

# ARE NEWSLETTER NOVEMBER 2011



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## Editorial

*Simon Rolland*

*Secretary General*

### SHINING A LIGHT FOR PROGRESS!

SHINING A LIGHT FOR PROGRESS!

The first photovoltaic cell was built already in the late 19th century, contributing to Albert Einstein's Nobel Prize in Physics, which he received in 1921 for explaining the photoelectric effect.

Einstein and other solar pioneers could hardly imagine the level of advancement photovoltaic technologies would reach over the following years, and also couldn't realize what a tremendous effect these applications would have on people's lives in the 21st century.

Back in those days, the world population was only approaching 2 billion. Now, less than a century away, we have just welcomed the 7th billion person on earth. Technologies have improved, electricity is being generated from all possible sources, but the fact remains that currently, every fifth person has no access to it.

20% of people, nearly as many as the entire population in the early 20th century, have no access to electricity, whereas every single minute enough sunlight falls on the earth to meet the world's energy demand for a whole year. What can we do to address these urgent issues? And what chances does solar energy have to improve the energy access, the lack of which is so hard to accept in this modern age?

All these questions motivated us to devote this newsletter to solar topics. Solar is becoming one of the most affordable energy sources, and has proved that access to electricity is not an end in itself.

Solar solutions around the world help enhancing literacy, empowering women and enabling healthy living conditions and clean environment. We want to share some of these stories with you.

Our “In Focus” section features Peter DiCampo, a documentary photographer actively involved in fighting energy poverty through his projects. ARE was honoured to participate in the opening of “Life Without Lights” exhibition in New York earlier this year, and this time Peter tells us about his most recent project, and how you can support these activities.

We also talk with Sunrise Solar Solutions Limited, our member from Ghana. Sunrise Solar Solutions was established in 2008, and strives to make a significant impact on the energy platform in Ghana and sub-Saharan Africa. Read more about the company’s latest activities and the effects the first large scale solar farm in Ghana could have in the country.

In this edition of the newsletter we also send a warm welcome to our new members - RVE.SOL– Soluções de Energia Rural Lda from Portugal, and TeaM Energy Foundation from the Philippines, expanding our network to new exciting locations. We are very pleased to have both on board and ARE looks forward to a long and successful partnership.

As always, you can read the latest news from the Alliance and follow our future activities, and keep an eye out for the upcoming solar and energy sector events. We have also covered a number of very interesting publications for you to take a look at.

The year is slowly approaching the end, so we hope everyone has a successful closure of their planned activities. There are very exciting times ahead, with 2012 as the International Year of Sustainable Energy for All. Don’t stay on the side-lines, get involved, and let’s try to make the most of it.

Let the sun brighten up the upcoming winter months!

Thanks for reading and until next time,

Simon Rolland



**In Focus**

## **PETER DICAMPO: ACCLAIMED PHOTOGRAPHER REVEALS THE FACE OF ENERGY POVERTY. A NEW CROWD-FUNDING PLATFORM ALLOWS YOU TO TAKE PART IN THE PROJECT**

*Peter DiCampo, a documentary photographer dividing his time between Africa and the USA, talks with us about his “Life Without Lights” project launched earlier this year. He is currently working on the next chapters of this inspiring project, and is appealing for support from companies. Read further to know more.*



### **Project Background**

At a time of constant debate over the future of energy, it is easy to forget that 1.4 billion people – nearly a quarter of humanity – still live without access to electricity. Through my Life Without Lights photography, I strive to reveal the dire economic impact of global Energy Poverty and its causes, effects, and solutions.

During the two years I lived and volunteered in remote northern Ghana, I discovered how deeply the lack of electricity affected the lives of my neighbors. Having it, they explained, would allow them light to study and cook with, machinery, refrigeration, and a standard of living that would attract teachers, nurses, and other civil service workers from the city. (Visit [www.lifewithoutlights.com](http://www.lifewithoutlights.com) to hear from them directly in an award-winning multimedia piece on northern Ghana).

Put simply, Energy Poverty keeps people poor. It is a critical piece in the mosaic of issues contributing to poverty, and often the one that is least addressed.

In the past year, I have expanded this project to other regions where people are denied access to electricity. In northern Iraq, the Kurds live on top of one of the world’s largest oil reserves, yet are unable to benefit from the energy source. In New Mexico, USA, I began to document not only problems, but also solutions. The Pajarito Mesa is a community where bureaucratic oversight prevents people from receiving electricity. Many struggle to afford fuel for small generators, while their neighbors have created solar and wind solutions and live comfortably off the grid.

### **Upcoming Chapters, UN Exhibitions, and How You Can Get Involved**

The next chapters of the project will be on Fuel Poverty in the United Kingdom and Women's Health in Uganda. My goal is to have this work ready for exhibition at various UN events coinciding with their International Year of Sustainable Energy for All – but in order to reach that goal, I must find the funds to travel and to photograph these stories.

### **Britain: Heat or Eat?**

As energy prices dramatically rise in the UK, the country is pushed into a level of Fuel Poverty not seen in at least fifteen years. Fuel Poverty is defined as a household paying more than 10% of their income on energy bills. An estimated 7 million homes have recently fallen into this category.

Rather than focus on off-grid communities, this chapter will explore the cost of energy, examining the lives of people who have no choice but to shut off their own utilities in order to avoid mounting debt. Local aid organizations are already alarmed at this increasing trend, and considering the country's recent economic turmoil, worsening winters, and disappearing pensions, the situation is expected to become drastically worse. This is not a story limited to the very poor – even the middle classes will find themselves cutting their spending to pay their energy bills, often choosing between heating their homes or eating their next meals.

### **Uganda: Women's Health Crisis**

Women living in Energy Poverty are victim to a health emergency that is both surprising and extreme: Lung disease caused by inhaling the thick smoke of cooking fires is one of the top ten killers worldwide – killing more people than malaria. Cooking indoors, using traditional methods and fuels, causes 1.9 million premature deaths globally each year, predominantly among women and children. In Uganda, 95% of the population cooks with solid fuels, contributing to nearly 42,000 deaths.

To photograph this dire situation, I will immerse myself in the remote Bundibugyo District. In the district's villages and health centers – which lack electricity – I'll also investigate other effects of Energy Poverty on women's lives, ranging from subtle to deadly. For women in labor, deliveries at night are performed by midwives gripping flashlights in their teeth. Other serious procedures cannot be performed in the night at all. The clinics lack refrigeration for critical medications. And, when not performing the deadly act of cooking, women and girls spend countless hours gathering firewood – time that prevents them from receiving an education.

## **2012 – International Year of Sustainable Energy for All**

To help raise the profile of Energy Poverty as a global issue, UN-Energy has invited me to exhibit this work at events throughout the year, including the Rio+20 Conference on Sustainable Development in Brazil. They have asked me to address an audience of policymakers and world leaders, sharing stories from the people I have photographed.

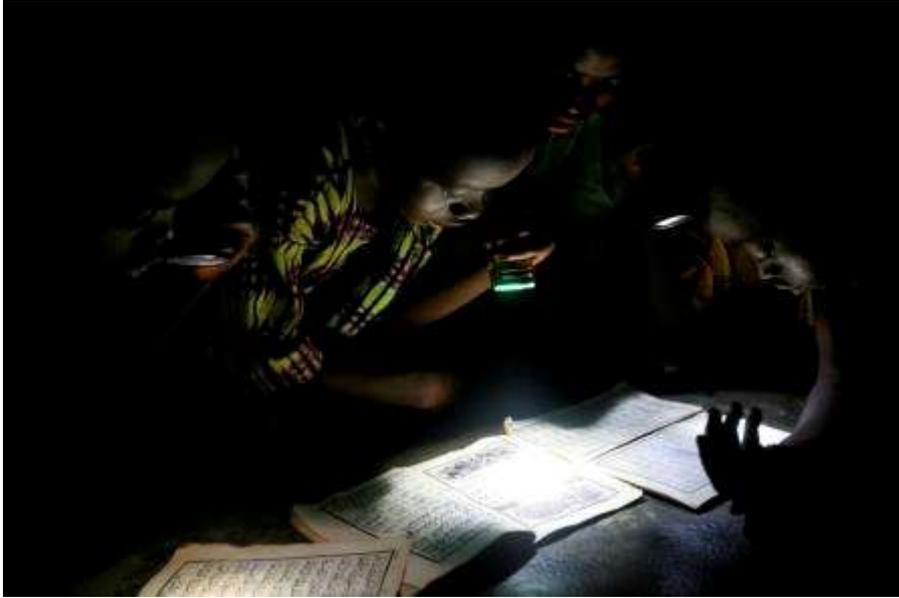
### **How You Can Make This Possible and Raise Your Company's Profile**

To fund the next chapters of Life Without Lights, I am using an innovative crowd-funding website called Kickstarter: <http://www.kickstarter.com/projects/peterdicampo/life-without-lights>. Here donations to the project can be made, with significant rewards offered based on the size of the donation.

The rewards include your name or company name listed as a project sponsor at UN exhibitions in Rio+20 and elsewhere; an assortment of fine art prints; and exclusive updates on the projects as I photograph. By making a contribution to the project, you also become a part of it, and gain recognition for your company as an organization contributing to the untold stories of Energy Poverty.

Within the international debate, the most vital voice – the voice of the afflicted – is often missing. Your help in funding this project will allow me to continue collecting stories and voices of Energy Poverty from around the world and contribute them directly to the dialogue on sustainable solutions and energy's future.

To learn more about contributing to the project and view more photography, visit [www.lifewithoutlights.com](http://www.lifewithoutlights.com).



## INTERVIEW FROM THE RURAL ELECTRIFICATION SECTOR

### SUNRISE SOLAR SOLUTIONS LIMITED

*We talk with John Freelove Mensah, the CEO of Sunrise Solar Solutions Limited, a member of the Alliance from Ghana.*

#### **Can you please introduce us to Sunrise Solar Solutions Limited and the main objectives of your company?**

Sunrise Solar Solutions Limited is a new and innovative company established to make a significant impact on the energy platform in Ghana and sub-Saharan Africa.

We are wholesalers of renewable energy products (solar/wind), supply and install solar/wind power systems, offer services for commercial, residential, and public sector buildings. We also provide full in-house training and technical support and supply leading technology products, and provide a full installation service.

Sunrise Solar Solutions Limited's main objectives are:

- Deliver timely, cost effective and high quality professional service to our customers;
- Minimise the environmental impacts of conventional energy by using Solar (PV) and Wind power as energy source that produces zero carbon emission so to save the planet Earth;
- Strengthen energy security and eradicate energy poverty in Ghana and sub-Saharan Africa leading to rapid economic development.

**You are one of the pioneers in the Ghanaian solar sector. What are the main challenges you have faced in this industry, and how have you managed to overcome them?**

The main challenges are:

- High system prices;
- Limited purchasing power of the people;
- Government not giving support to renewable energy; high import duties; high interest on bank loans and financing difficulties;
- Corruption, limited legal framework and poor quality of imported Chinese products;
- Lack of qualified and skilled professionals working with renewable energy technologies;
- Perceptions, misunderstandings and vested interests that produce mental barriers around renewable energy technologies.

In the words of Hermann Scheer (of blessed memory), German Politician and Environmentalist:

*“There are many resistances against this technology, many misunderstandings and many mental barriers. And if we want to look to a breakthrough we have to look to the real vested interests and to the existing mental barriers.”*

The challenges are progressively being addressed. Despite an inexhaustible amount of sunshine in Ghana and sub-Saharan Africa, the progress in the use of photovoltaic technology is still at a snail's pace. Ghana currently has no renewable energy Act; however, there appears to be a gradual change on the way.

We are campaigning to create the awareness and educate on the benefits that exist for alternative energy, for example, solar and wind energy, so as to harness public support. Hopefully, with the public support we can positively affect the government policy on renewable energy.

**Sunrise Solar Solutions has been involved in both wind and solar energy projects. What are the main benefits of these two technologies particularly in Ghana and the wider region, and what role do they play in meeting the rural electrification and access to clean energy challenges in these countries?**

There is a long list of benefits offered by solar and wind energy. For one, these technologies offer quality, durability and reliability. By relying on solar and wind energy for our energy needs, we know that we are not polluting the environment.

In rural areas, the two technologies provide energy source for sustained economic activities, security and health, leading to eradication of energy poverty and resulting in economic prosperity. However, access to clean energy is hampered by lack of funding in these countries.

In Ghana we have high solar irradiation, say, between 1,800 to 3,000 hours of annual sunshine. As such, currently we are only promoting solar technology because of the lack of professional wind energy installers.

Sunrise Solar Solutions wishes to introduce wind technology into Ghana on a commercial basis, by creating a hybrid wind and solar (PV) technology project.

Ghana also has a reasonable wind speed all over the country. In rural areas where there is a serious issue of security and limited installation space, we give preference to wind technology. Therefore in rural electrification, both technologies complement each other as and when appropriate.

**Besides providing technologies and practical solar applications, you also deal with education and training on energy management. How important is the role of such training and which are the main target groups you are addressing so far?**

Energy costs money, it is therefore essential for energy users to know how to manage energy usage effectively so as to save money. Therefore the objective of training is to equip the user with energy-management knowledge and tools in order to maximise returns on energy usage.

The main target groups are estate developers, architects and individuals house owners.

**You are planning to open the first large scale solar farm in Ghana. Could you tell us a bit more about this project, main outcomes and expected impact in the Ghanaian energy sector and the overall development?**

This project is one of the steps towards bringing into being our vision of eradicating energy poverty.

In Ghana we have only one electricity distributor, that is, the Electricity Company of Ghana (ECG), therefore electricity users have no choice and there is no competition, it is a monopoly situation. Having our own energy source will stabilize and guarantee electricity price in Ghana.

The expected impact will be the transformation, stable power supply and accountability in the electricity market, and users will have the right to make a choice.

Our Vision is to *“eliminate dependency on fossil fuel and end energy poverty; we will pioneer the use of solar / wind energy as the midstream power source.”*

**Are there any other interesting projects you are currently involved in?**

Current Projects:

*Sweden Ghana Medical Centre (SGMC):*

This is a Sweden-Ghana government project in East Legon, Accra, Ghana to establish a cancer treatment hospital. However, due to the lack of funding, the project is currently stalled. Any contribution towards this project will be highly appreciated.

*Sukladzi Agbozume, Ghana:*

Rural Solar Electrification project for 70 households (500wh/d per household) needs funding; support from members will be welcome.

*Kpedza Agbozume, Ghana:*

Rural Solar Electrification project for 60 households.

**2012 is the UN International Year of Sustainable Energy for All. Are you planning any specific activities? Do you know of other noteworthy actions in the solar sector to be carried out in Ghana in line with this initiative?**

Sunrise Solar Solutions Limited will mark the UN International Year of Sustainable Energy for All by commissioning 2 large scale farms in Ghana.

We also wish to hold an exhibition and expand the campaign on awareness for sustainability.

We would appreciate and welcome any ARE member wishing to sponsor and participate in this event in Ghana.

Unfortunately, we are not yet aware of any Government programme.

**What key lessons learned from your activities up to now would you like to share with the readers of the Newsletter?**

- Slow bureaucratic response to proposals due to ignorant inertia and corruption;
- The establishment not willing to act or change.

Read more about Sunrise Solar Solutions [here](#).



## News from the Alliance

### **NEW MEMBERS IN THE ALLIANCE FOR RURAL ELECTRIFICATION:**

**ARE is proud to welcome new members:**



## RVE.SOL–SOLUÇÕES DE ENERGIA RURAL LDA

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Country: Portugal

Website: [www.rvesol.com](http://www.rvesol.com)

RVE.SOL–Soluções de Energia Rural Lda is a social entrepreneurship for profit, incorporated in Leiria, Portugal. Through the “Changing Rural Life Forever” initiative, it is applying sustainable technology to the benefit of the world’s poorest in a way that creates financial benefits for investors, life changing impetus and measurable social impact for the people who use the solutions and measurable positive environmental impact on the planet.

RVE.SOL addresses three major causes of rural poverty: access to clean water, access to clean energy and supply of food, by providing solutions that create clean water, clean energy for light and cooking and biofertiliser.

The company has developed the Rural Village Energy hub or “Kudura” which is first being implemented in rural villages in Eastern Africa. A fully integrated, holistic solution built on robust and scalable technology, it is kick-starting micro-economies and creating impetus for rural villages to raise themselves out of poverty and fight the spread of disease. RVE.SOL believes that the introduction of these affordable energy and water services to poor rural communities is the much needed catalyst for initiating a process of poverty reduction that ultimately will mirror itself to wealth creation.

RVE.SOL has decided to join the Alliance as a leading industry association in order to continue actively developing the rural energy market, solve the existing problems and influence government policy for change.

Visit RVE.SOL–Soluções de Energia Rural Lda by clicking [here](http://www.rvesol.com).

## TEAM ENERGY FOUNDATION

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Country: The Philippines

Website: [www.teamenergy.ph](http://www.teamenergy.ph)

TeaM Energy Foundation, Inc. is the social entity of TeaM Energy Corporation. The Foundation helps in the Philippines' national development through its strategic and high-impact projects, designed to specifically address the structural causes of poverty and underdevelopment. By focusing on the significant tasks of rural electrification, environment, education, livelihood and health, the Foundation's programmes aim to infuse learning, ignite growth and inspire change in peoples' lives. Recognising the need to balance economic growth and sustainable development, the Foundation advocates programmes that give environmental stewardship equal importance.

The rural electrification programme of TeaM Energy Foundation has electrified about 1,500 villages or about 300,000 households in the Philippines up to now. Currently, the Foundation is implementing new projects planned to contribute to the national government's goal of achieving 90% household electrification by 2017.

The Foundation has decided to join ARE in order to expand its network and to strengthen the support for its solar electrification programmes and affordable renewable energy market development in the Philippines.

Visit TeaM Energy Foundation by clicking [here](#).

## ARE HAS LAUNCHED A NEW MEMBERS CAMPAIGN



ARE has launched its New Members Campaign earlier in September. To strengthen the network of the Alliance and create a window of opportunity for new companies interested in our activities, special benefits are offered to everyone becoming a part of ARE until the end of this year.

We believe that by expanding our network we are also helping to create greater recognition of the benefits renewables have in rural electrification, improve business opportunities for off-grid renewables and encourage the advancement of the sector in general. Even more, a strengthened role of the Alliance means also more successful networking opportunities among our members and various stakeholders in the developing world and elsewhere. New members receive free membership until the end of 2011, as well as special promotion activities on our website.

2012 is going to be the International Year of Sustainable Energy for All, bringing a lot of opportunities also for renewable energy sector and rural electrification in particular. Therefore, we think it is exactly the right time to step in and join forces, and an increased member network is a great asset in supporting the global efforts in achieving these goals.

Here are some of the actions the Alliance is already taking to contribute to the International Year of Sustainable Energy for All:

- ARE is working together with the UN Foundation and IRENA to organise several activities (e.g. events, publications, awareness campaigns) throughout the year.
- With the support of our Market Study Working Group, ARE will coordinate the development of a study that analyses the renewable energy market in developing nations.
- The Legal Framework Working Group is also developing a campaign targeted specifically at decision-makers. The objective is to advise on specific legal, fiscal and financial actions which support the implementation of renewables in developing countries.

Read more about the Campaign and the benefits of joining the Alliance here.

<http://www.sciencedirect.com/science/article/pii/S0301421510002922>

## **NICE INTERNATIONAL, A SUCCESSFUL SOCIAL BUSINESS EXPANDS TO BECOME ONE OF THE LARGEST IN AFRICA**

NICE International BV, a company based in The Netherlands, has launched a large-scale roll-out of its successful social business concept. The expansion will provide widespread access to energy and ICT in Africa. It is expected to create opportunities for social and economic development for one million people, making the project one of the most ambitious of its kind.

ARE is one of the three key partners of the NICE roll-out project, and is responsible for coordinating procurement and communications.

The innovative business model is based on a self-sustained network of franchised ICT-facilities that are powered by solar energy and run by local entrepreneurs. In the centres people can get access to Internet and development services, such as e-learning tools, IT- and business-training, online health-care, and a cinema for entertainment as well as education purposes. A strong focus on these ICT-related products and services, allied to a reliable energy supply, has proven its income-generating potential.

The NICE concept has already been successfully implemented in The Gambia and will now be scaled up in size and geographical scope. In the next four years, fifty more NICE centres will open in rural and peri-urban locations in The Gambia, Tanzania and Zambia.

NICE was originally initiated by Energy4All Foundation in 2006. The roll-out will be implemented in cooperation with Viafrica Tanzania and Macha Works in Zambia. The project is financially supported with a EUR 2.5 million grant from the European Union and EUR 1 million co-funding by Dutch development bank FMO, and private investors Rabobank and Schneider Electric.

Visit the project website [here](#).



## 26TH EU PVSEC

RE has once again participated in one of the solar industry's most influential events, the 26th EU PVSEC. The Alliance not only had a stand where publications were distributed and members and other interested parties welcomed, but also hosted a Market Workshop. All presentations are available for download on ARE's [website](#):

- Asia Solar Energy Initiative: Update. Yohana Kho, Asian Development Bank
- Financing Instruments and Challenges for Off-grid Renewable Energies. Torsten Becker, Frankfurt School - UNEP Collaborating Centre for Climate & Sustainable Energy Finance
- Carbon Finance for PV in Developing Countries. Claudia Doets, Do-Inc

- Market Potential for Off-grid PV in Developing Countries. Christian Breyer, Reiner Lemoine Institut gGmbH

Solar PV TV was present at the Workshop and interviewed the speakers. See the video report [here](#).



## **PHAESUN ANNIVERSARY**

On 30 Sep – 1 Oct Pheasun brought together a large group of clients and business partners at their HQ in Memmingen, Germany to celebrate its 10 years anniversary.

They organised a set of workshops with off-grid experts, giving companies the opportunity to introduce themselves and their products and services. ARE was invite to make a presentation about their work, upcoming activities and membership benefits.

Once again: Congratulations to Phaesun!

Visit the website [here](#).



## **HYDRO 2011**

ARE's General Assembly decided to focus 2011 on the small-hydro market and increase the technology's representation in the Alliance

HYDRO is one of Europe's largest conferences and exhibitions (over 1,700 participants) focusing on hydro power. In the session dedicated to small-hydro, Alexandra was part of a panel that included representatives from the Governments of Nepal and China and in her presentation advocated the market potential of small-hydro in developing countries.

## **REN 21 STEERING COMMITTEE AND IRENA IITC INAUGURATION IN BONN, GERMANY**

The President of ARE, Ernesto Macías, participated in the REN 21 Steering Committee in Bonn on 5-6 October. During these days, the International Renewable Energy Agency (IRENA) held a workshop on "Renewables - Competitiveness and Innovation", the first of two events marking the occasion of the inauguration of IRENA Innovation and Technology Centre (IITC) in Bonn.

The high level meeting included participants from agencies and institutions from all over the world. The latest Global Status Report was presented and the new projects were introduced, discussing also specifically rural electrification and off-grid solutions.

You may find more information [here](#)

## **NEW TRAINEE JOINS ARE**

Our new Assistant to the Secretariat, Baiba Auzane, has joined the team in September for a period of 6 months. Baiba comes from Latvia and is currently obtaining a masters degree from the Global Studies Programme at the University of Freiburg in Germany, and is interested in international development and renewable energy topics, especially in the Global South. A warm welcome!

## **ARE PARTICIPATING IN SPI 2011**

From October 17-19 ARE participated in Solar Power International 2011, North America's largest, and most comprehensive solar power trade show and conference.

This year it attracted over 24,000 visitors from more than 125 countries. The conference discussed the latest solar industry trends and the challenges lying ahead, and was widely attended by companies, policy makers, investors and financiers.

During the event, ARE organised a networking reception bringing together members and other interested stakeholders in a social setting, in order to discuss sector development and cooperation possibilities. Thanks to everyone for attending! A special thank you to our gracious sponsors Trojan Battery Company and OutBack Power.

To learn more about Solar Power International 2011, please [click here](#).



## News from the sponsors

### **OUTBACK POWER**

**About SPI 2011, did you feel a bigger focus on off-grid technologies in general and their use in developing countries in particular, compared to previous years? (If it's the first year you're attending, please share you general impressions about solar off-grid's presence at SPI 2011)**

No, there wasn't much focus on the Off-Grid applications in the U.S.

**Through your conversations with other participants, what issues seem to generally be on everyone's mind?**

Developing countries, Africa, Latin America. The U.S. grid is stable. We all can't wait until the grid in the U.S. becomes much less reliable. The real opportunity for Off-Grid opportunities is still with developing countries that either have no local power utility, or have an unstable source.

**Was there any project/service in particular that OutBack Power showcased at SPI 2011? Was it a successful event for you?**

OutBack showcased our new Radian Series Inverter/Charger and our new Battery Rack and Battery offering to allow a true system approach to a grid-interactive system.

For people who want the ability to sell back renewable energy power to the utility through net metering and also want to be able to use their renewable energy source in the event of a utility power failure, a grid-interactive system is the answer. A grid-interactive renewable energy system lets users demonstrate their commitment to a renewable energy future without risking the outages that can sometimes accompany fully off-grid power generation. With grid-interactive systems, users draw first from their solar, wind or hydropower power sources into their electricity applications (and in some cases, back to the utility, as well). When those sources of energy are unavailable, the electric utility grid becomes the primary power source. Conversely, when the grid experiences an outage, the renewable energy sources are available as backup power. The result is a far more reliable source of energy that lowers utility bills and shrinks carbon footprints.

The Radian Series Inverter/Charger is designed from the ground up to simplify the design and installation of grid-interactive and stand-alone power systems. It is a powerful tool in delivering the independence and security in renewable energy needed to ensure the success of distributors and installers.

The new Integrated Battery Rack System joins the OutBack Radian Series Inverter/Charger as a standardized solution built from the industry's most proven technology and materials in the field of renewable energy management and storage. The fully-integrated Battery Rack System is easy to order and install as a complete solution, including cell interconnects, cabling, and series string overcurrent protection and disconnects. All electrical connections are made at the factory and ship fully-assembled with the exception of the batteries, which can be quickly added and connected on the jobsite.

The new OutBack batteries that are part of the rack system are available in two models: the 170RE and 200RE. Both models are UL-recognized components that feature Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance. The EnergyCell RE line also features a multicell design for economy of installation and maintenance, and the low profile terminals with threaded copper alloy inserts reduce maintenance and increase safety.

The Radian Series Inverter/Charger, along with OutBack's new Integrated Battery Rack System, represents a standardized solution built from the industry's most proven technology and materials in the field of renewable energy management and storage. Interest was high in all of these new products. OutBack has currently released this product for North America and a 50 cycle version will be ready in the second quarter of 2012.

## TROJAN BATTERY COMPANY

Healthcare is a basic need that is sometimes taken for granted in developed nations but for many people living in remote regions of the world, it can be hard to come by. However, with the support of many organizations and forward-thinking companies working to bring sustainable, off-grid energy sources to these remote areas, basic healthcare services are becoming more accessible to many people that have not had access to these services before.

Providing quality healthcare 24/7 is hard to achieve without a reliable source of electricity. Hospitals and health clinics require the use of many electrical devices to test, care for and treat patients, and a dependable energy source is critical to the success of many medical procedures.

The use of battery-based renewable energy technologies including solar, wind and hybrid systems have emerged as reliable sources of electricity in remote areas that are off the electric grid. Renewable energy systems can power compact florescent lighting (CFL) and florescent tube lighting, lab equipment, ceiling fans, water coolers, refrigeration, computers, satellite communication systems, and other medical and operational equipment. Reliable electricity also allows for cell phone charging and advanced teaching aids such as TVs, DVDs, and radios for a variety of educational courses including HIV information programs.

Many rural hospitals have facilities with large daily loads that are often powered by diesel generators or batteries that are not made for renewable energy applications. Diesel generators are not an ideal energy source for rural hospitals since they are expensive to run, emit harmful pollutants, and require frequent trips to nearby towns that sell fuel. Using batteries that are not deep-cycle batteries designed for renewable energy applications can result in expensive and frequent replacement of battery banks. Neither option is an ideal solution to manage the needs of energy-demanding hospitals day in and day out.

Trojan Battery Company's Industrial Line features a range of flooded, high amp-hour capacity batteries engineered specifically to support renewable energy systems with large daily loads where the batteries are cycled regularly. The Industrial Line delivers 1,500 cycles at 80 percent depth-of-discharge and features advanced battery technologies that provide durable, long lasting energy storage. The Industrial Line is ideal for large off-grid photovoltaic (PV) systems, off-grid hybrid PV systems, grid-tied PV systems with battery backup, smart grid peak shifting systems and a variety of other applications including off-grid hospitals.

The Industrial Line features Trojan's proprietary Alpha Plus Paste® with T2 technology™ for more operating power, Trojan's DuraGrid™ technology for longer life, a robust plate construction with

reinforced protection wrap for enhanced performance, and Trojan's Maxguard® separator for increased acid flow and optimum performance. Trojan's Industrial Line batteries are comprised of removable 2-volt cells bundled in a secondary containment case to form single, high-capacity 4-volt and 6-volt battery solutions. This rugged dual container construction protects the Industrial Line's critical components from harsh environments these batteries frequently encounter in developing regions of the world.

"Off-grid PV systems have unique power storage requirements due to the varying levels of irradiance, temperature and sun hours available in a particular location," said Bryan Godber, vice president of renewable energy at Trojan Battery. "Trojan's deep-cycle Industrial Line provides outstanding cycling

Providing reliable electricity to remote hospitals around the world is the first step to increasing the comfort and well-being of local residents that would not otherwise have access to healthcare services. Using a battery-based solar energy system that is designed to meet the needs of the healthcare facility is an ideal and cost-effective way to bring reliable power to rural health clinics in communities around the world.

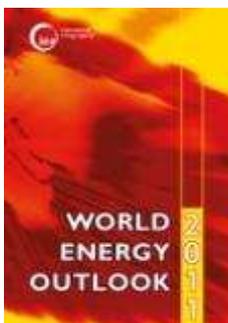
For more information, visit the website.



## RECENT PUBLICATIONS AND STUDIES

### WORLD ENERGY OUTLOOK 2011

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To be released 9 November 2011.

World Energy Outlook 2011 (WEO) brings together the latest data, policy developments, and the experience of another year to provide robust analysis and insight into global energy markets, today and for the next 25 years. This edition of the IEA's flagship WEO publication gives the latest energy demand and supply projections for different future scenarios, broken down by country, fuel and sector.

It also gives special focus to such topical energy sector issues as:

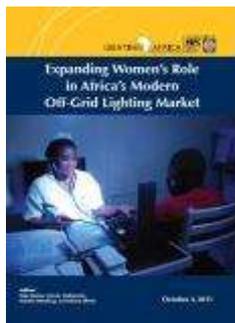
- The scale of fossil fuel subsidies and support for renewable energy and their impact on energy, economic and environmental trends.
- The scale and type of investment needed to provide modern energy to the billions of the world's poor that do not have it.

WEO 2011 provides invaluable insights into how the energy system could evolve over the next quarter of a century. The book is essential reading for anyone with a stake in the energy sector.

More information here.

EXPANDING WOMEN'S ROLE IN AFRICA'S MODERN OFF-GRID LIGHTING MARKET (2011)

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A new report from the joint IFC/World Bank Lighting Africa Program finds that women in Africa are both important beneficiaries and key facilitators of the modern off-grid lighting revolution. Affordable products utilising technologies like micro-solar power and LEDs can replace fuel-based lighting—enabling women and men to save money, reduce indoor pollution, and operate their small enterprises with reliable, clean lighting.

The new report “Expanding Women’s Role in Africa’s Modern off-Grid Lighting Market” analyses women’s role as both consumers and entrepreneurs and identifies women-specific opportunities in the expanding market for modern off-grid lighting.

Modern off-grid lighting products could be an immediate solution for African businesswomen who often run small retail businesses - exactly the type of businesses that benefit most from improved lighting and extended productive time.

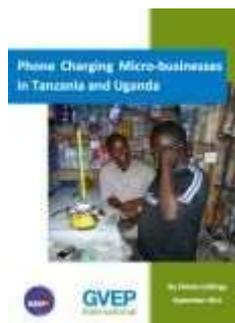
In the household, women influence the decision 40% of the time in regards of when to buy a new lighting device and which one to get – a decision-making role that warrants attention from marketing and education campaigns. Women and children are inordinately affected by the toxic smoke from fuel-based lamps. The research shows that people with awareness of the issue prefer to use solar lanterns.

The report compiles the findings of extensive Lighting Africa consumer studies focused on Ethiopia, Ghana, Kenya, Tanzania, and Zambia. Lighting Africa partnered with IFC’s Women in Business (WIN) Program to author the report.

More information here.

**GVEP INTERNATIONAL REPORT ON SOLAR PHONE CHARGING: PHONE CHARGING MICRO-BUSINESSES IN TANZANIA AND UGANDA (2011)**

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GVEP manages a programme which supports micro-businesses engaged in servicing the energy needs of poor communities in Kenya, Tanzania and Uganda – Developing Energy Enterprises Project (DEEP). A significant cluster of businesses registered with the programme are charging mobile phones.

Mobile network operators in Africa identify rural customer’s problems with charging phones as a major challenge in expanding their businesses. Recent studies suggest that the need to recharge phones is a significant driver of demand for rural electrification services. The average turnover and

rates of growth for the phone charging businesses in DEEP vary across the three countries where the programme operates.

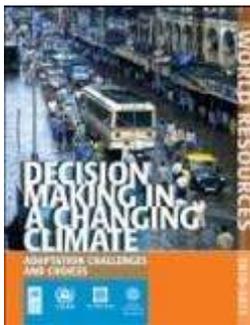
GVEP decided to investigate these businesses in more detail in order to better understand the market dynamics and the potential for growth and possibly diversification into sales of solar lanterns and lighting systems. The study also sought to understand the impact that the DEEP programme has had on these businesses.

The study built on the initial insights gleaned from a Marketing Challenges study carried out between February and April 2011. This study included a small sample of phone charging businesses. The follow up study involved interviewing a larger number of these businesses in Uganda and Tanzania.

More information here.

DECISION MAKING IN A CHANGING CLIMATE (UNDP)

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Recent extreme weather events including floods, heat waves, and droughts present a vivid image of the direction the world is heading. As climate change intensifies, more events like these, combined with longer-term changes in the climate's average state -including rising seas, melting glaciers, and shifting precipitation patterns— will have profound impacts on people, ecosystems and infrastructure.

Together, these changes call for different approaches to planning and policymaking, enabling societies to adapt effectively to a much hotter tomorrow.

World Resources Report 2010-2011: Decision Making in a Changing Climate is a major new resource to help developing country national-level officials make decisions that support communities and economic sectors to become more climate resilient.

Based on input from more than 100 experts in 36 countries, the report offers specific, practical strategies and innovative case studies to inform how to integrate climate change risks into national policies and planning.

It also provides recommendations in five key public policy areas for developing country government officials and donor agencies: public engagement, decision-relevant information, institutional design, tools for planning and policymaking, and resources.

Produced by the United Nations Development Programme, the United Nations Environment Programme, the World Bank, and the World Resources Institute, WRR 2010-2011 is essential reading for policy makers, donors, and decision makers who must start now to prepare for a changing world.

More information [here](#).



## UPCOMING ARE EVENTS

### **WEBINAR “CLIMATE FINANCE: BENEFITS FOR SMALL SCALE RENEWABLES IN DEVELOPING COUNTRIES”, 9 NOVEMBER**

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ARE, together with Climate Focus, a leading consultancy on climate finance, carbon credits and climate change policy, is organizing a webinar on how climate finance mechanisms can create benefits for renewable energy sector companies in developing countries.

The webinar will be presented by Adriaan Korthuis, the Director of Climate Focus, and is available exclusively for ARE members.

Main topics discussed in the webinar include:

- Regulatory framework: Climate Convention, Kyoto Protocol, Clean Development Mechanism
- How does carbon finance contribute to an investment: increased revenue, securities, guarantees
- How to create carbon credits: preparation of documents, validation, monitoring, verification
- Organising your carbon credits: timing, management
- Where to sell - carbon credit markets: EU Emissions Trading System, voluntary markets

- Bundling small projects, Programmes of Activities: structure, management, legal aspects, implementation issues
- Future of climate finance - new mechanisms: from Copenhagen to Cancun to Durban and beyond

If you're ARE's member and haven't received the invitation yet, but would like to participate, please [contact us](#).

PHOTOVOLTAIC FORUM MEXICO 2011, 10-11 NOVEMBER 2011, MEXICO CITY, MEXICO

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Ernesto Macias, the President of ARE will give a presentation in the Photovoltaic Forum Mexico 2011. The event is organised by the Electrical Research Institute of Mexico in collaboration with the Mexican Energy Secretariat, Mexico's Federal Electricity Commission, and the United Nations Development Program.

2ND IEF SYMPOSIUM ON ENERGY POVERTY "GLOBAL INITIATIVES AND REGIONAL COOPERATION TO ERADICATE ENERGY POVERTY", 15-16 NOVEMBER 2011, VIENNA, AUSTRIA

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Balthasar Klimbie, an ARE Board Member, will attend the 2nd IEF Symposium on Energy Poverty, planned to gather participants from developed and developing countries, representatives from governments and industry, multilateral and bilateral organisations, finance institutions, and aid agencies to discuss how to address this multifaceted issue which requires broader international awareness, support and coordination.

CLUB ER - TECHNICAL WORKSHOP ON HYBRID SYSTEMS FOR RURAL ELECTRIFICATION, 28 NOVEMBER–2 DECEMBER 2011, NAIROBI, KENYA

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Balthasar Klimbie, an ARE Board Member, will attend a workshop organized by Club ER, the Club of National Agencies and Structures in Charge of Rural Electrification. He will give a presentation on wind hybrid systems, as well as update on the latest ARE's activities.

UPCOMING SOLAR EVENTS

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ENERSOLAR+ 2011, 16-19 NOVEMBER 2011, MILAN, ITALY

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EnerSolar+ is dedicated to photovoltaic and thermal solar energy, photovoltaic technologies, inverters and other renewable energies.

For registration and more information, visit the [website](#).  
INTERSOLAR INDIA, 14-16 DECEMBER 2011, MUMBAI, INDIA

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Intersolar promotes the development of business opportunities throughout the Indian solar industry. There are 250 exhibitors and 6,000 visitors expected at the 2011 exhibition. The accompanying conference expects 700 attendees.

Intersolar India, focuses on photovoltaics and solar thermal technology and has quickly established itself among manufacturers, suppliers, distributors and service providers as a vital international industry meeting point.

More information [here](#).  
5TH INTERNATIONAL PHOTOVOLTAIC POWER GENERATION EXPO 2012, 29 FEBRUARY – 2 MARCH 2012, TOKYO, JAPAN

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Together with PV SYSTEM EXPO 2012, all products and technologies related to PV will gather from around the world for further business expansion in Japan and in Asia-Pacific.

More information [here](#).  
4TH ANNUAL THIN FILM SOLAR SUMMIT EUROPE, 5-6 MARCH 2012, BERLIN, GERMANY

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Over 200 top attendees from all parts of the community will come together to share perspectives and divulge in networking opportunities. The conference covers all aspects of how to streamline and optimise your thin film business to increase your competitive advantage and seize the best new opportunities in the market.

More information [here](#).  
6TH EUROPEAN CONFERENCE ON PV-HYBRIDS AND MINI-GRIDS, 26-27 APRIL 2012, CHAMBÉRY, FRANCE

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The conference will cover following topics: Political, economic and regulatory frameworks, System components and technology, Energy management and grid control, User interaction and Field experience and lessons learnt.

Users of renewable energy systems and mini-grid, users involved in rural electrification, manufacturers and suppliers of renewable energy systems and energy storage technology, energy consultants, public utilities, users from developing countries, development programme specialists, energy policy makers, other attendees.

For more information visit the [website](#).

#### OTHER UPCOMING EVENTS

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#### RURAL ELECTRIFICATION FORUM, 15-17 NOVEMBER 2011, MAPUTO, MOZAMBIQUE

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The event will provide a platform for stakeholders involved in the sustainable development of emerging markets to address the motivations for rural electrification programmes (social, environmental and economic).

The forum is expected to attract key industry experts sharing successful projects from Latin America, Africa and Asia, and feature an international vendor showcase.

Rural Connectivity Forum for Mozambique will take place at the same time in order to map the present challenges and future needs of the country in terms of telecommunication infrastructures and ICT technologies.

More information [here](#).

#### WORLD FUTURE ENERGY SUMMIT, 16-19 JANUARY 2012, ABU DHABI, UAE

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World Future Energy Summit is the world's foremost annual meeting committed to advancing future energy, energy efficiency and clean technologies by engaging political, business, finance, academic and industry leaders to drive innovation, business and investment opportunities in response to the growing need for sustainable energy.

WFES includes a world class summit, an international exhibition, the Project Village, Round Table Discussions, the Young Future Energy Leaders program, corporate meetings and social events.

Last year more than 26,000 participants from 137 countries attended.

More information [here](#).

AFRICA ENERGY INDABA, 21-23 FEBRUARY 2012, JOHANNESBURG, SOUTH AFRICA

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The Africa Energy Indaba, adopted by the World Energy Council (WEC) as the African regional event of the WEC, receives global recognition as the foremost event for energy professionals from across the globe and is rapidly gaining momentum as the energy business forum in Africa.

Presented by the South African National Energy Association (SANEA) in association with the World Energy Council, the forum has achieved the highest level of endorsement and support and as such is without doubt the leading energy event in Africa.

More information [here](#).

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