[6] LED lamps also last **about two-to-five times longer than fluorescent lighting**, further reducing life-cycle costs with lower required maintenance, especially in commercial and industrial applications where bulb replacement entails the use of ladders (or other special equipment) and an environmental-compliant disposal program.

[4] Lumens are the units of measure concerning the power of light as perceived by the human eye. Luminous efficacy is the number of lumens produced for each watt of electrical energy used. A 120-volt incandescent bulb emits approximately 1,180 lumens while a typical 230-volt bulb generates about 1,340 lumens or 13.4 lumens per watt.

[5] Perez, Marcelino, Efficient of the Bulbs, May 2012.

[6] According to Energy Star, energystar.gov.

Operating on direct current (DC) electrical power, LED lamps contain internal or external rectifier circuits that convert standard AC power to low voltage DC. Theoretically, **a LED lamp has an expected life of approximately 50,000 hours** of continuous use under normal conditions; however, the power supply (voltage rectifier) is less robust resulting in a LED lamp being rated for 25,000 hours. In contrast to incandescent bulbs (which fails when the tungsten filament breaks), the brightness of a LED lamp fades over time, and its lifetime ends when light output falls to 70% of initial brightness. Poorly designed LEDs may not achieve the average projected lifetime by fading prematurely, shifting in color, emitting uneven light and even flickering.

LEDs are extremely durable. Most LEDs do not contain glass components and the internal parts are rigidly supported. Therefore, they are more mechanically robust and less vulnerable to vibration and breakage than incandescent and fluorescents. Unlike fluorescent tubes and CFLs, LEDs do not contain mercury and are not prone to flickering. In addition, LEDs turn on almost instantly and have a lifetime that is unaffected by cycling between on and off.

Though **LEDs perform well outdoors, especially in cold temperatures**, their expected lifetimes are reduced if operated at high temperatures. In addition, human eyes seem to prefer full-spectrum analog light that is emitted from an incandescent light bulb, a fire or the sun. LEDs emit light in a very small band of wavelengths, and white light is produced by using phosphor coatings to convert the single color from the LED into multiple colors that mimic the full-spectrum for white light and also other colors for illumination, backlighting and display screens.

During the transition from Edison bulbs to CFLs, fluorescent tubes and LEDs, commercial and industrial purchasing decisions will be based on the **payback period**, **lumen output** and **color attributes**. On the consumer side, the traditional frame of reference of watt rating will give place to lumen output, color attributes and the initial sticker shock of higher unit pricing. For the consumer, the initial capital cost to replace an incandescent bulb with a LED lamp is over 10 times greater than using another conventional incandescent bulb. On the commercial side, the initial cost of a lighting system is approximately three times greater than a traditional mix of incandescent and fluorescent lamps. However, the electricity savings offset the additional cost within a short payback period and the lamps should not need replacing for 20 years. The **payback period for LED replacements** of commercial lighting is usually **in the range of 18-to-36-months** and less than a year for highly-used lighting. With the anticipation of lower pricing, the **payback period may soon be between 6-to-24-months**.

With the secular trend in the conversion to LED lighting being apparent, many competitors have ramped up to participate in the transformation of the lighting industry, including OSRAM (Opto Semiconductors, a subsidiary of Siemens), Philips, Toshiba, Samsung, Sharpe, GE, Panasonic, MK Electric (Honeywell), CREE, Nichia, Shanghai Lightsky (ForceField), Acuity Brands (which acquired Renaissance Lighting in July 2010), Albeo Technologies, LED Dynamics, Wissen Lux S.p.A., among others. As these competitors attempt to garner market share during the accelerating sales growth phase, profit margins may suffer due to overcapacity. However, the adoption of LED lighting in the residential marketplace is expected to be more affected by price competition, overcapacity and pressured margins than in the commercial and industrial lighting system segment.

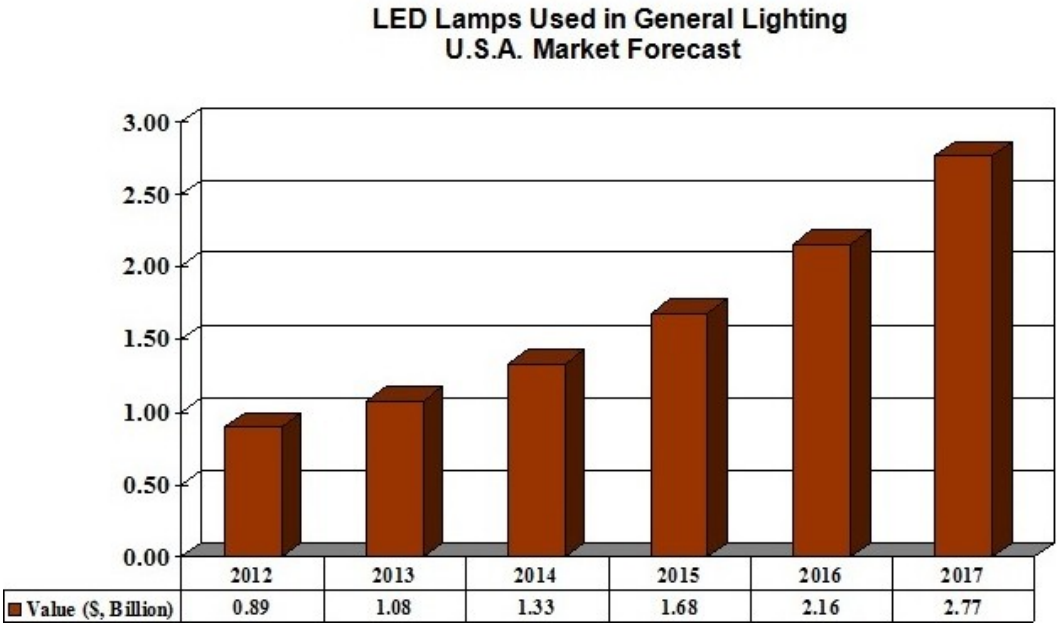
Trends in and the Estimated Growth Rate of LED Lighting

The United States Congress has mandated efficiency standards that are intended to gradually phase out the incandescent bulb, which was invented by Thomas Edison 132 years ago. Designed to move the U.S. towards greater energy independence and security, the Energy Independence and Security Act of 2007 requires that light bulbs consume 28% less energy than incandescent bulbs.[7] The new efficiency standards are being implemented in phases. As a result, 100-watt incandescent bulbs cannot be

[7] Specifically, the brightness of a standard 100-watt incandescent light bulb (on average 1,260 lumens) must be produced with a maximum of 72 watts, and the 1,170 lumens emitted by a standard 75-watt incandescent light bulb is required to be produce using 53 watts or less.

manufactured in or imported into the United States after Jan. 1 2012, though a subsequent Congressional bill delayed enforcement to September 2012. According to the legislation, restrictions on the 75-watt incandescent bulb began in January 2013, and the 40-watt and 60-watt versions will be affected in January 2014. Therefore, **over the next few years, it is expected that there will be an extensive transition from incandescent to LED lighting technology** in warehouses, offices, homes and on the streets.

ElectroniCast Consultants, a specialty forecasting firm specializing in market trends in electronics, forecasts that U.S. consumption of LED lighting will reach $2.77 billion in the year 2017 from the $891 million recorded in 2012, representing a **25.5% average annual growth rate**. For 2012, domestic consumption increased 50.5% from the $592 million expended in 2011. The market forecast are based on four expected trends: 1) advanced LED performance, 2) price competition, 3) additional utility incentive programs and 4) increased adoption of LED by corporate customers. The quality of the estimate is reinforced by ElectroniCast not only segmenting the market into the application categories of Government, Commercial/Industrial and Residential, but also breaking out the forecast into six lamp types: Parabolic Aluminized Reflector (PAR), General Service (Type A), Decorative, Multifaceted Reflector (MR) Compatible, Linear/Tube and Streetlights/Exterior lighting. For example, the number of LED streetlights deployed in the U.S. is expected to increase at an average annual growth rate of over 40% between 2012 and 2017; though, **ElectroniCast** also forecasts that the average selling price will decline dramatically over the same time period.



Commissioned by OSRAM, **McKinsey & Company** published a comprehensive analysis of the lighting industry entitled Lighting the Way: Perspectives on the Global Lighting Market in 2011. A second edition was produced in 2012 to addresses the fast-paced lighting market environment, especially the faster-than-expected erosion of LED prices. In the residential segment, LED market share is expected reach almost 50% in 2016, and rise above 70% in 2020. Lower LED prices pulls forward the payback time of LED lighting, stimulating commercial, office and industrial conversion to LED lighting. The study concludes that "**The significant differences in LED technology vs other lighting technologies will lead to a fundamental disruption of the lighting industry along the entire value chain**."

The **U.S. Department of Energy** (DOE) estimates that the rapid adoption of LED lighting in the United States will reduce lighting electricity demand by 33% in 2027, which will reduce electrical energy demand by approximately $265 billion avoiding the need to construct 40 new power plants. The DOE predicts that the prices of LED OEM lamps and LED packages to decline by about 30% annually through 2015 and by 10%-to-15% annually between 2016 and 2020.

TRANSPACIFIC ENERGY INC.

In August 2012, ForceField Energy acquired a controlling 50.3% interest in TransPacific Energy Inc., a renewable energy company based in Carlsbad California and focused on the generation of electricity through the use of **Organic Rankine Cycles** (ORC) to recover energy from various heat sources. TransPacific is well-positioned to benefit from the deployment of green energy projects based on renewable sources and waste heat worldwide, but especially in China both where the government is overtly supporting renewable energy projects and ForceField has established important customer relationships. With offices in Henderson Nevada and Carlsbad California, TransPacific Energy became a **new business segment for ForceField**, adding another revenue stream**.**

While ForceField held a minority interest in TransPacific Energy**,** on June 15, 2012, ForceField's Wendeng subsidiary entered into a non-exclusive distribution agreement with TransPacific Energy (TPE) to distribute TPE's Organic Rankine Cycle (ORC) systems in China. Within three months, on September 17, 2012, ForceField announced the signing of a letter of intent to install a modular Organic Rankine Cycle system at **Zibo Qilin Fushan Iron & Steel Company** located in the Shandong Province, China. Within a month, on October 9th, 2012, ForceField announced that the project size has been expanded based TransPacific Energy's technical evaluation, which determined that the plant has the capacity for four ORC units. The definitive agreement for up to four modular ORC system units was signed on January 18, 2013.

The project's **first phase** is comprised of the **installation of two ORC units** that are expected to generate approximately 650 kilowatts of electricity. ForceField will own the ORC units and sell the electricity generated to Zibo Qilin at a discount to the local utility's price. ForceField expects to receive approximately $550,000 annually over twenty-year period. In the second phase, ForceField (at its discretion) may install an additional two ORC units. The Qilin project will showcase the economic and environmental advantages of installing ORC systems in order to harvest heat energy from industrial exhaust systems.

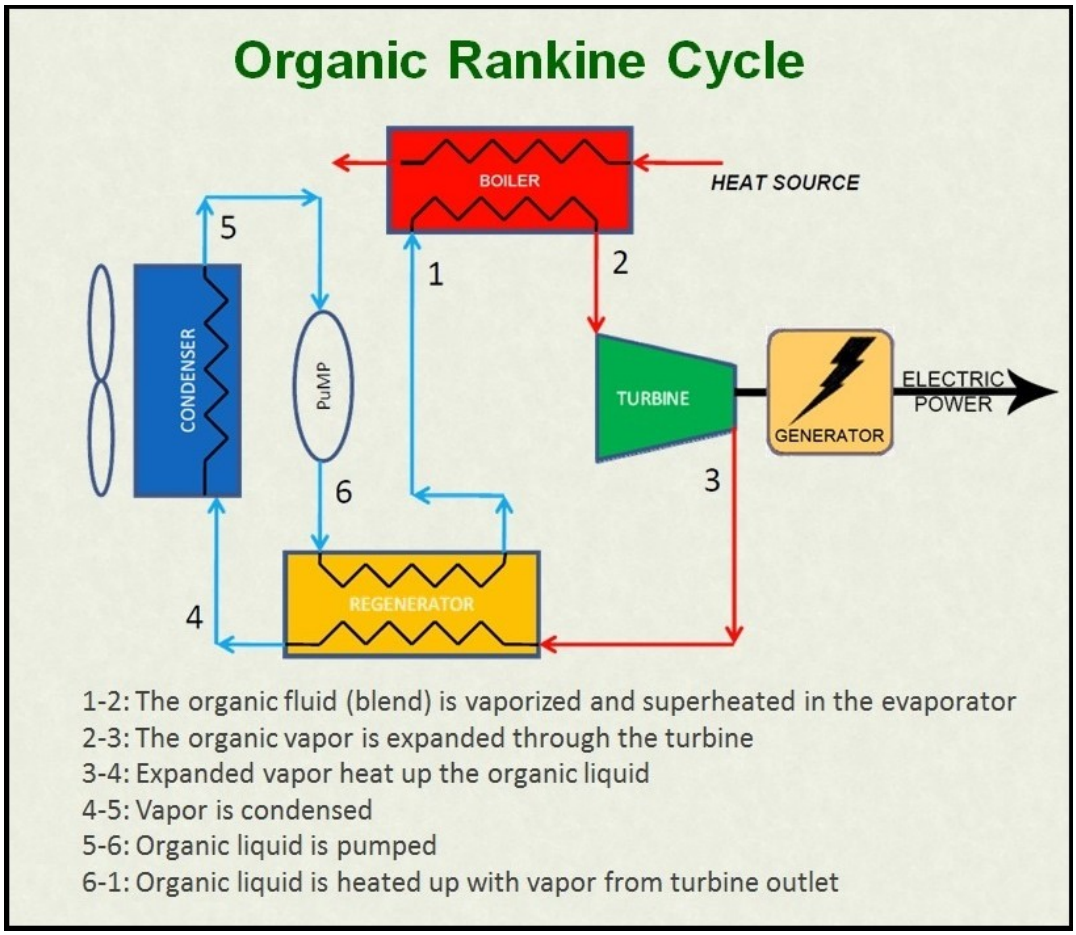
TransPacific Energy offers ORC systems under multiple terms depending on the customer's needs and preferences. Less than one option, the customer purchases the equipment and refrigerants and benefits from any green energy credits and the electricity generated. Under another option, ForceField and/or TransPacific Energy (through an LLC) owns the equipment and would enter into a long-term power agreement, under which the customer would purchase some or all of the electricity generated from the waste heat. Under the second scenario, ForceField would benefit from a reoccurring revenue stream.

Organic Rankine Cycle Technology

The **Rankine Cycle** is thermodynamic process by which heat is converted into mechanical power. The most well-known example is the steam power plant in which heat is applied to a working fluid (water) in a boiler. The steam generated flows through a closed loop and powers either pistons or a turbine, after which the water is re-condensed and returned to the boiler. The Rankine cycle is the fundamental thermodynamic underpinning of all coal and nuclear power plants, which utilize the Rankine Cycle mechanical power to generate about 90% of the electricity produced globally.

The fundamental working principle of the Rankine Cycle applies to the **Organic Rankine Cycle** except that the working fluid is an organic liquid that has a relatively low liquid-vapor phase change temperature (boiling point) compared to water. As a result, lower temperature heat sources (such as biomass combustion, industrial waste heat, geothermal energy, solar thermal ponds, etc.) can be utilized to recover energy through the thermodynamic cycle. The use of the Organic Rankine Cycle presents both challenges and advantages. With the working fluid operating at lower temperatures, heat transfer inefficiencies from operating conditions, fluid friction, etc. can dramatically reduce the optimal thermodynamic characteristics of heat transfer process. In addition, many fluids with high ozone

depletion potential, especially chlorofluorocarbons (CFCs)[8], have been phased out through the Montréal Protocol of 1996. On the other hand, organic working fluids that are non-corrosive, non-toxic, non-flammable and chemically stable, not only extend the operational life of the components within the power plant (such as valves, tubing and turbine blades), but also can alleviate environmental concerns. Energy systems based on ORC technology also benefit from government mandates and worldwide initiatives focused on the development of renewable energy.[9]

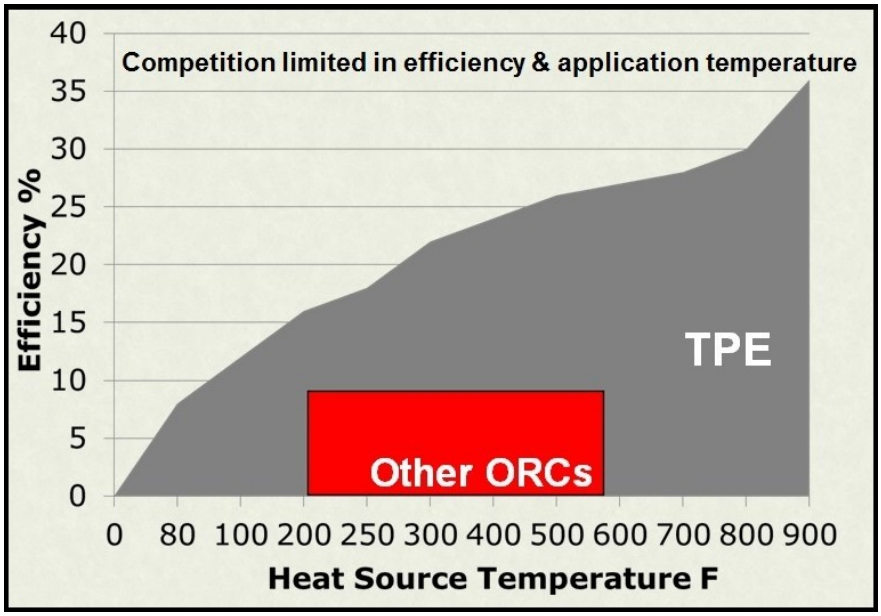


ForceField Energy

TransPacific Energy

TransPacific Energy designs, builds, sells and installs heat recovery and energy conversion systems based on Organic Rankine Cycle (ORC) technology. TPE's systems are custom-designed utilizing a mixture of non-toxic and non-flammable working fluids specifically formulated to maximize heat recovery from specific sources of waste or untapped heat within particular temperature ranges. In addition to using mixtures composed of multiple refrigerants, TransPacific Energy's patent-pending technology employs improved heat transfer techniques that help overcome the inherent thermodynamic inefficiencies when operating at lower temperatures. Also, TPE's process can efficiently recover heat not only in the 200º F and 575º F temperature range in which most other competitors function, but also within specific narrow temperature ranges from 80º F up to 900º F.

[8] CFCs were manufactured and sold under the trade name Freon.
[9] Renewable energy is energy generated from resources that are naturally replenished or renewable, which include ORC projects exploiting biomass, thermal solar and geothermal energy sources.



ForceField Energy

The heat recovery and energy conversion processes of TransPacific Energy address the needs of energy projects based on both renewable sources and waste heat. TPE's Organic Rankine Cycle technology produces electricity from renewable heat sources (such as concentrated thermal solar power, biomass, geothermal and warm ocean waters), as well as from waste heat created by industrial processes (such as flue gases from smokestacks, hot gray water and exhaust gases from engines and turbines).

The acquisition of a controlling interest in TransPacific Energy expands ForceField's footprint in green energy as well as add another revenue stream. Synergistically, ForceField can broaden TPE's geographical reach, specifically into China where the government is overtly supporting renewable energy projects and Wendeng (ForceField's subsidiary) has established important customer relationships.

In June 2012, the Research Institute for Solar Energy and New Energies (a Moroccan governmental agency) announced that SNC-Lavalin (an international engineering and construction firm), MITHRAS Energies Maroc and TransPacific Energy were selected as members of a three-company consortium to design, develop and install a 1MW Thermal Solar ORC project in Morocco. As of September 2012, one customer accounted for 100% of TransPacific Energy's revenue

Ownership

In May 2012, ForceField Energy entered into share exchange agreements with shareholders of TransPacific Energy in order to purchase a controlling equity interest in TPE. Through a series of transactions, ForceField purchased 11,667,101 shares (37% of the 31,543,336 outstanding shares of TPE) from TPE (8,333,333 shares) and the remainder from three shareholders (ABH Holdings, LLC, Acme Energy, Inc., and Apela Holdings LLC). The TPE shares were acquired from the three shareholders at a fixed price of $0.06 per share with shares of ForceField common stock while shares acquired from directly from TPE were made with $520,000 in cash. In addition, ForceField acquired 4,420,000 shares (14% of the shares outstanding) from Soffimat Holdings SA with shares of ForceField common stock.

By mid-August 2012, ForceField acquired an additional $350,000 worth of TPE common stock from TransPacific and further shares from the three shareholders such that **a 50.3% controlling interest in TransPacific Energy** is held by ForceField Energy.

VALUATION

Our valuation methodology is based on price-to-sales due the character of ForceField's enterprise. Price-to-sales valuation incorporates a company's ability to generate cash flow and increase revenues. Management's stated business plan is to focus on the alternative energy sector and to increase the sales base by concentrating on large commercial contracts for the installation and/or operation of LED and ORC projects, and by participating in the recovery of the polysilicon-trichlorosilane market.

We expect ForceField's stock to continue trading within our estimated valuation range of 1.1 and 3.2 times normalized sales. The process of determining ForceField's normalized sales level is challenging due to the unevenness of the contracts awarded in the nascent LED and ORC markets and the contraction evidenced in the polysilicon market over the last year. In such cases, especially when a company's stock has remained relatively stable during the period of uncertainty (like ForceField's), one can attempt to ascertain the quartiles of P/S valuation by calibrating the stock's price (as determined by an efficient market) to the median valuation, namely 2.15 times sales. Utilizing this methodology, the top quartile valuation begins at $6.50, which is our price target.

PROJECTED INCOME STATEMENT & BALANCE SHEET

ForceField Energy, Inc.

Consolidated Balance Sheets (in $ US) For the years ending May 31	2008 (May 31)	2009 (May 31)	2010 (May 31)	2011 (May 31)	Change to Calendar Year	2011 (Dec 31)	2012 (Dec 31)	3Q 2013 (Sept 30)
ASSETS								
Cash and cash equivalents	705	4,190	598,468	640,880		674,291	994,149	339,150
Accounts receivable (net)	-	-	-	4,669,490		3,773,556	4,469,514	3,299,336
Note receivable	-	-	-	941,314		559,325		16,330
Inventory	-	-	-	563,579		657,287	323,141	457,756
Deferred tax assets (net)	-	-	-	-		-	90,257	84,756
Prepaid expense & other current assets	-	-	-	399,086		207,837	448,601	1,002,019
Total current assets	**705**	**4,190**	**598,468**	**7,214,349**		**5,872,296**	**6,325,662**	**5,199,347**
Fixed assets	-	-	-	7,559,369		7,890,132	7,547,128	8,809,918
Goodwill	-	-	-	3,357,277		608,953	1,342,834	1,342,834
Intangible assets (net)	-	-	-	3,025,489		3,142,997	4,862,408	4,268,649
Accounts receivable (net) - non-current	-	-	-	-		-	-	-
Related party receivables - trade	-	-	-	1,177,204		489,595	413,061	-
Other assets	-	-	-	248,879		21,737	21,956	-
Total Assets	**705**	**4,190**	**598,468**	**22,582,567**		**18,025,710**	**20,513,049**	**19,620,748**
LIABILITIES								
Accounts payable	4,813	143,741	149,538	5,320,381		3,333,500	3,689,065	3,688,838
Accrued liabilities	-	-	-	256,444		373,802	679,021	566,770
Advances payable	-	-	230,981	-		-	-	-
Advances from related party	-	20,836	-	-		-	-	-
Loans payable	-	-	-	-		-	-	17,000
Related party payables	-	-	5,671	5,535,149		5,665,245	5,652,487	6,505,104
Income tax payable	-	-	-	1,561,112		886,050	1,239,067	1,054,837
Total current liabilities	**4,813**	**164,577**	**386,190**	**12,673,086**		**10,258,597**	**11,259,640**	**11,832,549**
Long-term debt	-	-	-	-		100,000	150,000	350,000
Deferred tax liabilities (net)	-	-	-	-		-	409,037	144,051
Redeemable common stock and capital	-	-	-	2,707,488		0	0	0
Share capital	26,760	26,760	27,312	29,437		30,006	16,081	16,329
Additional paid in capital	11,240	24,816	1,018,764	5,057,252		8,855,271	13,015,222	13,949,642
Retained earnings (deficit)	(42,108)	(211,963)	(833,798)	(1,253,344)		(3,701,526)	(6,922,198)	(8,964,049)
Accumulated other comprehensive income	-	-	-	100,896		280,024	317,337	408,891
FORCEFIELD'S SHAREHOLDERS' EQUITY	**(4,108)**	**(160,387)**	**212,278**	**3,934,241**		**5,463,775**	**6,426,442**	**5,410,813**
Noncontrolling interests - Equity	**-**	**-**	**-**	**3,267,752**		**2,203,338**	**2,267,930**	**1,883,335**
Total Liabilities and Equity	**705**	**4,190**	**598,468**	**22,582,567**		**18,025,710**	**20,513,049**	**19,620,748**
Common shares outstanding	26,760,000	26,760,000	27,312,500	29,436,928		30,005,628	16,080,815	16,328,771

ForceField Energy, Inc.

Consolidated Statements of Operations and Retained Earnings

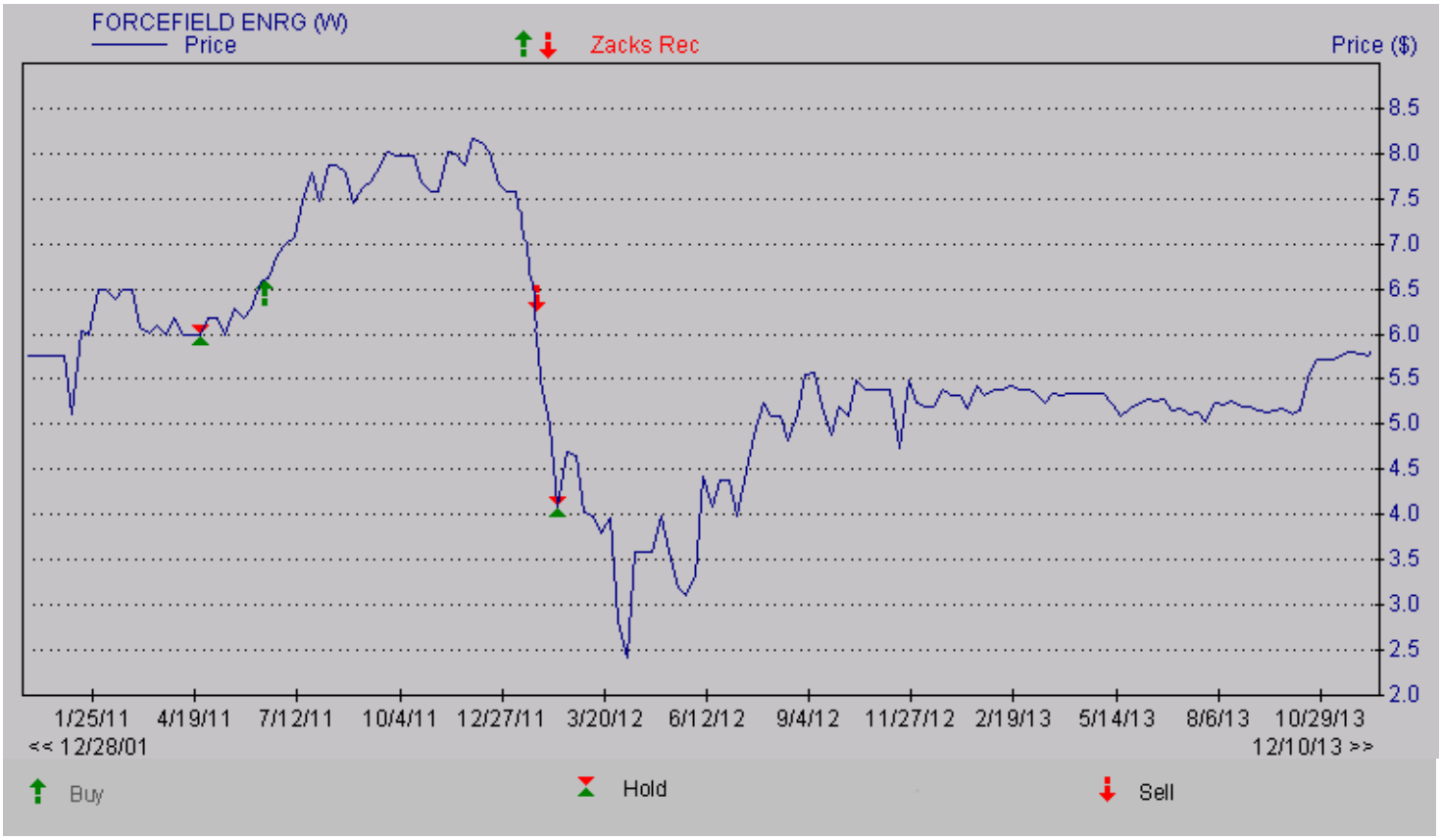
Quarterly Earnings Analysis	Year (Dec) **2011**	1Q (March) 2012	2Q (June) 2012	3Q (Sept) 2012	4Q (Dec) 2012	Year (Dec) **2012**	1Q (March) 2013	2Q (June) 2013	3Q (Sept) 2013	4Q E (Dec) 2013	Year E (Dec) **2013**
Revenue: Baokai	14,546,790	234,959	527,052	32,250	408,189	1,202,450	36,973	16,944	184	50,000	**104,101**
Revenue: Wendeng	13,791,599	272,668	(462)	133,838	280,309	686,353	16,218	139,495	257,180	200,000	**612,893**
Revenue: LED	-	-	-	-	-	-	23,599	54,510	10,903	29,671	**118,683**
Revenue: ORC	-	-	-	59,609	180,629	240,238	208,355	6,535	22,808	50,000	**287,698**
Total Revenues	**28,338,389**	**507,627**	**526,590**	**225,697**	**869,127**	**2,129,041**	**285,145**	**217,484**	**291,075**	**329,671**	**1,123,375**
Cost of sales: Baokai	14,234,315	230,260	516,511	31,599	400,019	1,178,389	36,234	16,605	180	49,000	**102,019**
Cost of sales: Wendeng	9,881,216	245,065	(3,292)	126,323	286,111	654,207	20,316	183,408	246,482	190,000	**640,206**
Cost of sales: LED	-	-	-	-	-	-	16,262	27,360	8,723	21,363	**73,708**
Cost of sales: ORC	-	-	-	59,609	180,629	240,238	203,055	(5,915)	14,878	35,000	**247,018**
Cost of sales	24,115,531	475,325	513,219	217,531	**866,759**	**2,072,834**	275,867	221,458	270,263	295,363	**1,062,951**
Gross Profit	**4,222,858**	**32,302**	**13,371**	**8,166**	**2,368**	**56,207**	**9,278**	**(3,974)**	**20,812**	**34,308**	**60,423**
Professional fees	772,868	141,710	148,014	151,424	141,149	**582,297**	189,576	192,393	112,951	117,209	**612,129**
General & administrative	3,795,974	605,119	823,282	703,640	709,896	**2,841,937**	645,941	771,159	809,613	840,135	**3,066,848**
Total Operating Expenses	**4,568,842**	**746,829**	**971,296**	**855,064**	**851,045**	**3,424,234**	**835,517**	**963,552**	**922,564**	**957,345**	**3,678,978**
Income (loss) from operations	**(345,984)**	**(714,527)**	**(957,925)**	**(846,898)**	**(848,677)**	**(3,368,027)**	**(826,239)**	**(967,526)**	**(901,752)**	**(923,037)**	**(3,618,554)**
Equity earnings (loss) from TransPacific Energy	-	-	(1,211)	(4,587)	0	**(5,798)**	-	-	-	-	**0**
Interest income (expense)	-	(2,250)	(2,518)	(4,487)	(291,406)	**(300,661)**	(4,418)	(5,175)	(7,902)	(8,800)	**(26,295)**
Goodwill impairment charge	(2,800,000)	-	-	-	(607,422)	**(607,422)**	-	-	-	-	**0**
Total Expenses	**7,368,842**	**749,079**	**975,025**	**864,138**	**1,749,873**	**4,338,115**	**839,935**	**968,727**	**930,466**	**966,145**	**3,705,273**
Pre-tax profit	**(3,145,984)**	**(716,777)**	**(961,654)**	**(855,972)**	**(1,747,505)**	**(4,281,908)**	**(830,657)**	**(972,701)**	**(909,654)**	**(931,837)**	**(3,644,849)**
Income (loss) before income taxes	(3,145,984)	(716,777)	(961,654)	(855,972)	(1,747,505)	**(4,281,908)**	(830,657)	(972,701)	(909,654)	(931,837)	**(3,644,849)**
Future income taxes (benefit)	168,746	(114,176)	(167,342)	(101,553)	49,243	**(333,828)**	(66,093)	(125,731)	(94,742)	(98,427)	**(384,993)**
Net income (loss)	(3,314,730)	(602,601)	(794,312)	(754,419)	(1,796,748)	**(3,948,080)**	(764,564)	(846,970)	(814,912)	(833,410)	**(3,259,856)**
Net income attributable to noncontrolling	(876,697)	(138,068)	(178,244)	(114,032)	(297,064)	**(727,408)**	(116,863)	(149,266)	(118,466)	(132,097)	**(516,692)**
Net income (loss) attributable to ForceField	**(2,438,033)**	**(464,533)**	**(616,068)**	**(640,387)**	**(1,499,684)**	**(3,220,672)**	**(647,701)**	**(697,704)**	**(696,446)**	**(701,314)**	**(2,743,165)**
Net income per common share (diluted)	**(0.17)**	**(0.03)**	**(0.04)**	**(0.04)**	**(0.09)**	**(0.21)**	**(0.04)**	**(0.04)**	**(0.04)**	**(0.04)**	**(0.17)**
Weighted average common shares outstanding - diluted	14,635,641	15,010,314	15,057,587	15,572,388	15,852,336	15,390,259	16,132,284	16,187,281	16,256,120	16,488,620	16,266,076
Comprehensive income (loss)											
Net income (loss)	**(3,314,730)**	(602,601)	(794,312)	(754,419)	(1,796,748)	**(3,948,080)**	(764,564)	(846,970)	(814,912)	(833,410)	(3,259,856)
Foreign currency translation adjustment	**391,346**	8,763	(59,310)	71,108	16,752	**37,313**	13,686	68,505	9,363	30,518	9,363
Comprehensive income (loss)	**(2,923,384)**	(593,838)	(853,622)	(683,311)	(1,779,996)	**(3,910,767)**	(750,878)	(778,465)	(805,549)	(802,892)	(3,250,493)
Comprehensive inc. (loss) attr. noncontrol. int.	**(755,793)**	(138,068)	(178,244)	(114,032)	(297,064)	**(727,408)**	(116,863)	(149,266)	(118,466)	(132,250)	(118,466)
Comprehensive inc. (loss) attributable to FNRG	**(2,167,591)**	(455,770)	(675,378)	(569,279)	(1,482,932)	**(3,183,359)**	(634,015)	(629,199)	(687,083)	(670,643)	(3,132,027)

ForceField Energy, Inc.

Consolidated Statements of Operations and Retained Earnings

Annual Earnings Analysis (in $ US)	**2008** (May 31)	**2009** (May 31)	**2010** (May 31)	**2011** (May 31)	Change to Calendar Year	**2010** (Dec 31)	**2011** (Dec 31)	**2012** (Dec 31)	**2013 E** (Dec 31)	**2014 E** (Dec 31)
Revenue: Baokai	-	-	-	9,755,030		1,165,239	14,546,790	1,202,450	104,101	250,000
Revenue: Wendeng	-	-	-	5,327,758		0	13,791,599	686,353	612,893	850,000
Revenue: LED	-	-	-	-		-	-	0	118,683	1,640,000
Revenue: ORC	-	-	-	-		-	-	240,238	287,698	260,000
Total Revenues	**0**	**0**	**0**	**15,082,788**		**1,165,239**	**28,338,389**	**2,129,041**	**1,123,375**	**3,000,000**
Cost of sales: Baokai	-	-	-	9,538,061		1,141,605	14,234,315	1,178,389	102,019	245,000
Cost of sales: Wendeng	-	-	-	3,506,938		0	9,881,216	654,207	640,206	807,500
Cost of sales: LED	-	-	-	-		-	-	-	73,708	1,640,000
Cost of sales: ORC	-	-	-	-		-	-	240,238	247,018	260,000
Cost of sales	0	0	0	13,044,999		1,141,605	24,115,531	2,072,834	1,062,951	2,952,500
Gross Profit	**0**	**0**	**0**	**2,037,789**		**23,634**	**4,222,858**	**56,207**	**60,423**	**47,500**
Professional fees		124,435	545,049	618,992		478,518	772,868	582,297	612,129	650,000
General & administrative	24,937	45,420	76,586	1,315,137		186,288	3,795,974	2,841,937	3,066,848	3,200,000
Total Operating Expenses	**24,937**	**169,855**	**621,635**	**1,934,129**		**664,806**	**4,568,842**	**3,424,234**	**3,678,978**	**3,850,000**
Income (loss) from operations	**(24,937)**	**(169,855)**	**(621,635)**	**103,660**		**(641,172)**	**(345,984)**	**(3,368,027)**	**(3,618,554)**	**(3,802,500)**
Equity earnings (loss) from TransPacific Energy	-	-	-	-		-	-	(5,798)	0	-
Interest income (expense)	(9,440)	-	-	-		-	-	(300,661)	(26,295)	(50,000)
Goodwill impairment charge	-	-	-	-		-	(2,800,000)	(607,422)	0	-
Total Expenses	**34,377**	**169,855**	**621,635**	**1,934,129**		**664,806**	**7,368,842**	**4,338,115**	**3,705,273**	**3,900,000**
Pre-tax profit from operations	**(34,377)**	**(169,855)**	**(621,635)**	**103,660**		**(641,172)**	**(3,145,984)**	**(4,281,908)**	**(3,644,849)**	**(3,852,500)**
Income (loss) before income taxes	(34,377)	(169,855)	(621,635)	103,660		(641,172)	(3,145,984)	(4,281,908)	(3,644,849)	(3,852,500)
Future income taxes	0	0	0	256,227		5,909	168,746	(333,828)	(384,993)	(191,386)
Net income (loss)	(34,377)	(169,855)	(621,635)	(152,567)		(647,081)	(3,314,730)	(3,948,080)	(3,259,857)	(3,661,114)
Net income attributable to noncontrolling	-	-	-	266,979		1,773	(876,697)	(727,408)	(516,692)	(737,881)
Net income (loss) attributable to SunSi	**(34,377)**	**(169,855)**	**(621,635)**	**(419,546)**		**(648,854)**	**(2,438,033)**	**(3,220,672)**	**(2,743,165)**	**(2,923,233)**
Net income per common share (diluted)	**(0.00)**	**(0.01)**	**(0.05)**	**(0.03)**		**(0.05)**	**(0.17)**	**(0.21)**	**(0.17)**	**(0.17)**
Weighted average common shares outstanding - diluted	13,380,000	13,380,000	13,486,243	13,837,626		13,660,577	14,635,641	15,390,259	16,266,076	17,500,000
Comprehensive income (loss)										
Net income (loss)							(3,314,730)	(3,948,080)	(3,259,857)	(3,661,114)
Foreign currency translation adjustment							391,346	37,313	9,363	146,007
Comprehensive income (loss)							(2,923,384)	(3,910,767)	(3,250,493)	(3,515,107)
Comprehensive inc. (loss) attributable to noncontrolling interests							(755,793)	(727,408)	(118,466)	(558,278)
Comprehensive inc. (loss) attributable to FNRG							(2,167,591)	(3,183,359)	(3,132,027)	(2,956,830)

HISTORICAL ZACKS RECOMMENDATIONS



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