

# NEWSLETTER

## EAST AFRICAN RENEWABLE ENERGY



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### List of Events

<a href="#">Solar Energy Africa</a>	Capetown, South Africa	4-5 Sept. 2012
East African Power Industry Convention ( <a href="#">EAPIC</a> )	Dar es Salaam, Tanzania	10-13 Sept. 2012
<a href="#">Investment &amp; Innovation in Microfinance: Africa</a>	Accra, Ghana	19-20 Sept. 2012
World Clean Technology Summit ( <a href="#">WCTS</a> ) 2012	Kampala, Uganda	26-28 Sept. 2012

## Welcome to ASD Solar Trends East Africa

By Mark Hankins, [mhankins@africansolardesigns.com](mailto:mhankins@africansolardesigns.com)

### WHY NEWSLETTER?

The ASD team decided to produce a newsletter about renewable energy in East Africa – and particularly solar – because this is a topic that we feel needs much more advocacy and attention. ASD hopes to help spearhead increased use of solar energy in rural and urban parts of Kenya, Tanzania, Uganda and the region at large. We feel that simply supplying equipment will not build the industry – we need to bang our drums, educate the public, push policy makers and get the industry to improve its product offerings, services and standards. We need your help, and we hope that, as like-minded East African citizens, consumers and solar players, you will think about sustainable energy and make it part of your daily discussions and transactions.

### African Solar Designs

In less than 2 years ASD has accomplished a lot. We collaborated with SOS Children’s Village Mombasa and our German partners Asantys to install Kenya’s first net-metered PV pilot, a 60 kW system. We are working with Basecamp Foundation and Elewana Africa to help ease energy problems for remote tourism communities and lodges alike.

We have installed modern mini-grids in South Sudan. As consultants, we are working with groups --- that range from the Rwanda Government to CCBRT Hospital Dar es Salaam to Mbeya telecom suppliers --- to improve solar access and to design better solutions. As well, we helped REN21 research policy environments in 16 African countries for its annual renewable energy report.

### THE IMPORTANCE OF NETWORKING

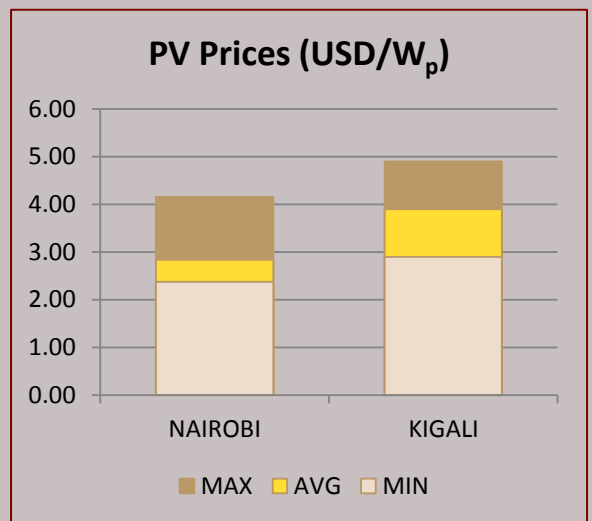
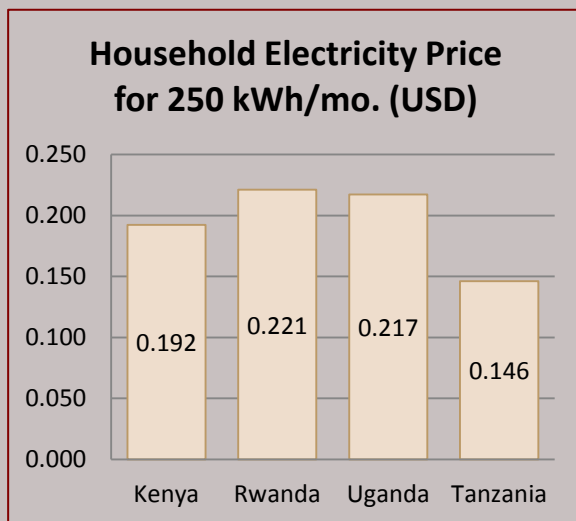
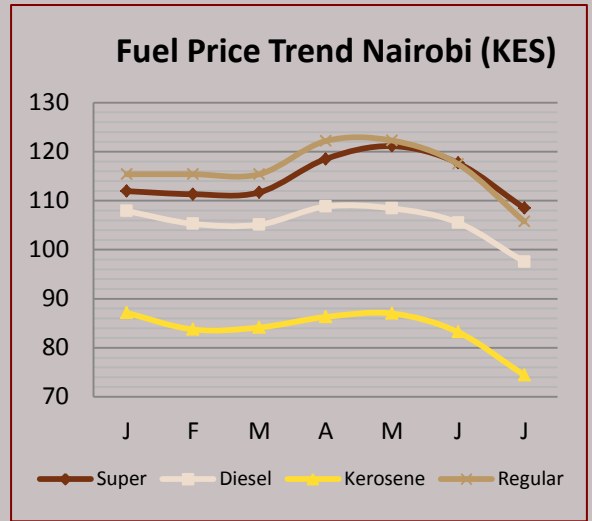
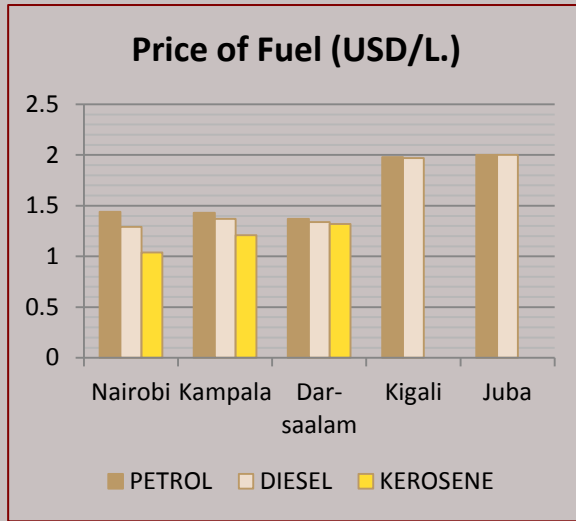
With this newsletter, we’d like to highlight the importance of networking and sharing information about solar. Though many of us in industry and NGOs compete against each other to win projects, market share and tenders, we need to keep in mind that we are on the same side with regards to building the solar industry!

Herein, we share information on solar trends, rural energy pricing and news about solar in Africa. We congratulate Ubbink Naivasha for their first year of PV module and for proving that modules can be “Made In Kenya”. We also point to FiT work in Rwanda, Kenya and Botswana. As well, we congratulate CAMCO Tanzania for use of the “cluster” approach for financing household system access in Mwanza.

### Policy Section

	Kenya	Tanzania	Uganda	Rwanda	Ethiopia	South Sudan
<b>PV Systems</b>	Duty free, VAT Free, Duty applied for BOS	Duty free VAT Free	Tax exemption on solar components and deep cycle batteries	PV kits are subject to reduced import duties	Duty free: 0% VAT:15% Surtax: 10%	?
<b>PV Feed-in Tariff</b>	12US ¢ /kWh	(TZS/kWh) ON-GRID: 145.36(Au-No) 109.02(Jan-Jul & Dec) OFF-GRID: 380.22	36.2US ¢ /kWh Max 2MW	Under revision	Under revision	None
<b>Pico &amp; SHS Subsidies</b>	None	1.5-2.5 USD /W <sub>p</sub>	5.5 USD/W <sub>p</sub> (<50W) For households 4 USD/W <sub>p</sub> (<500W) For businesses	None	None	None

# Fuel & Electricity Prices and Trends



Note: There is a wide variety of solar panels on the market and a lot of them do not follow international standards. If you are interested in participating with data collection, contact us at [newsletter@africansolardesigns.com](mailto:newsletter@africansolardesigns.com)

## ASD Solar Links East Africa Follow us on twitter @SolarKenya

**SEETEP, a Solar Training Center near Kisumu** - Seetep stands for Solar Energy and Environmental Technology Education Programme. [...] The curriculum for the school will be developed by Kisumu polytechnic along with Kvadraturen School. <http://tinyurl.com/bn3u8gr>

**Rwanda Sets Feed-in Tariffs for Hydro** – [...] The Rwanda tariffs apply own to small hydro and to only a limited amount of capacity, 50 MW. Contract terms are only three years, but the law specifies that the tariffs cannot be reduced. [...] <http://bit.ly/Hb6ANg>

**Botswana Feed-in Tariff for June 2012** – [...] The country will now introduce a renewable energy feed-in tariff next month which will apply to projects under 5MW. [...] <http://bit.ly/JrBCFX>

**Camco, Rex Investment receive USD 4.7 million contract for off-grid PV in Tanzania for Millennium Challenge Corporation (MCC)** - Organised labour or farmer groups ("clusters") with a minimum of a thousand members, engage in annual wholesale procurements through tendering, ensuring value for money and the best possible combination of price and quality. <http://bit.ly/MJzEfm>

**Kenya Likely to Re-impose VAT on Solar?** Kenya may re-impose VAT on all imports according to new VAT policy, including solar. It will represent 16% increase in price.

**ECA and Ramboll – Study of Kenya Gov on small FIT** – Study on means to improve availability and quality of power in Kenya with proposed FIT tariffs. <http://bit.ly/R9fLAF>

**Kerea launches website** - Kenya Renewable Energy Association, an independent non-profit association dedicated to facilitating the growth and development of the renewable energy business in Kenya launches its new website. Congrats! <http://kerea.org>

**KenGen signs power deal with Chinese** - The final contract for the development of 280 MW of geothermal power in Olkaria (Kenya) [...], has been signed by KenGen. The contract [...], was awarded to SIPC through competitive bidding and is financed by World Bank and KfW. <http://bit.ly/Mfeefe>

**REN21, Release of the 2012 Global Status Report** - First released in 2005, REN21's GSR has grown to become a truly collaborative effort of over 400 authors, contributors and reviewers, and is today the most frequently referenced report on renewable energy market, industry and policy trends. It provides testimony of growth of electricity, heat, and fuel production capacities from renewable energy sources, including solar PV, wind power, solar hot water/heating, biofuels, hydropower, and geothermal. <http://bit.ly/OezSNt>



# Ubbink, a Lighthouse for Solar PV in East Africa

By *Claudia Perez-Levesque*, [cperez@africansolardesigns.com](mailto:cperez@africansolardesigns.com)



A few years ago, not many people would have thought about personally investing in a state of the art Kenyan solar PV factory. Despite the difficulty of the African market and the abundance of low cost and low quality Chinese PV materials, Ubbink and Largo (the Ubbink and Largo (the investment company behind Chloride Exide) agreed on a joint venture to start Ubbink East Africa, the first solar PV factory in the region. It started as a corporate social responsibility (CSR) project from the mother Ubbink company in the Netherlands, but as Mr. Kuper, managing director of the company says, we have to remember CSR also has the letter 'C' for corporate, meaning the end goal is still to be profitable. Technology transfer, training and implementation of good quality standards compose the 'Social Responsibility' of the project.

Ubbink East Africa targets the extended East Africa (EA) region, including Ethiopia, South Sudan, Zambia and Malawi. To tackle a market beyond these countries would not allow them to offer competitive prices due to transport and taxes, as every additional African border can add weeks of delay along with additional duties. In fact, their biggest challenge in their own market is to be competitive with the imported products from Asia. The market is overflowing with cheap Chinese PV panels of low quality but also lower price. Quality is one of Ubbink EA's core values. They want to forge the brand and the pride of

'made in Kenya'. When asked about the difficulty of trusting Kenyan manufactured products, Mr. Kuper replies that it is not unachievable and gives the example of Chloride Exide (batteries) and OMO (washing powder) two locally manufactured and respected brands.

At the moment, the company is targeting two markets: rural home owners and institutional projects. They produce panels of 13, 20, 30, 40, 60, 80 and 120 W. In July they will start the production of 50 and 100W in the fourth quarter of the year they intend to start the production of 230W panels and get into the market of bigger projects like large mini-grids or on-grid systems. The 50 employees working at the Naivasha plant can manufacture up to 2MW of panels per year and if the production capacity was once the limit, it is now sales volumes, which determines the outputs. In 2011, they sold 400 kW and expect to sell 1.5 MW in 2012.

What are the barriers for Ubbink? Mr. Kuper identifies three main barriers to the market (in order of importance): the purchasing power of the population, the bad reputation of solar systems due to badly designed systems or the spaghetti solar problem and the access to cheap and low quality components combined with the desire to pay little.

Ubbink EA started the project wanting to be a lighthouse business in East Africa. They are not far from succeeding, but they need the help of a few more players in the game.

## Solar PV for East African Tourism

By *Federico Hinrichs*, [fhinrichs@africansolardesigns.com](mailto:fhinrichs@africansolardesigns.com)

With spectacular wildlife conservancies, pristine beaches and the highest mountains in the continent, it is no surprise that tourism is one of the largest contributors to the East African economy. It is also no surprise that tourism is notably greening and the rationale is simple: unless tourist facilities achieve sustainability in energy, water and waste disposal, the fragile ecosystems on which they depend will be in jeopardy.

Power supply is a clear challenge in most tourism resorts in the region. Virtually all lodges in safari destinations are off-grid, running on diesel round the clock. Their remote location makes a grid connection unlikely for the foreseeable future - and perhaps even undesirable. Hotels on the coastline will more likely have a connection to the electric utility, but their heavy use of cooling and refrigeration equipment seriously impacts electricity bills. Regardless of the location, energy costs for tourism resorts are high. Hotels typically spend between 60,000 – 300,000 USD a year in electricity. This is a remarkable opportunity for solar technology.

Solar is not an "off-the-shelf" product. Solar PV systems need to be tailored to the specific needs of each location. Additionally, an energy audit will normally reveal immense energy savings potential, typically 30 to 40% based on our experience at African Solar Designs, which can be achieved with energy management and minor investment. Based on the application, budget and level of service required, solar PV installations can be sized and configured in three different ways:

- Solar PV directly coupled to primary source (grid/genset): designed to reduce fuel consumption or electricity bills but will cover no more than 30% of total load. Absence of batteries allows short payback period (below 3 years). Good solution for grid-connected coastal resorts.
- Solar PV coupled to genset with a battery bank: can reduce fuel consumption by 50-70% and the battery bank makes the genset needed for only a couple of hours/day. Payback period is higher due to battery bank investment, but will still be well below 10 years. Recommended solution for tented camps and lodges in off-grid areas.
- Complete stand-alone system: for cases where fuel supply is prohibitive, a stand-alone system with no genset could be the preferred option. A battery bank for two days of autonomy or more will push payback period to over 10 years.

Modern solar PV and inverter technology will also allow for different types of arrays and mounting structures based on needs: centralized or decentralized, ground-, roof- or solar carport mounts, etc. allowing great flexibility. Solar energy will adapt to the needs to the resort, providing a great opportunity to go green whilst significantly reducing operating expenditures. It is our vision that in the next 10 years, tourism sites in East Africa will invest millions of dollars in cleantech for reasons related to cost, environment and marketing. It is a market to follow!

Contact [info@africansolardesigns.com](mailto:info@africansolardesigns.com) for a quote on your tourism site

