FRESH WATER UNDER THE BRIDGE

Dear readers,

I am very glad to sing my first Newsletter editorial as Secretary General of the Alliance for Rural Electrification, and to receive the baton from Simon Rolland, who successfully contributed to the growth of our association.

Indeed, this is a very exciting time for both, the off-grid industry and the Alliance. It is my objective is to keep pushing for a significant expansion of the off-grid sector, to promote the industry in its efforts to market already-available technological solutions and to better position ARE towards key partners and stakeholders. In order to keep enhancing ARE’s network, we would like to encourage our Members to help us spread the word about the organisation and our mission.

This Newsletter, the first in 2013, is devoted to Small Hydropower. For an insight into the current situation of this renewable energy source in Eastern Europe, we have interviewed the Polish Association for Small Hydropower Development (TRMEW).

It is also a great pleasure to feature IT Power in our “Member On the field” section. They reveal more about their success in providing six rural communities in Honduras with electricity thanks to the construction of two Small Hydropower plants.

In this issue, Studer Innotec also tells us about the advantages of PV in comparison to public grid, and the solutions that this company offers for rural electrification.
Also, please do not miss the latest news from the Alliance. In addition to a new Secretary General, many other things have happened in the recent months, including the celebration of our Annual General Assembly, a visit to Abu Dhabi and the official renewal of two of our colleagues in the Secretariat.

Finally, we would also like to warmly welcome our two new Members Al Emadi Solar (Qatar) and Global Sustainable Energy Solutions Pty Ltd (Australia).

Thanks for reading and until next time,
Marcus Wiemann

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INTERVIEW WITH MR. MICHAŁ LIS, MANAGING EDITOR OF HYDROELECTRIC POWER MAGAZINE, PUBLISHED BY THE POLISH ASSOCIATION FOR SMALL HYDROPOWER DEVELOPMENT (TRMEW)

TRMEW’s mission is to reach the European small hydro average potential utilization rates of 43% by 2050. How is your progress? Which barriers do you need to tackle to achieve your goal?

Although there were 24 new SHP projects completed last year in Poland, which, combined with the modernisation of some existing hydropower plants, increased the total installed capacity of hydropower sector from 951 to 966 MW, the year 2012 must be described as a beginning of a freeze on the development of small hydro in Poland.

The main reason for this obstruction is the uncertainty resulting from the planned changes in legal regulations related to the RES sector. The most burning problem is the lack of stable support schemes. A new legislation on support schemes is being drawn up by the Polish Government for over a year now and is still very far from passing. Uncertainty about the shape and value of future support stopped all new investments in RES. In the meantime, the prices of green certificates, which constitute the current support scheme, decreased from 288 PLN/MWh in the end of 2011 to 99 PLN/MWh at present. The decrease revenues cause cash flow problems and difficulties in servicing credits by SHP companies. The drop in green certificates prices is mostly due to the surplus of certificates on the market, the majority of which is granted to energy produced in co-firing processes of coal and biomass. Moreover, the draft act on RES in its latest published version was going to withdraw all support schemes (i.e. green certificates and the obligation of purchase of energy generated in RES) for power plants which operate for over 15 years with practically no possibility to regain the support by SHP plants in case of modernisation of a plant. According to the analysis conducted for our association, introducing this regulation may cause bankruptcy of 450 out of 770 existing hydropower plants in Poland.
The aforementioned problems are only the most intense threats and barriers hindering the development of small hydro in Poland. Others include plans of imposing additional burdens for SHP operators (for example, disproportionate fees for the use of water for hydropower purposes), setting more and more strict environmental requirements for both new investments and permits renewal for existing plants, as well as lack of good will and effective regulations enabling utilisation of State owned dams and weirs for hydropower purposes.

**Are your members solely focused on the Polish market or are they exploring business opportunities in the developing countries?**

Our members are mainly focused on the Polish market. However, some of them develop projects or provide equipment for partners in other countries, mainly in neighbouring countries. There are some projects in Rumania, in Ukraine (where we act as advisors), and in Czech Republic.

Although we concentrate our activities in Eastern Europe, we also see big potential in developing countries, as markets to transfer the knowledge and technology to build hydropower plants.

**How many of your members projects are off-grid?**

Nearly no project is off-grid. Generally all small hydropower plants in Poland are connected to the grid. However, there are some exceptions, such as national parks. For example, in areas of high mountains, like the Tatra National Park, you can find off-grid plants.

**As journalists writing about renewable energy, what trends do you perceive in the sector?**

Unfortunately, our answer is stagnation due to lack of reliable law and loss of investors’ trust in stable RES market. Hopefully, it will only be temporary.

I would like to thank Ewa Malicka, member of the Management Board of TRMEW for invaluable assistance in preparing the statistics for the interview.

To learn more about the Polish Association for Small Hydropower Development, please, visit its website.

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**Member on the field**

**IT POWER: HONDURAS, LINKING INCOME-GENERATING ACTIVITIES AND MICRO ENTERPRISES WITH ENERGY SERVICES**

In 2007, the Government of Honduras was awarded a loan from the World Bank for the construction of at least two Micro Hydro Power (MHP) Stations. IT Power was selected to build these new facilities using a design previously tested. With an installed capacity of 63 kW and 86 kW (Las Champas and La Atravesada) respectively, they were expected to provide electricity to a total of 300
homes in six rural communities. The World Bank advised the design of the Honduran MHP projects to be based on the following fundamental principles:

- Use of electricity as a driver for socio-economic development
- Building of institutional and technical capacity of all participating stakeholders
- Monitoring and evaluation of the project, its implementation, and lessons-learned as seen from the perspective of the end-user

In designing the project in Honduras, several productive applications (by region) were identified and evaluated. Each of these applications was developed designed based on the socio-economic conditions of each community and the past energy needs or local businesses. In addition, a parallel project – the GAPFund – was created to complement and support the construction phase of these MHPs by increasing awareness among rural developers of the synergies between projected commercial activities, community development, new microenterprise initiatives and the level of energy services to be provided.

In close coordination with the communities and stakeholders, a methodology was developed for implementing income-generation activities and micro-finance models for productive applications that were supported by renewable energy projects. This methodology was then applied at the two MHP locations and its main components included:

- Analysis of local markets: availability of raw materials, access to markets, commercialisation, range of market, etc.
- Local market-based technological analysis
- Financial analysis
- Linking energy needs to financing and micro enterprise

One of the objectives of this project was the possibility of its replication. To support training activities in other communities in Honduras, a toolkit was developed to train instructors and to conduct advanced training programmes. Another document was prepared on the recommended mechanism for providing micro-financing services to the rural sector. The manual aims at increasing capacity building around the establishment and implementation of such financial services and it describes financial policies specific to the rural sector. It also identifies the human resources required, and explains how these should be structured to provide such services, as well as regulations, procedures, support forms, etc.

The methodology described in this manual could be adopted or customised by any micro-financing institution (MFI) that wants to provide a financial service in rural areas. Hence, the manual is also useful for capacity building of credit officials from an MFI.

**Activity Results**

The two best practice demonstration projects using renewable power from the MHPs were designed for income-generating applications. The enterprise developed for the “Las Champas” community and
its surroundings in the Municipality of Irione was for a select market of meat consumers. The population in this area was approximately 3,161 inhabitants, where most of the families consumed at least 1.5 pounds of meat a day.

The enterprise design for “La Atravesada” Coffee House included the purchase of beans, pulp removal and drying (in an organic manner), packaging and sales. The project, due to the level of coffee bean production in the area and the transformation of only 120,000 pounds of dry Pergamino coffee, would use electrical machinery for pulp removal, washing and drying. The set-up of the enterprise would make it easier for the partners to sell their product collectively and thus negotiate better prices.

In addition to the above, the following material was also developed in the local language (Spanish):

- Guidelines to evaluate the connection between rural energy services and income-generating activities, including information that helps final users, project developers and micro financing institutions to identify productive uses;
- A micro-credit model to promote and improve access to financing for income-generating activities resulting from usage of energy from MHPs in Honduras;
- A manual for business development advisory services for rural micro entrepreneurs in Honduras; this includes a catalogue of financial services for different types of financial and technical services provided as well as a comparison of different credit schemes;
- Training/capacity building events designed specifically for the two communities where the MHPs were installed, on MHP-based rural enterprises, along with training manuals for potential micro enterprises;
- A monitoring and evaluation programme with guidelines for policy makers and project implementers to understand the impact of productive activities associated with the electrification process (with an emphasis on the reduction of poverty and indicators related to the Millennium Development Goals).

To know more about IT Power, please visit the website.
ARE is proud to welcome its new members:

**AL EMADI SOLAR**
Country: Qatar
Website: www.alemadisolar.com

Al Emadi Solar is one of the most advance companies in renewable energy in Doha, Qatar. Their main target is to provide green energy and environment friendly solutions through state of the art solar powered technology. Al Emadi Solar also offers technical advice, design, engineering and installation from small to large PV systems.

**GLOBAL SUSTAINABLE ENERGY SOLUTIONS PTY. LTD.**
Country: Australia
Website: www.gses.com.au

Global Sustainable Energy Solutions Pty. Ltd. (GSES) leads Australia in renewable energy engineering, training and consultancy. They specialise in photovoltaic design, solar training, publications and PV system audits. GSES has a diverse portfolio, executing projects in Australia, New Zealand, Asia, Africa and the Pacific Islands for both government and private enterprise regarding renewable energy engineering, consultancy, design, audit and education.

**News from the Alliance**

ARE GENERAL ASSEMBLY INAUGURATED MARCUS WIEMANN AS NEW SECRETARY GENERAL
The annual **General Assembly of the Alliance for Rural Electrification**, the main Members’ event in ARE’s agenda, was celebrated on the 14th of February in Brussels (Belgium).

It was a crucial moment to define the future direction of ARE. This year, the Members did not just approve the Annual Report 2012 and the Strategy for 2013, but they also appointed Marcus Wiemann as the Alliance’s new Secretary General.

Mr. Wiemann also introduced members to a new strategic approach for the organisation that will result in a year-by-year focus on a particular region and technology. 2013/14 will raise Latin America and storage solutions as new topics.

As in the previous year, ARE made the meeting available online, in order to ensure the participation of those Members who were not able to attend it in person.

**Marcus Wiemann (41), a German economist with a wide experience in public and corporate affairs in the energy sector, joins the Alliance from the International Association of Oil and Gas Producers, where he was Director of European Affairs.**

For further information, please read the press release.
Ernesto Macías, President of ARE, represented the Alliance in the Abu Dhabi International Renewable Energy Conference (ADIREC), organised by the International Renewable Energy Agency (IRENA) and celebrated in the framework of the World Future Energy Summit 2013 on 15 – 17 January 2013.
Parallel to ADIREC, Ernesto Macías also attended IRENA General Assembly, on 13 – 14 January 2013.

NEW STAFF

As we have already mentioned, 2013 will be a year of changes for the Alliance. In addition to Marcus Wiemann as new Secretary General, we are very happy to announce that Luis-Carlos Miró Baz has renewed his contract and will stay with us as Policy Officer.

Furthermore, Alexandra Reis, Communications & Marketing Manager, will go on maternity leave from March to the end of July. We wish her all the best! Elena María Cantos Gómez, former Communications Assistant, will replace her during that period as Communications Officer.

ARE, NEW ASSOCIATE MEMBER OF THE ASIAN SOLAR ENERGY FORUM

The Alliance for Rural Electrification has become an Associate Member of the Asian Solar Energy Forum (ASEF).

ASEF, jointly organised by the Asian Development Bank (ADB) and United States Agency for International Development (USAID), is an essential platform for learning and exchange of experiences on key issues and latest developments in clean energy. Each year, clean energy stakeholders from different countries convene at the ADB Headquarters to network, discuss issues, exchange knowledge and do business.

This partnership will provide ARE Members with additional networking opportunities, as well as create great synergies in terms of content development and advocacy.
Today a large part of the world’s population is still living without electricity. Another significant part is daily living with a discontinued energy supply. Providing reliable and cost effective energy is
a big challenge to be resolved. The economic development and the social stability of the concerned countries are at stake.

With the drastic drop in solar module prices, PV has turned into a competitive energy source in comparison with the public grid in many emerging developing countries. In others, the public grid can only compete against PV by means of subsidies. As a result, the governments are paying instead of letting PV spread.

Until recent years solar systems with storage were merely used as a backup energy source to face power outages in areas where the public grid was accessible. However, it was a costly backup energy system, only available for companies and private households who could afford but a lack of power. Currently efficient off-grid energy solutions can be designed, combining a PV generator, a solar regulator, a battery bank and an inverter-charger able to manage the energy flow as per the situation and the needs.

One of the most important breakthroughs for use of solar energy has recently been attained: the curve of its price per kWh is now below the curve of the public grid in many countries and it will lower even further. Studer Innotec, specialists in independent power systems, are ready to take up the challenge by providing reliable, high performing products that maximize the use of self-produced solar energy.

A tailored energy solution
Studer Innotec offers a full range of hybrid inverters, the Xtender series, with dedicated features to give the self-produced energy priority over the public grid. The solar production is directly used (once the battery is full) and if the consumer needs exceed the solar production, additional energy is supplied either by the battery or by the grid.

The battery will also cover the consumer’s needs whenever blackout occurs, and it will be maintained or recharged by the solar production during the day. The system can also be programed in a way to have the battery recharged by the grid, when the utility grid is restored.

This kind of system provides a perfect energy management. It supplies independent reliable power, using in priority green energy, reducing CO2 emission, while increasing household energy autonomy. The system is designed to function on its own, although with local policy allowance, it can also feed energy surplus back to the grid.

The Xtender hybrid inverter, combined with the VarioTrack MPPT solar charge controller allows to tailor systems from 900VA up to 8kVA, with a range of products covering most household energy needs depending on available financial means.

For further information.
Installation of a 18kVA 3ph for backup with priority use of solar over the public grid, in Jakarta (Indonesia). Courtesy of Sundaya.
UPCOMING EVENTS

GETTING TO KNOW SMALL HYDROPOWER, 26 MARCH, BRUSSELS (BELGIUM)

The European Small Hydropower Association (ESHA) invites you to an informative dinner in the European Parliament on Tuesday 26th of March 2013 at 6:30 PM. It will be hosted by the Member of the European Parliament Sir Graham Watson. Registration and information on ESHA’s website.

EU SUSTAINABLE ENERGY WEEK 2013, 24 – 28 JUNE

Whether you are a public authority, an energy agency, a private company, an NGO or an industry association, the EU Sustainable Energy Week (EUSEW) is the right platform to share your expertise, raise awareness and showcase your successful experiences and projects in the field of sustainable energy. Launched by the European Commission in 2006, EUSEW showcases activities dedicated to energy efficiency and renewable energy solutions, and is designed to spread best practices, inspire new ideas and build alliances to help meet the EU’s energy and climate goals. To learn more, please, visit EUSEW’s website.

CLEAN POWER AFRICA 2013, 14 – 15 MAY, CAPE TOWN (SOUTH AFRICA)

Previously known as Hydropower Africa and Solar Energy Africa, which have successfully been running for over six years, Clean Power Africa 2013 will give you an exclusive look at hydro, wind and solar projects and opportunities across the African continent. By co-locating the event with the 13th
African Utility Week, a global and market leading event that delivers over 80 African Utilities and provides unprecedented access to every emerging market in Africa, we further strengthen our position in the market to deliver an event that presents the full spectrum of the African clean power industry. Further information on this link.

3RD SYMPOSIUM: SMALL PV APPLICATIONS - RURAL ELECTRIFICATION AND COMMERCIAL USE, 17 – 18 JUNE, ULM (GERMANY)

This Symposium is an official Intersolar Europe Conference Side-Event, and it will focus on the description of existing markets and state of art technology, good and of bad examples of systems and distribution strategies, as well as the development of a vision for small PV-applications, their technologies and markets. You can find more information here.

1ST LUSOPHONY ENERGY EXPO & CONFERENCE, 6 – 8 JUNE, CASCAIS (PORTUGAL)

The 1st Lusophony Energy Conference & Exhibition, organised by the Portuguese newspaper Agua&Ambiente, will present the Portuguese-speaking world as an intercontinental platform for business in the energy sector. For further information, please visit this link.

RECENT PUBLICATIONS AND STUDIES

THE HYDROPOWER SUSTAINABLE ASSESMENT PROTOCOL
The **Hydropower Sustainability Assessment Protocol** is an enhanced sustainability assessment tool used to measure and guide performance in the hydropower sector.

The Protocol assesses four main stages of hydropower development: early stage, preparation, implementation and operation. Assessments rely on objective evidence to create a sustainability profile against some 20 topics depending on the relevant stage, covering all aspects of sustainability. Download full documents here.

**ELECTRICITY IN A CLIMATE-CONSTRAINED WORLD**

After a historic drop in 2009, electricity generation reached a record high in 2010 This shows the close linkage between economic growth and electricity usage. Unfortunately, CO2 emissions from electricity have also resumed their growth: Electricity remains the largest source of CO2 emissions from energy, with 11.7 billion tonnes of CO2 released in 2010. The imperative to “decarbonise” electricity and to improve end-use efficiency remains essential to the global fight against climate change.

Available now on the [IEA Online Bookshop](#).