ANSOLE e-Magazine 1/2015

Dear ANSOLERs, Friends, and Network Partners,

At the end of 2014, we were planning to publish 3 issues of ANSOLE e-Magazine in 2015. We could not meet that goal. However, we are happy to present you this sole issue of 2015, hoping that you will enjoy reading the various contributions and will be motivated to contribute yourself to the next issues by submitting to editorial@ansole.org event reports, renewable energy related articles, announcements, life experiences, stories, etc. We adopted the appellation "ANSOLE e-Magazine" to enable you express yourself in various possible ways. In this era of Sustainable Development Goals (SDGs) and sustainable energy for all (SE4ALL), and especially taking into account the signed agreement at COP21 in Paris this year, we are all called to develop a *SDGs and COP21 mindset*. Your educative articles related to these issues will be highly appreciated.

Let the year 2016 be a turning point in your life: Why not start doing sport to keep yourself healthy and you and your environment happy!: I just learned of recent that regular dancing is the best way to prevent Alzheimer disease (dementia). Why not start dancing?...



I wish all of us a happy, peaceful and successful New Year 2016!

Stay blessed,



Daniel A. M. Egbe

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Publishing date: 29.02.2016

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Endorsed Events

22-23 January 2016, Universidade do Algarve, Faro-Portugal: CONSOLFOOD 2016-International Conference on Advances in Solar Thermal Food Processing

3 – 6 February 2016, Zewail City of Science and Technology, 6th of October City, Cairo, Egypt: 5th Anniversary of ANSOLE (2011-2016): International Conference on Renewable Energy (INCORE 2016)

8 – 10 March 2016, University of Tlemcen, Algeria: Africa-EU Symposium on Renewable Energy Research and Innovation 2016

21 – 24 June 2016, O2 Continental Hotel, London, 18th Annual Africa Energy Forum (www.africa-energy-forum.com)

18-22 July 2016, Hotel Sofitel Mauritius Impérial Resort & Spa, Mauritius: The International Conference on Pure and Applied Chemistry (ICPAC 2016)

11-13 December 2016, NM-AIST, Arusha, Tanzania: Launching of BALEWARE

Please, check the ANSOLE events calendar on www.ansole .org!!

About ANSOLE:

The network promotes research, education and training in the field of solar energy among Africans as well as non-Africans with a special focus on - and relationships with - Africa.
As outlined in its by-laws, ANSOLE supports non-profit activities in the field of development aid and cultural exchange with the aim of strengthening the dialogue between the North and African countries (north-south) and among African countries (south-south) on renewable energy.
It endorses the use of solar energy to the benefit of the social and economic development of Africa as well as environmental protection through:

- Education and training of African scientists, experts and students
- Exchange of students and visiting scientists
- Workshops, conferences and meetings in Africa
- Organising and implementing projects and programmes on renewable energy
- Promoting capacity building in the use of renewable energy in Africa for all

ANSOLE members and those acting in the name of ANSOLE accept and act in accordance with the association's by-laws.
Mention of conferences, companies, or products in this document does not automatically constitute an endorsement.

Donations to:
ANSOLE e.V: Bank: Sparkasse Jena,
IBAN: DE52830530300018025668,
BIC: HELADEF1JEN
ANSOLE e.V.: Register of Associations at the Local Court Jena N°: VR 231505

Publishing information

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ANSOLE Report 2015

by Daniel A. M. Egbe

Brief summary about 2014

2014 was a great turning point for ANSOLE with the launching of this means of information dissemination, which was possible thanks to Dr. Bettina Schmidt, ANSOLE e.V board member. This has helped us do a steadfast documentation of ANSOLE´s activities from its creation till date.

Through capacity building and network activities, the number of personal members increased in 2014 to above 670 located in 39 African countries and 23 non-African countries. 80 of them were recorded to have contributed at least once the yearly membership fee. From one institutional member by the end of 2013 (International Science Programme of the University of Uppsala, Sweden) ANSOLE gained 4 new members in 2014 (DSTC Training Centre Accra Ghana, BioTherm Energy South Africa, FOM Technologies Denmark, Next Energy Oldenburg Germany)

The activities in 2014 can be summarized as follows:

4 PhD students were financially supported, 3 of them through ICTP funding and 1 through ANSOLE e.V.. 9 students (African and non-African) were mediated to research institutions in Europe and Africa. The first student using the ANEX program with own funding, Ms Safae Aazou from the University of El Jadida Morocco defended her PhD on the 21st of May 2014.

The activities of ANSOLE were presented at the following events:

1. L´Atelier International Sur Les Énergies Renouvelables Et L´Efficacité Énergetiques, 19-20 Mars 2014, Université de Fès, Fes, Morocco
2. Sub-Saharan Africa Solar Conference, 23-24. April 2014, Golden Tulip Hotel, Accra, Ghana
3. ANSOLE Regional Meeting in West Africa (ARMWA 2014), 25-26. April 2014, KNUST, Kumasi, Ghana
4. MoU Signing Ceremony, Nelson Mandela African Institution of Science and Technology, Arusha, Tanzania, 25. August 2014
5. Karl Kübel Stiftung -Seminar: Kritik an EZ-Wer entwickelt eigentlich Wen und Wohin?, Frankfurt Germany, 12-13.09.2014
6. World Science Day for Peace and Development, University of Central Lancashire, Westlakes, West Cumbria, England, 10. November 2014
7. All African Nanoscience and Nanotechnology Initiative (AANNI) Workshop, 19-21 November 2014, University of Western Cape, Western Cape, South Africa/

2015

In addition to the Intra-African Exchange (INEX) and the Africa-North Exchange (ANEX) fellowships, 2015 started with the launching of a third type of fellowship, the ANSOLE “Sur-Place” (ANSUP) fellowship, which supports the recipients at their respective home universities. After the selection procedure based on points system the 6 fellowship selection committee members and the coordinator granted bursaries to the students listed in the following Table:

Name/Gender	Nationality	Home institution	Host institution	Type of fellowship	Duration	Research focus
Vivian Suru John/female	Nigerian	UWC, Western Cape, South Africa	JKU,Linz, Austria	ANEX (PhD)	5 months	Materials synthesis for OPV
Alain Kossoun Tossa /male	Beninese	2iE, Ouagadougou Burkina Faso		ANSUP (PhD)	1 year (renewable)	Comparative study of PV technologies in West Africa
Mohamed Izzedine Serge Adjibade/male	Beninese	Cheikh Anta Diop University, Dakar Senegal		ANSUP (PhD)	1 year (renewable)	Valuation of cow dung into biogas for electricity production
Araba Amo-Aidoo/female	Ghanaian	KNUST, Kumasi Ghana		ANSUP (Masters)	1 year	Comparative analysis of solar thermal and solar PV cooking systems
Mariem Guesmi/ female	Tunisian	University of Elmanar Tunis, Tunisia	JKU Linz, Austria	ANEX (PhD)	3 months	Role of inter and intramolecular interactions on OPV polymers
Moudarinan Aimadji/male	Chadian	University Hassan II in Casablanca, Morocco		ANSUP	1 year (renewable)	



ICTP-ANSOLE and ANSOLE e.V. fellows in 2015: From left to right: Ms Vivian Suru John, Mr Alain Koussoun Tossa, Mr. Mohamed Izzedine Serge Adjibade, Ms Araba Amo-Aidoo, Ms Mariem Guesmi and Mr Moudarinan Aimadji

April 2015

On Saturday the 11th of April, our very first ICTP-ANSOLE INEX fellow Duvalier PENE wedded his then fiancée Nadège KENGNE in Bafoussam, Cameroon. I was invited by Duvalier to be the “parain du marié” for the church wedding, while Mrs Sylvie KUISSU was the “marraine de la mariée”

The day started with the signing of the marriage certificate at the *Centre d'Etat Civil de DZE 2* , Kena”. Witnesses were Mr Salomon FONKOUE for the bride and Professor Jules Roger FEUDJO for the bridegroom. The religious ceremony, officiated by Pasteur Étienne

NGUIMGO, began at 2 pm at *l'Église Évangélique du Cameroun, Paroisse de Tamdja* in Bafoussam and ended around 4.30 pm. The couple was blessed few months later by the birth of their first daughter, Rosine Sakelle PENE MAGUEMDJEU, who saw the light of this World on the 15th of July 2015 at the General Hospital of Yaounde.



Left): Blessing of the marriage of Nadège and Duvalier PENE by Pasteur Étienne NGUIMGO at l'Église Évangélique du Cameroun, Paroisse de Tamdja, Bafoussam *Middle): "High Table" at the wedding party in a restaurant in Bafoussam Right): Ms Rosine Sakelle PENE MAGUEMDJEU born on the 15.07.2015*

To attend the marriage ceremony, I flew with Turkish Airlines in the morning of the 9th of April through Istanbul to Douala, the largest city of Cameroon, where I landed around midnight, and continued my journey to Bafoussam very early in the morning of the 10th boarding a minivan. As the "*parain du marié*", I was expected to have a tête-à-tête with the officiating pastor at 4pm of the 10th, together with the" maraine de la mariée" and the couple. I was traveling for the first time to the city of Bafoussam. I enjoyed the vegetation sceneries and the landscapes along the way. It is worth visiting Cameroon, which is known as Africa in miniature and is representative of the pandemic corruption situation particular to most African countries.

We had a series of police controls on our way and the driver had to pay his way through each time. In one situation, the passengers were asked to identify themselves. A gentleman of around 35-40 years old showed his Cameroonian passport as identification document, which was rejected by the police constable. He insisted to see the national ID card, although the young man tried in vain to explain to him that a passport is a legal identification document not only for travelling abroad but also for identification within the country and that the same information is found on both ID card and passport. The officer asked all the passengers to leave the vehicle and walk around 100 m away. The driver, the young man and police officer stayed and "negociated" the price to buy our way from this situation. Our journey continued around 30 minutes later.

Later on in the car, the passengers started debating whether the young man was right to identify himself with his passport or not. Two ladies were of the opinion that he showed his passport out of pride. He wanted to show to all that he was about to travel abroad or that he was coming from abroad…It became very loud in the minivan, some passengers supporting the statements of the two ladies and others against. As such we could entertain ourselves until we arrived 6 hours later in Bafoussam.

On the 12th of April, I left Bafoussam with a transportation bus to Yaounde, the capital city of Cameroon. I was invited by Prof. George Elambo Nkeng, the director of National Advanced School of Public Works (ENSTP), to give three days lecture (13-15. April) to Masters

students on renewable energy (RE). The RE Masters program is a joint study program between ENSTP Yaounde and the University of Padua in Italy.





Lecturing Masters students on Renewable Energy at National Advanced School of Public Works (13-15 April 2015)

While in Yaounde, I went on air through two widely listened radio broadcasts of the Cameroon Radio and Television (CRTV), *Morning Safari* (English program) and *Crtv m´ accompagne* (French program). In addition, I had an interview for an economic program, which was broadcasted at a later time. In all these programs, the activities of ANSOLE were presented, public awareness was raised on the use of solar energy as electricity source to address the electric needs of Cameroon. Environmental protection issues were also thematized.





With journalists at the CRTV national radio station in Yaoundé doing live broadcast (left) or giving interview (right)

While in Yaounde, I received the following email from Ms Maryam Abdi, a young US American performing arts student from the University of Evansville, which filled me with great joy: It documents the fruit of ANSOLE mediating effort. Ms Abdi had contacted me almost two years ago expressing the wish to get in contact with Dr Emelda Samba Ngufor, senior lecturer at the University of Yaounde I and author of the ANSOLE theater piece" *No Bills with the Sun*" performed during ANSOLE DAYS 2012. I put both ladies in contact, which opened way for application and award of a Fulbright fellowship. Ms Abdi is presently in Yaounde. Please read below her contribution to this issue in which she presents her first impressions after arriving in Yaounde.

Betreff **good news**
Von Maryam Abdi <maryamabdi23@gmail.com>
An daniel.egbe@ansole.org <daniel.egbe@ansole.org>
Datum 2015-04-14 14:47

Daniel,

I got the Fulbright! I found out just a few hours after talking to you yesterday! I cannot thank you enough for putting me in contact with Emelda and all the help you have provided me with thus far. I remember you asking me to write for ANSOLE's news letter; would you rather have it now or once I am in Cameroon with more to discuss? Again, so grateful. Thank you!

All the best,

Maryam

--
Maryam Abdi
University of Evansville
Theatre Performance, French

Email of thanks from Ms Maryam Abdi

Another highlight in April was the presentation of ANSOLE activities at the 21st Solar Cookers Conference in Altötting (25-26 April 2015). The event was attended by Professor Celestino Cuivo of the University of Faro in Portugal, an enthusiast of solar cooking, who decided to join ANSOLE and represent the network in his country.



From Left to right: "Solar Chef", Prof. Celestino Ruivo of the University of Faro in Portugal with his self-developed solar cooker, parabolic solar cooker produced by EG Solar e.V. Altötting, and high efficient wood saving stoves exposed during the 21st Solar Cookers Conference in Altötting, Germany.

Among the various lectures held during the conference, I was very impressed by the presentation of Ms Regula Ochsner, CEO of the Swiss-based *Association pour le Dévelopement de l Energie Solaire* (ADES) (www.adesolaire.org). ADES has succeeded to disseminate the use of solar cookers and wood saving stoves in Madagascar through nationwide training and education, job provision, women empowerment, and strong public awareness using TV spots, twice weekly radio broadcast, distribution of information materials in form of cartoons in French and the local popular language. More than 100 000 households are now using environment-friendly cooking technologies. The ADES approach can serve as a role model to be implemented in other regions of Africa such as East Africa, where a high consumption of charcoal for cooking accelerates the deforestation of large surface areas with devastating negative environmental effects.





Right) Ms Regula Ochsner, CEO of ADES and Daniel Egbe during the 21st Solar Cookers Conference Left) Powerpoint slide showing environment-friendly cooking technologies provided by ADES in Madagascar

May 2015

From the 3rd to the 5th of May ANSOLE organized together with the University of Bord Bou Arreridj (BBA), Algeria, the First International Conference on Solar Energy (INCOSOLE 2015). This in line with our policy of bringing international events close to African scientists. This particular event proved ANSOLE right: A large number of young Algerian scientists (more than 300) registered to INCOSOLE despite the very short time of less than 6 months from inception (end of December 2014) to realization (Beginning of May 2015). Due to this positive resonance, INCOSOLE will become a conference series to be held every two years in different Algerian towns. The report of Dr Zahir Rouabah, chairperson of INCOSOLE 2015 provides further details about the event. He has been appointed the ANSOLE national representative (ANR) in Algeria. On my way back to Europe I got stranded in Algiers many hours before my flight because I traveled earlier to Algiers expecting to meet and spend time with one ANSOLE member with whom I had an appointment. The person neither showed up at the appointed venue nor reacted to my phone calls when I got to Algiers… In my despair, I called Mr Abdelkrim Merah, an ANSOLE member originating from Bejaia, who, as I later discovered, lives close to Algiers´ airport. He is Berber and his wife is Arab. The couple has two children. He immediately came and took me to his apartment, where I experienced a mixed Berber-Arab hospitality of the superlative!





Left) Handing over appointment letter to Dr Zahir Rouabah as ANSOLE national representative in Algeria during INCOSOLE 2015. Right) Together with the family of Mr Abdelkrim Merah on the 7th of May 2015 few hours before my flight to Francfort.

20th of May 2015 was my 49th birthday. The morning period of that day was spent presenting the activities of ANSOLE to Masters students on Renewable Energy Design and Architecture at the University of Applied Sciences of Erfurt (FHE). This was possible through invitation of Professor Kerstin Wydra and Professor Gerhard Meyer, both ANSOLE members. Most of the these students attended International Summer School on Renewable Energy for Africa and ANSOLE DAYS 2015 in July in Arusha, Tanzania (read below). Prof. Kerstin was very instrumental for the realization of the Summer School. I am grateful to her for that.



Participants at my lecture on ANSOLE activities at the University of Applied Sciences of Erfurt, Germany, during my birthday, on the 20th of May 2015.

On the 23rd of May 2015, I attended the PhD defense of Ms Shaimaa Ali Mohamed Ahmed. That was an important milestone for ANSOLE, because Ms Shaimaa is the first person, who had used the ICTP-ANSOLE ANEX fellowship program to complete her doctoral thesis.

On the 24th of May, I was invited by Prof Salah Obbaya, co-supervisor of Ms Shaimaa and Vice-Chairman of Zewail City (ZC) of Science and Technology to visit and give a lecture at ZC where Dr Shaimaa presently works. ZC is located at 6th of October City, a neighborhood of Cairo. Prof. Obbaya and I decided to honor Dr. Shaimaa´s completion of PhD by organizing the 5th anniversary celebration of ANSOLE in Egypt in the form of an International Conference on Renewable Energy (INCORE 2016) from the 3rd to 6th of February 2016. Sharm El Sheikh was first selected as the venue of the event, but was later dropped in favor of ZC after the Russian plane crash in October 2015…

On the 24th in the evening, Dr Shaimaa, her local PhD supervisor, Prof Mabrouk El Mansy, of Benha University, and his wife offered me a dinner in a boat cruising the Nile to celebrate my 49th birthday! I am very grateful to them for that gesture. I am sure that those attending INCORE 2016 will have the chance to do such a Nile boat cruise offering a buffet, live music, belly dance, etc. …





Left) PhD defense of Ms Shaimaa Ali Mohamed on the 23rd of May 2015 at the Faculty of Sciences of Benha University. Middle) During my visit at the Zewail City of Science on the 24th of May 2015. From left to right: Prof Salah Obbaya, Dr Shaimaa Mohamed, me, Prof Mabrouk El Mansy and his wife. Right) My 49th birthday celebration during a Nile boat cruise on the 24th of May 2015

My first journey to South America, precisely to Curitiba Brazil was done towards the end of May from the 27th to the 31st. I was invited to attend and present the activities of ANSOLE at a two days Workshop on International Euro-Latin American Cooperation on Nanotechnology for Water and Energy, at the Parana University, Curitiba, Brazil, which was held from the 28th to the 29th of May. The event was organised by the NMP-DeLA Project (www.nmp-dela.eu).

The second day of the workshop was dedicated to topics on water. Prof. Maria Teresa Alarcon Herrera, of the Centro de Investigacion en Materiales Avanzados (CIMAV), Durango, Mexico lectured on *Nanomaterials and Drinking Water Treatment Technologies: Opportunities and Challenges.* The discussions which followed her presentation revealed that problems related to water are common to Latin America and Africa and that there is a necessity to create a scientific platform of exchange between Latin America, Africa and Europe to address these problems. The same discussions continued during the workshop dinner in an Italian restaurant where I could order a pasta dish called “Skalope à Daniel”. Dr Ineke Malsch, ANSOLE national representative in Netherlands, myself and others agreed to name the platform BALEWARE (Bridging Africa, Latin America and Europe on Water and Renewable Energies Applications-w) (ww.baleware.org). This platform will be officially launched between the 11th and the 13th of December 2016 at the Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha, Tanzania. More about the Curitiba event can be read in the report of Dr Ineke Malsch.



Prof. Maria Teresa Alarcon Herrera, CIMAV, Durango, Mexico lecturing on Nanomaterials and Drinking Water Treatment Technologies: Opportunities and Challenges. Her lecture led to the initiation of BALEWARE (www.baleware.org)

June 2015

With contribution from Dr. Daniel Yamegueu, 2iE, Burkina Faso

From the 25th to the 27th of June I attended the 2nd edition of the International Conference on Solar Energy in Africa (Africasolar 2015), on the theme " The African Solar Market: Strength and Weaknesses" organized by the International Institute of Water and Environmental Sciences (2iE), Ouagadougou, Burkina Faso. The event was held at the Banquets Hall, Ouaga 2000 in Ouagadougou. It was attended by high ranking government representatives of some West African countries, among them the energy ministers of Burkina Faso and of Niger. I was privileged to give the inaugural lecture on *Electrical Energy Solutions for Africa: Need for Appropriate and Adaptable Solar Technologies*. Following is the general summary of the event as provided Dr. Daniel Yamegueu, chairman of the event, who accepted to become the ANR in Burkina Faso:

Key numbers:
-Number of attendees: around **300**
-Number of represented countries: **22**
-Number of oral communications: **40**
-Number of exhibition stands: **15**
-Thematic Sessions: **7**
-Panel discussions: **3**

Thematic session 1: Solar and access to energy services

Africa remains the continent who has the lowest rate of access to energy services; only 43% of people has access to electricity with only 13% in rural areas. Solar Energy can help to resolve this situation:
-The grid-tied PV systems will not solve the problems, but can help to reduce the dependence on fossil fuels, which is very disabling for African economies; it also contributes

to the reduction of the emission of greenhouse gases. Contrary to what some people think, the PV power grid injection is very useful (for the grid).
-The standards in different African countries should strongly take inspiration from the international standards, but should reflect the technological realities of the African context;
-Need to train professionals (technicians and engineers) of solar energy able to impact population on the ownership of solar technologies (human capacity);
-Need to develop qualification and certification processes of solar engineering companies; avoid flooding the market with non-certified equipments and hazardous installations



The Burkinabe Minister of Energy and his colleague from Niger visiting exhibition stands during Africasolar 2015

Thematic session 2: Production of electricity and heat
-Studies show that solar technologies are now becoming competitive compare to fossil fuels;
-It is very urgent to promote the vulgarization of "simple" solar technologies such as: solar heaters, solar cookers, solar stills, solar PV pumping, etc;
-One of the great solar technologies remains the concentrating solar technologies (CSP), whose development is still embryonic in Africa;
- An optimization of energy consumption goes through sustained development of new construction technologies and architectures (green building)

Thematic session 3: Energy storage and economic advantages for Africa
-The problem of intermittency of renewable energies can be solved by different storage technologies suitable for the different applications (water supply, heat reserve, storage for electrical conversion, etc.);
-Storage in electrical systems is a key issue that requires considerable efforts in research and development;
-Hybrid systems are a good technology solution for a better integration of local energy resources.

Thematic session 4: Solar and energy efficiency

-The evolution of the global market for PV modules depends especially on technological breakthroughs observed in research activities (increasing efficiency), supply and demand and also on policy options;

- Energy efficiency together with renewable energies are now essential to sustainably meet the energy demands of humanity;

-Solar energy and energy efficiency constitute a real opportunity for youth employment; the “Human Energy" approach introduced in Tunisia is an example;

-The national companies of electricity should be more involved in the development and implementation of renewable energy policies, particularly solar energy.





Inaugural lecture by Daniel A. M. Egbe (left) and final remarks by Daniel Yamegueu (right)

Thematic session 5: Role of policies and finances for the development of the solar sector

-The development of renewable energies, in particular solar energy, goes through political commitments (adoption of regulatory frameworks and incentives) and personal commitments, including solar actors who are to set an example and raise up the desire;

-The support of solar companies by various national, sub-regional and international organizations (ECREEE, IRENA, etc.) must be amplified and consolidated for greater stimulation of the solar market in Africa;

-The different national solar associations, in order to make them more dynamic, must get set more in network and learn about the evolution of the "solar ecology" (business environment, social environment, technological, etc.)

3 panel discussions

-Solar industry contribution in job creation

-The role of education and capacity building in the development of the solar sector

-Contribution of solar energy in reducing households and small enterprises electricity bills

Conclusions
It appears a real need to:
-A more active networking of south-south competencies both in fields of research, business, and education;
-In other words, this will concern a better capitalization of the experiences of each other; create and / or harmonize legislative and regulatory frameworks;
-Develop assessment tools for policies undertaken and real indicators of progress in the field of solar energy

July 2015

The month of July was marked by the organization of ANSOLE DAYS 2015 together with VW-Stiftung sponsored international summer school on renewable energy for Africa (RE-Africa) during the Nelson Mandela Week (13-18.07 2015) at the NM-AIST, Arusha, Tanzania. Both events, attended by 79 participants from more than 20 countries, consisted of lectures, poster presentations and site visits at MOBISOL (read the report of Ms Upendo) and a biogas infrastructure at a banana alcoholic beverage producing company, both located in Arusha.

The summer school was coordinated by Prof. Kerstin Wydra of Erfurt University of Applied Sciences, while the local organizer of ANSOLE DAYS 2015 was Dr Askwar Hilonga, ANSOLE member at NM-AIST and the 2015 winner of the Africa Prize for Engineering Innovation



Participants ANSOLE DAYS 2015 and VW-Stiftung sponsored summer school on renewable energy for Africa (RE-Africa)

For the selection of the best posters, the presenters were asked to make a 2-to 3 min presentation highlighting the important results of their posters to all participants and to the 4 selection jury members. Dr Shaimaa Ali Mohamed Ahmed (Egypt) and Ms Rosa Chilundo (Mozambique) received on equal basis the best poster prize, which was donated by Prof. Gerhard Meyer and myself on behalf of ANSOLE during the conference dinner. The conference dinner was the opportunity for I, as the coordinator of ANSOLE and initiator of RE-Africa to offer gifts of thanks to all those who actively contributed for the realization of the both events.

On the 15th of July, my family officially moved to our new house at the Ebertstr 14, 07743 Jena, Germany, which is in also the legal address of ANSOLE e.V.

August-September 2015

The month of August was the start of the preparations of events for coming years.

On 13-14 August, the Regional Office in Africa of the International Council of Science (www.icsu.org/africa) organized the first physical meeting of the African Future Earth Committee (AFEC). Of the 5 sub-regional representative of AFEC selected during this meeting, 3 of them are ANSOLE members, which makes us very proud, and demonstrates the importance to be organized in a network like ours.

- Prof .Cesar Kapseu from Ngaoundéré University in Ngaoundéré, Cameroon (Central Africa) (ANSOLE member)
- Prof. Chrispine Kowenje from Maseno University in Maseno, Kenya (East Africa) (ANSOLE member)
- Prof. Izeddine Zorkani from University Sidi Mohamed Ben Abdellah, Morocco (North Africa) (ANSOLE member)
- Dr. Rungano Karimanzira from the Ministry of Higher and Tertiary Education, Science and Technology in Harare, Zimbabwe (Southern Africa)
- Prof. Michel Codjo Boko from Université d'Abomey-Calavi, Benin (West Africa)

From the 25th to the 29th of August, Dr Arouna Darga, assistant professor at the University of Pierre et Marie Curie in France, visited me in Linz. He is a French citizen of Burkinabe origin. We met for the first time in Ouagadougou during the Africasolar 2015 event. He joined ANSOLE thereafter and became the ANR in France. He also volunteered to design and administer the BALEWARE.org and ANSOLE.com websites, which was the purpose of his visit to Linz. ANSOLE.com will have contents in French, to respond to the request of some of our French-speaking members. Thanks to Dr Darga, baleware.org went online at the beginning of September 2015.

On the 13th of September, my wife Dr Anne Egbe and I arrived in Tel Aviv Israel, few hours before Rosh Hashana, the Jewish New Year celebration marking the beginning of the year 5776. It was a wonderful experience for us: Although businesses were closed for the holidays, we were lucky to have a 24 hours open grocery two buildings away from our hotel, 130 Rock Appartment at the Dizengoff street, which I highly recommend to those visiting Tel Aviv, As such, we were able to purchase the necessary items for celebrate a “sweet” New Year 5776 at the rooftop of the hotel…

On the 16th of September, I responded positively to the invitation of Dr Yoel Rothschild, to visit and present ANSOLE at ORT (www.ort.org.il), Israel´s leading science and technology educational network, operating more than 200 schools, colleges and vocational training centres all over Israel. There, I was introduced to Dr. Eli Eisenberg, Senior Deputy Director General, Head of Administration for R&D and Training, who had spent some years in South Africa and was closely working with the late Nelson Mandela. Dr. Eisenberg loves the African continent and is willing to contribute to the development of its human capacity. We agreed to sign a memorandum of understanding between ANSOLE and ORT in the nearest future in order to conduct joint-projects in the area of e-learning.

Before travelling to the Dead Sea (En Gedi) on the 17th of September to celebrate 40th birthday of my wife, I visited and held a lecture in the group of Prof Yael Hanein at the Center of Nanoscience and Nanotechnology of the Tel Aviv University (www.tau.ac.il). Her present

main research interest is artificial retinal, whereby the use of semiconducting photoactive organic materials may play a major role.



16.09.2015, Tel Aviv, Israel: Presenting the activities of ANSOLE at ORT, Israel leading science and technology educational network.

On the 25th of September, Dr Claude Vidal Aloyem Kazé was appointed ANSOLE national representative (ANR) in Cameroon and Ms Rosa Jacob Chilundo, ANR in Mozambique.

October –December 2015

As ANSOLE coordinator, I was invited by the executive secretary of the Inter-University Council for East Africa (www.iucea.org) to participate in the selection process of Eastern and Southern African Centers of Excellence (ACE II). ACE I (for Western and Central Africa) and ACE II are funded by the World Bank Group for 4 years. On-desk evaluation of submitted proposals from Rwanda, Kenya, Ethiopia, Uganda, Zambia, Zimbabwe, Tanzania, Malawi, Mozambique and Burundi took place in Cape Town, South Africa from the 12th to 16th of October 2015.

Somalia became the 42nd African country with an ANSOLE representation through the institutional membership of the Somalia-based Solar Energy Consulting and Construction Company(www.seccco.net/). Its projects coordinator, Mr Abdirahman Adan, was appointed ANR in Somalia on the 17th of December 2015.

"Use the sunshine to lighten up your world"

SOLAR ENERGY CONSULTING AND CONSTRUCTION COMPANY (SECCCO)

From the 19th to the 21st of October, I and few other ANSOLE members attended the BMBF-PAUWES kick-off workshop for the development of the PAUWES research agenda, in Tlemcen, Algeria.



Participants at the BMBF-PAUWES Workshop, 19-21.10. 2015, Tlemcen, Algeria.

The on-site evaluation of ACE II projects was from the 9th to the 20th of November 2015. This led to the conditionally selection of 23 centers, the list of which can be downloaded here: http://ace2.iucea.org/index.php/announcement

During my stay in Kisumu, I gave an interview to BBC, which was published in December 30th under the title:

"*Should we solar panel the Sahara desert?*" .

The interview can be read here:

http://www.bbc.com/news/science-environment-34987467



During one on-site evaluation of an ACE II project in Kenya

On the 21st November 2015, I was invited to lecture on „Networking“ during a weekend seminar financed by The German Ministry of International Cooperation (BMZ) and carried out by the World University Service (WUS) e.V (I am a board member of WUS). The audience was made up of international graduate students (Masters and PhDs) from Africa, Latin America and Asia, who are planning to return to their home countries and are supposed to become future leaders. During the *interactive lecture,* it clearly came out that, in this era of „*Sustainable Development Goals (SDGs)“* and „*Sustainable Energy for All (SE4ALL)“* as promoted by the United Nations (UN), 21st century leaders are expected to adopt a *SDGs mind-set* and be equipped with *SDGs skills,* irrespective of their field of expertise. For instance, each individual and, first and foremost, leaders should acquire knowledge and develop a mind-set on sustainable, environment-friendly and efficient use of the available energy resources. Please go to the following website to learn more about the 17 SDGs:

http://www.un.org/sustainabledevelopment/sustainable-development-goals/



ANSOLE e.V. general assembly was held on the 28th of November at the Ebertstr 14 in Jena witnessing the attendance of 12 members, among them Dr. Getachew Adam from Ethiopia, one of the co-founders of ANSOLE, who recently moved with his family in Jena for a postdoc position. Participants coming from outside Jena were Nigeria-born Ms Agatha Christy, based in Essen and working with the German energy giant E.ON, Mr Herman Merk, a retired sailor living in Linden, who during his active sailor life, had been to all West African seaport cities, and is now putting alot of efforts to promote renewable energies in Africa, and Prof. Gerhard Meier, a Brazilian of German origin, who lives with his Brazilian wife and daughter in Karlsruhe but lectures architecture at the Erfurt University of Applied Sciences (FHE).

As From 11th to the 12th of December, I took part to the first scientific council of ESMER (Ecole Supérieure des Metiers des Energies Renouvelables) (www.esmer.org), in Cotonou, Republic of Benin, the first private higher education institution on renewable energies in West Africa. The scientific council is chaired by Prof Yao Azoumah, an early hour ANSOLE member from Burkina Faso but of Togolese nationality. This first meeting aimed at validating the organigram and curricula of the institution. The institution offers Bachelor and Masters programs.



Participants at the official inauguration of the scientific council of ESMER on the 11.12.2015

Local TV reports on the event can be seen here:

https://drive.google.com/file/d/0B070IWuN3JEBRTRjT0VhcVNDb1E/view

https://drive.google.com/file/d/0B070IWuN3JEBR0EtNDFzUjNUQms/view?usp=sharing

ANSOLE ended 2015 having morethan 820 personal and 6 institutional members found in 42 African countries and 26 non-African countries. 40 members paid their yearly membership due in 2015. The last person to join ANSOLE this year (on the 30.12.2015) is Dr Ashraf Bocktor from Luxembourg. He works as project and programme manager at Enovos Luxembourg S. A. In his membership application he wrote the following:

„*I work in the operations development departement of the main power and gas supplier in Luxembourg. One of my duties in 2016 is to work with the renewables (biogas, wind and solar) department to develop and implement a technical risk management framework for the renewable portfolio.*
Given my personal background as an African living abroad and my academic background (studied Physics at Cambridge as well as the ICTP), I am keen to know more about ANSOLE for some future involvements. Therefore, I would like to start as a normal member"

Acknowledgements: I want to end my report by thanking all those who have been voluntarily supporting ANSOLE without expecting any praise or remuneration in return. The list of those people is long, I can only mention a few here: Narcisse Ngada (faithfully taking care of ansole.org website since 2011), Nadja Aichinger and Sarah Gusner (supporting me in the fellowship programs), the fellowship selection committee members (Prof Amel Romdhane, Prof. Yao Azoumah, Ms Paula Rodriguez, Dr. Lydia Rhyman, Dr Sebastian Waita and Prof. Abdelfettah Barhdadi), Dr Anne Egbe (taking care of the finances of ANSOLE e.V.). Dr Arouna Darga (in charge of baleware.org website), Prof. Michael Düren and Prof. Dieter Meissner (who are very supportive in the organization of future events) Dr Zahir Rouabah & Dr Shaimaa Ali Mohamed (Organisation of INCOSOLE 2015 and INCORE 2016), Dr Claude Vidal Aloyem Kazé (for strongly promoting ANSOLE in Cameroon), Ineke Malsch and Lesley (faithful friends, whom I can always rely on). I am very grateful to ICTP for financing our three fellowship programs. I thank all those few members who paid their membership fees in 2015. As a Christian, I am extremely thankful to God, who during the various adversities encountered in 2015, kept ANSOLE as an open door meant to be a blessing of many in Africa and elsewhere, just as He has promised (Revelation 3:8). I thank Him especially for the comforting words from Isaiah 41:8-14, during hard times…



Report on the First International Conference on Solar Energy (INCOSOLE 2015)

By Zahir Rouabah

About 6 months before, the First International Conference on Solar Energy (INCOSOLE2015), held at University of Bordj Bou Arreridj, Algeria, 4-5 May 2015, was only a dream for the Materials and Electronic Systems Laboratory researchers, under the management of Professor Nacer Eddine Chellali and the African Network for solar Energy, and its coordinator Professor Daniel A. M. Egbe. The dream finally became a reality.

Firstly, I would like to *express my* sincere *gratitude* and appreciation to the determination and the efforts of the organizing committee members; who despite the short period of preparation, succeeded in overcoming all the difficulties in order to make the conference a success. 120 participants (selected from more than 350 registrations), from over 35 universities and research institutions, attended the event and presented novel solar energy research results. Solar energy is considered one of the most valuable resources that will ensure more economic growth, job creation, less dependence to conventional fossil fuels and will at the same time reduce the carbon dioxide emission and contribute to the preservation of the environment**.**

During 4 and 5 May 2015, INCOSOLE 2015 provided an interactive meeting forum for researchers, students, scientists, engineers and business leaders and local authorities in a convivial environment, this to strengthen links, promote collaborations and share knowledge in the treated subject of solar energy. The event was finalized by a visit to solar panels assembly unit of Condor Electronics Company. The visit was preceded by a closing ceremony, during which the following recommendations were made:

-Promote public and domestic exploitation and use of solar energy.

-Seek solar energy technologies appropriate and adaptable to Algeria's reality and environment.

- Establish a road map setting priorities in the effective implementation of solar energy in Algeria. This road map will be transmitted to the energy ministry, CREG, CDER, and SONELGAZ.



Left) Group photo of some of the participants of INCOSOLE 2015. Right) International organiser (D.A.M. Egbe) and chairman (Z. Rouabah) of INCOSOLE 2015, both holding artworks bearing the signatures of all participants

-Sustain and improve the link between the universities and the economic sector.

-The organization of INCOSOLE will not be limited to Bordj Bou Arreridj but will extended to other Algerian cities.

- Encourage the creation of a national association with a clear interest in promoting renewable energies.

-Create a partnership with Middle East Solar Industry Association (MESIA) which covers the entire Maghreb region

It was finally decided that the organisers should take note of all the *shortcomings of INCOSOLE 2015 in order to organise a far better conference in 2017* (INCOSOLE 2017

Dr. ROUABAH Zahir is associate professor and head of "Characterization Team" of ,Materials and Electronic Systems Laboratory (LMSE) at the University of Mohamed Bachir El Ibrahimi, Bordj Bou Arreridj, Algeria. **Contact**: E-mail:rouabah_zdz@yahoo.com, Tel : + 213660420109

NMP-DeLA held Workshop on Nano for Water and Energy

By Ineke Malsch

The workshop on international Euro-Latin American cooperation on nanotechnology for water and energy was held in Curitiba, Brazil on 28-29 May. The programme included presentations on the bibliometric study of nanotechnology publications and international cooperation in Latin America for applications in energy and water, and other preliminary findings of the NMP-DeLA project. The Brazilian nanotechnology research programmes and activities in the period 2001-2016 were also presented, as well as cooperation opportunities funded by the EU and national governments. Lectures on current research in

nanotechnology for energy and water in several Latin American and European research organisations were given, and interest in new cooperation activities discussed. This included not only cooperation between EU and Latin American partners, but also broader North-South and South-South cooperation, in particular involving Africa. Daniel Egbe presented ANSOLE and won support for the BALEWARE conference on "Bridging Africa, Latin America and Europe on Water and Renewable Energies Applications" to be held in Arusha,Tanzania in December 2016.

In a focus group, participants discussed what should be done to foster EU-LAC cooperation in research, industry and investment, education, policies, and ethical, legal and social aspects of nanotechnology. Main issues included the need for a holistic approach to all aspects, involving all stakeholders. Such an approach could benefit from the UNITAR guidelines for nanotechnology programming: http://www.unitar.org/cwm/portfolio-projects/nanotechnology. Other discussions concerned the best way to organise higher education in nanotechnology, as part of a disciplinary education in physics, chemistry, biology etc. or an interdisciplinary curriculum. Either way, there is a need for international cooperation and quality standards. Definitions of nanotechnology were also discussed, without reaching a conclusion: definitions depend on who needs them for which purpose.



Participants at the NMP-DeLA workshop on Nano for Water and Energy, 28-29 May 2015, Curitiba, Brazil

European participants considered the presented Latin American research to be of international standard, but missed the cooperation with industry from early stages of the research onwards. This is common practice in their own research and helps to focus the research on practical issues. Capacity building in the Latin American research community should concentrate on bridging the gap between academia, industry and other stakeholders as well as networking to overcome fragmentation. Education, awareness raising and communication to policy makers and the general public is also important and can build upon existing initiatives including the South and Meso-American Research Centres for

Fundamental Research: http://www.ictp-saifr.org/ and http://mctp.mx/index.html, NanoAndes: www.nanoandes.org, NanoDYF: www.nanodyf.org and ReLANS: www.relans.org,

The results of the workshop will be integrated in the roadmaps for nanotechnology for energy and water developed in the NMP-DeLA project and the policy brief, of which a draft version was presented in Curitiba. The programme and all details are available on the NMP-DeLA website, where the presentations and draft policy brief will also be published in the coming days: www.nmp-dela.eu. Comments are welcome through e-mail to postbus@malsch.demon.nl



Dr Ineke Malsch is Director of Malsch TechnoValuation in Utrecht and the ANSOLE national representative in the Netherlands. She was project partner of NMP-DeLA. **Contact**: postbus@malsch.demon.nl

An American's Adventures in Africa; Collaboration, Contentment, and Chaos in Cameroon

by Maryam Abdi

"A Fulbright?! Are you out of your mind?!" This is a paraphrased, somewhat more internal, version of what I exclaimed to my professor when she encouraged me to apply for such a prestigious fellowship. I came to her seeking advice as I helplessly pondered what to do with my liberal arts diploma from the University of Evansville. I had always assumed a Fulbright grant was something completely out of my realm of possibilities… However, I am proud to say that I did listen to my professor and after nearly a year of working and waiting for results, I am living in Yaoundé, Cameroon studying Theatre for Development (TfD) alongside my academic advisor, Dr. Emelda Ngufor Samba.



My host brother, Rodnick

My senior year in college was a whirlwind of emotions filled with wonderful memories, but burdened by the consistent questions I asked myself about what my future would hold. While I was slowly driving myself crazy, there were two constants I held dear to: I had to pursue theatre, and I needed to go abroad again. Theatre has always been my creative outlet, so I needed it to maintain my sanity. I was adamant on the latter because I have never learned more about myself, or the rest of the world for that matter, than when I traveled abroad. So, in order to become the best artist I could be, I assumed these two factors to be crucial in planning my future.

With all this in mind, I started the daunting task of applying for a Fulbright and decided to pursue TfD as a research proposal. So, let me explain what exactly TfD is: a universal theatre practice that can serve as a pedagogical tool placed in the participants' hands. This means that there is no separation between the spectator and the actor; instead, the *spect-actor,* a Boalian term, is compelled to become an active contributor in the creation of theatre that supports the change of oppressive conditions. This is collaborative applied theatre. Participants craft their own stories based on their personal lives. No matter what oppressive circumstance one lives in, w*e are all humans and we all deserve to be heard.* I believe in this with my whole heart and I cannot wait to hear the voices of Cameroonians participating in our workshops.



This is my host niece and possibly the cutest little girl I have met!

Dr. Samba and I will be employing various techniques borrowed from practitioners such as Augusto Boal, Paulo Freire, and David Cooperrider. For our first workshop, we are traveling to Mindourou, an indigenous village in the south east of Cameroon. We plan on employing Cooperrider's Appreciative Inquiry technique to help settle discrepancies with land laws. The challenge here will be to delicately approach the matter with the Baka Pygmies so as not to alert their suspicions of foreigners. The Baka have had a difficult time undergoing exploitation from their neighboring farmers, so this is a pertinent issue. I am hoping my level of French will not be a burden to the project, seeing as the region is almost solely francophone.



Just a week into my stay and my host family throw me a birthday party! My friend Edith and host mom Sylvie are pictured here.

The other workshop we have lined up is in Buea, the Anglophone southwest region of Cameroon. We will be working at the Boster Institute for juvenile delinquents, as well as leading a workshop for university students at the University of Buea. I am looking forward to the Boster Institute workshop, but am also nervous that maintaining my composure will be difficult. Emelda warned me that the children have traumatic stories to share… As an emotional artist myself, I find it difficult to restrain from expressing myself, (often through tears), but I want to be strong for the children; they have experienced enough as it is.

So far each day in Cameroon has been a new adventure! I have met some wonderful and interesting people; it feels much easier to make friends here because people are generally more open. I will say that an American in Cameroon is sort of a novelty, so people are usually curious to hear about my experience in their country. I will share a story I wrote in my blog about my traumatic experience here when I went downtown to buy a phone on my first full day:

“One hand’s got a white-knuckle grip on my purse, the other squeezes Sylvie’s helpful lead. My eyes are glued to the dusty path as I avert the long stares of locals who’re unaccustomed

to my complexion. In many eyes I am just “ma blanche” “my white woman”. Affectionate, right? I have never felt so vulnerable.

We had one mission- smart phone. We crossed the street countless times trying desperately to find someone who could unlock one of the two iphones I brought, but to no avail. Jerking away from the curious hands all the way, we finally found a booth with two charismatic gentlemen, who only asked twice for my hand in marriage. They sold me a Samsung android with two sim cards, a memory card, two weeks of data, and a protective cover for $70. We thought we got a steal and as they escorted us out of the bizarre bazar; I felt like I’d accomplished something my first day in the city. Well, I was wrong.

This thing is crap! Never connects to it’s supposed 3G and only sparingly makes calls. Plus, the cover isn’t even the right style. Mistake #1 Abdi. At least I had the experience though, right? Always learning…? Sylvie and I plan on venturing back to Kennedy Ave this afternoon to set them straight. Well, she’ll set them straight.

Amongst all the chaos, walking in centre ville is exhilarating. You never know what to expect. Whether it’s a brawl over the price of sugar cane, or a Cameroonian soccer player who’s crowding up the sidewalk, this city is ALIVE. New York doesn’t even come close. In ways it reminds me of my time in Tehran and I grow nostalgic. While I am terrified to venture on my own, I know I will build up a tolerance; this blanche will toughen up sans doute.”

I am now managing with a new phone now and I can successfully navigate my way through centre ville on my own… although I certainly still “fais attention”! Sylvie, the woman I mention in the story, is my host mom here. I live with a family consisting of two parents, an aunt, a cousin, a nanny, and a three-year-old son. They are wonderfully warm and welcoming and I already feel a part of the family. Oh, and the food is top-notch!

I have discovered a lot about myself in these last three weeks. For example; I love plantains, I am much too reliant on the internet, I can indeed drown out prayer calls in the middle of the night from the mosque next door, I can successfully call for a taxi and avoid paying “foreigner rates”, my French is catered to France and not so much Cameroon (yet), I am punctual (shocking) compared to average Cameroonians, I have a lot to learn about African theatre (the few classes I’ve sat in on have been fascinatingly enlightening), and that I need yoga to keep sane (I have found a wonderful teacher and have downloaded podcasts to do on my own).

I cannot wait to see what my future holds here. I am taking it slowly for now and soaking up the culture as best as I can as I am adjusting, but in a few weeks I hope to be instructing workshops and becoming more proactive in the community through TfD.

I have many people to thank who have helped me get to where I am now: Dr. Daniel Egbe, who initially put me in contact with Emelda and who helped me write my senior thesis on Cameroon, my advisor Dr. Emelda Samba for agreeing to mentor me these next nine months, my professors at the University of Evansville, who encouraged me to apply and advised me during the process, my parents for supporting my decision to move across the world and pursue my dreams, my host family here in Cameroon for welcoming me so warmly, the US Embassy here for being a home away from home, the Fulbright program for funding my enriching experience, and my family and friends, who are always supportive and eager to hear about my experience so far. I cannot be more grateful for the opportunity I

have been given and I am eager to share what I learn these next nine months.



Maryam Abdi is a Fulbright Student Researcher from Seattle, Washington. She is pursuing Theatre for Development studies in Cameroon, Africa. Maryam is a recent undergraduate from the University of Evansville in Indiana, where she double majored in Theatre Performance and French. Follow her journey at maryamabdi.wordpress.com ! **Contact**: maryamabdi23@gmail.com

Solar business in East Africa: Mobisol

by Upendo J Nanyaro

The following questions are always asked:

1. Do you think it's important to power Africa?
2. Would the people afford the solar energy offered in Africa?
3. Do they need products with superior quality?
4. Can they own their own power systems?
5. Is it essential to protect Africa natural environment (environmental conservation)?

All these questions can be addressed by Mobisol GmbH, a solar company founded by the German entrepreneurThomas Gottchalk. Mobisol began its operations in Africa in the year 2012 and it currently operates in Rwanda and Tanzania.

Mobisols' main aim is to provide electricity to people at the bottom of´the pyramid, most of them living in rural areas with no access to national grid electricity. Mobisol offers a paying scheme which allows both the suburban population and the majority rural population to afford quality products of which one can own after the completion of the loan payment.

Mobisol aims not only equipping the people with an energy source to light up their house but they also offer employment opportunities to most of the young people in the country. By catering for a short training of its installation and maintenance technicians and sales agents, Mobisol contributes to human empowerment in Tanzania and Rwanda.





Left) Mobisol training academy in Arusha Tanzania. Right) Participants of ANSOLE DAYS 2015 visiting the batteries assembly facility at Mobisol in Arusha.

On 16th July 2015, participants of ANSOLE DAYS 2015 were able to visit Mobisol facilities in Arusha Tanzania where the headquarters of the company in Tanzania is located. They were very much fascinated with the way the activities of the company were conducted through utmost openness and great coordination between the various departments. The visitors obtained detailed information about the services provided by Mobisol in Tanzania and Rwanda and its plan to expand in other African countries.

Mobisol offers environment-friendly energy, it has hotlines through which customers can seek for information. It has guarantee for its products. Payments are done through mobile banking. Mobisol does an online monitoring of the ínstalled systems, it offers free installation and maintenance services services. Used batteries are collected at various hubs/points of the company for their recycling.

Currently Mobisol has powered over 20,000 households in Rwanda and Tanzania and has helped in the financial education of the rural population

Mobisol offers internship opportunities to young people worldwide To know more about the company and internship opportunities please visit its websites: www.mobisol.tz &, www.plugintheworld.com.



Upendo J Nanyaro was born in Arusha, and is of the Meru tribe from the slopes of Mount Meru in Arusha Tanzania In 2014 she completed her Bachelor in Business Management from the Institute of Accountancy Arusha. She has worked with different organizations including the JCP Engineering company, Legal and Human Rights Center in Arusha, Waljis Travel company. She is currently working with Mobisol GmbH Tanzania. **Contact**: ndeshu89@gmail.com

Making the difference in Somalia with SECCCO

by Abdirahman Adan

A RECENT SUCCESS

It has been almost a year now, since SECCCO installed 185 solar street lights in Galkacyo city of the north-central mudug region in Somalia, now the whole city have been illuminated with solar street lights, which have allowed people to feel safe, shop longer and socialize with one another. Local vendors and shop keepers are able to conduct businesses longer. The project was funded by NIS (Nordic International Support Foundation). SECCCO also implemented similar projects in IDP places in Garowe, Bosaso and Qardho of Puntland region, these projects change the people's live from darkness to light and created



Solar Energy Consultant & Construction Company (SECCCO) is a social enterprise that provides access to clean energy to Somalia people living in energy poverty, through education, training and technical assistant. The organization was founded in 2008 by Engineer Omar Irbad who brings over 30 years in mechanical engineering, renewable energy and none profit leadership experience, SECCCO under his leadership has installed over 500 solar projects across the country making it one of the Somalia's leading renewable energy organization that designs and implements solar energy-based solution for those living without electricity. SECCCO is operating under challenging circumstance in a country that is better known for conflict, insecurity, drought and floods, but is truly remarkable that SECCCO is still able to do the difference to energy sector and wellbeing of the families. Since its establishment the company has carried out installation of hundreds of solar projects including solar lighting for schools, hospitals, streets, business, homes and solar power pumps for drinking and irrigation purposes.

SECCCO reaches out to rural area in Somalia

SECCCO also improves the lives of people who live in rural areas in Somalia by supplying and installing solar systems in rural locations where the national electricity is either too far or expensive to implement, this includes rural health clinics, rural schools and rural community centers.

SECCCO Activities

SECCCO setup two workshops to produce charcoal improved stoves, biomass digesters and solar cooking of different types to help the environment and reduce deforestation, also we give training skills to the community in the area of electrical installation, solar technology maintenance and servicing and the use of electrical tools and equipment.





Poor Electricity in Somalia

Somalia suffers from three problems related to electricity: lack of access, low reliability and extremely high cost. Reliable statistical information about the energy situation throughout Somalia is unavailable as very few surveys has been conducted in the country in the last few years. Jami Nelson Nunez a research associate at OEF mentioned in recent report that the electricity tariffs in Somalia are among the highest in the world varying from $0.80 to $1.50 per kilowatt hour comparatively the neighboring countries of Ethiopia and Kenya enjoy average rates of $0.15 and $0.06 respectively. She also mentioned in her report that not only Somali's paying substantially high tariffs for electricity but they are also earning substantially less. The average income in Somalia is $128 a fraction of the average incomes of $454 in Ethiopia and $942 in Kenya. Somalia citizens live in one of the poorest countries in the world and pay one of the highest tariffs for electricity of any country.

The Projects SECCCO implemented so far

SECCCO has implemented many projects since its establishment which includes solar street lighting, residential and business solar lighting and solar powered water pumps, SECCCO also worked with many international organizations such as UNDP, UNHCR, SSF(Somalia Stability Fund), ADRA and NIS(Nordic International Support Foundation) to name a few. The company has implemented following projects:

- *Installation solar lighting system in 70 schools in both urban and rural areas*
- *Installation solar lighting system in 60 health posts in both urban and rural areas*
- *Installation 300 IDPs solar street lighting*
- *Installation 50 solar water pumps for irrigation purposes*
- *Installation solar lighting in residential houses*
- *Installation of 400 solar street lighting in different cities in Somalia*







[Click here to add a caption]

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"Somalia Citizens live in one of the poorest countries in the world and pay one of the highest tariffs for electricity of any country"

Future plans

Is to carry out more renewable energy projects and create electricity access for rural schools and health centers. Create job opportunities for youth to reduce unemployment rate, also train and educate Somalia people to utilize from solar and wind resources which are both available in Somalia.

about the author



Abdirahman Adan is currently SECCCO projects coordinator, he holds degree in computer science from international university of africa in Sudan, and two diplomas in renewable energy management and finanace & solar PV desing and installaiton. **Contact**: abdirahman.adan@seccco.net

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Management of Photovoltaic Systems in Nigeria

by Adedoyin Adebodun Adeleke

In a bid to ensure sustainable energy security and also combat the imminent threats of climate change, there have been increasing interests in renewable energy globally. Renewable energy technologies have been receiving closer attention in several nations. In this pursuit, several nations like Germany and Norway have recorded outstanding successes in their renewable energy projects with an increasing percentage of their energy generation being from renewable sources. Similarly, African countries have been making nations efforts to develop their renewable energy potentials.

Solar (photovoltaic) Energy technology is the most popular renewable energy technology in Nigeria. However, the growth of the adoption has been observed to be very slow. Undoubtedly, this cannot be disassociated with the poor performances of some of the

photovoltaic systems installed in the various part of the country which is progressively reducing the interest in photovoltaic systems in the country.

There is therefore an imperative need for a study on the reasons for the poor performances of photovoltaic systems in the country both identify what is to be done to understand the reasons for the poor performances. This is important to guide future photovoltaic energy projects. I have decided to take this study up as my project for my ongoing master's degree programme at the Centre for Petroleum, Energy Economics and Law, University of Ibadan, Ibadan, Nigeria.

The proposed study will look majorly into the areas of project planning, quality of products, installation and maintenance of selected photovoltaic projects in the six geopolitical zones of the country.

This study will entail the technical details of the facility; the manufacturer's details, agencies in charge, and profiles of routine maintenance activities. Further, the study will also examine the current status of the technical components of the system: photovoltaic array, battery bank , charge controller and the inverter. In addition, the study will also assess the load that the photovoltaic systems serve.

The outcome of the study is expected to provide adequate information to guide future photovoltaic project in Nigeria while a comparison of the outcome with the standard recommended maintenance practices will reveal the necessary corrective measures necessary to improve the performances of photovoltaic projects in the country.



Adedoyin Adebodun Adeleke is a graduate of Mechanical Engineering from Obafemi Awolowo University, Ile-Ife, Nigeria; which he studied under the Federal Government (of Nigeria) Undergraduate scholarship scheme for four consecutive years from his second year till his graduation. He is currently on a master's degree programme in Energy studies (Renewable Energy) at the Centre for Petroleum, Energy Economics and Law (CPEEL), University of Ibadan, Nigeria; also on a scholarship of MacArthur Foundation, U.S.A.

He acquired a lot of experience through his professional and volunteering activities. He is one of the two young engineering students that designed and fabricated the Chicken de-feathering machine that removes feather of Chicken in 10seconds.Aside his other several volunteering activities, in 2014, he initiated and organised six different education-based community development programmes as a corps member in the National Youth Service Corp scheme Kano state, Nigeria, which directly benefitted about 800 senior secondary school students with innumerable indirect beneficiaries through his weekly radio and television programme in the state.

While on his ongoing master's degree programme, he is a team member on a Renewable Rural Intervention Project in Imini, a rural community project in Oyo state Nigeria, and also the assistant coordinator on an Energy Consumption Profile Project of Ajibode Community in Ibadan, Oyo state, Nigeria. He also played an active role in the publicity team of the 2016

Regional Energy Conference recently held in Ibadan, Nigeria; a programme that attracted senior energy experts from several nations of the world.**Contact:** adedoyin.ade@gmail.com and adedoyin.adeleke@rocketmail.com

La Maîtrise de L Energie: Choix Incontournable pour un Développment Durable et Equitable de L´Afrique

by Tahar Achour

INTRODUCTION

Par cet article, je voulais mettre en relief l'importance de la Maîtrise de l'Energie (MDE) dans toute politique énergétique avant-gardiste. La performance énergétique est un challenge qui vise l'Utilisation Rationnelle de l'Energie (URE). C'est ce comportement citoyen et responsable que nous nous devrons adopter pour que des gestes simples se traduisent par des économies notables dans nos consommations d'énergie, toute forme confondue.

Le crash pétrolier de 1973 a provoqué un choc de conscience des pays grands consommateurs d'énergie. La crainte de la raréfaction des ressources naturelles et particulièrement les combustibles fossiles (pétrole, gaz, charbon), le réchauffement climatique dû aux émissions de Gaz à Effet de Serre (GES) directement lié à la consommation croissante des hydrocarbures dans les pays industrialisés et ceux en voie de développement ont fait réagir la société civile qui a poussé des cris d'alarme de plus en plus forts appelant les décideurs politiques à revoir leur copie en matière de choix de leur stratégie énergétique en considérant la TERRE comme un espace de vie appartenant à TOUS et que nous devrons la préserver aussi intact que possible pour les générations futures.

LA MAITRISE DE L'ENERGIE par l'EFFICACITE ENERGETIQUE

Certes les EnRs en générale et l'Energie Solaire en particulier constituent la clé de voute pour permettre aux populations du continent africain d'avoir accès à l'électricité source d'énergie secondaire garantissant un développement socio économique et environnemental durable.

Pour compléter le tableau des sources d'énergies renouvelables, il y a lieu de mettre en tête de liste "l'Efficacité Energétique" car **la première énergie renouvelable est celle qu'on évite de consommer.**

Presque dans tous les pays du continent, les pertes au niveau des sources d'énergie primaire exploitées (fuel, pétrole, gaz, ...) et secondaire (électricité) dépassent les 50% et ce au niveau de la production, le transport, la transformation, la distribution et la consommation. Pour pallier à ce disfonctionnement nous devons aller vers une utilisation rationnelle de ces sources d'énergie. Ceci ne peut se faire que par une prise de conscience consolidée par le génie humain en matière d'Efficacité Energétique « EfE »

L'EFFICACITE ENERGIE « EfE » en trois interrogations :

- C'est QUOI ?
- C'est POURQUOI ?
- C'est COMMENT ?

L'EfE, c'est QUOI ?

L'EfE est une notion générique qui résume une multitude de terminologies telle que :

- Utilisation Rationnelle de l'Energie
- Economie d'Energie
- Efficience Energétique
- Sobriété Energétique
- Recours aux sources d'Energie Renouvelable

Si les quatre premières terminologies nécessitent des pratiques anti gaspillage de l'énergie et des équipements de conversion, domestiques et industriels, énergétiquement performants et ce depuis la production jusqu'à la consommation de l'énergie, la cinquième composante fait appel à l'exploitation des énergies renouvelables qui sont inépuisables, économiques et propres.

L'EfE, c'est POURQUOI ?

De l'avis de tous les experts internationaux, le potentiel mondial d'économie d'énergie proviendrait à hauteur de 80% de l'EfE et 20% des EnRs. Nous sommes loin du compte (fig 1), même dans les pays industrialisés fortement consommateurs d'énergie.

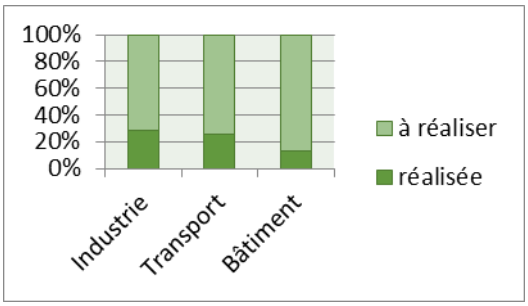


Fig 1: Potentiel d'EfE (source AIE)

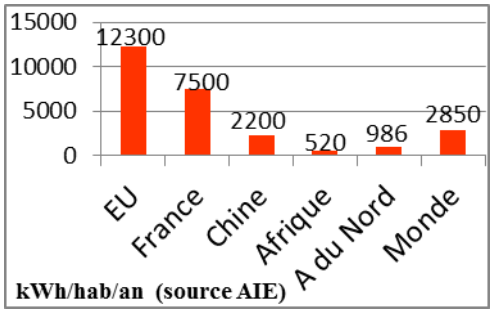


Fig 2 : consommation / hab

Avec 1,3 milliards de personnes privés d'électricité et 2,3 milliards qui n'ont pas accès aux combustibles et technologies de cuisson modernes. Les programmes de Maîtrise d'Energie adoptés par nombreux des pays industrialisés et ceux émergeants n'ont pas atteint les objectifs projetés qui sont essentiellement:

- Baisse de la consommation des sources d'énergie conventionnelles
- Moins d'émission de GES
- Plus d'exploitation des EnRs
- Accès universel à l'Energie
- Amélioration de l'Indicateur de Développement Energétique « IDE»
- Plus d'indépendance énergétique

Cette disparité ahurissante de la consommation de l'énergie électrique d'une région à l'autre de la planète (fig 2) nous confirme le **pourquoi** d'un choix inconditionnel d'une stratégie énergétique basée prioritairement sur une utilisation rationnelle de l'énergie en premier lieu et sur l'exploitation des énergies renouvelables.

L'EfE, c'est COMMENT?

La Maîtrise de l'Energie est une culture à travers laquelle la gestion de l'utilisation des diverses formes d'énergie se veut positive, rationnelle et profitable pour assurer un développement socio-économique des populations avec une consigne rigoureuse pour préserver les équilibres bio climatiques de la mère TERRE. L'EfE est par conséquent une conception préventive et corrective basée sur :

- *La Sobriété Energétique* : éviter toute consommation inutile, lutter contre le gaspillage par des gestes et actions, au quotidien, simples qui à la longue deviennent automatiques.
- *La Performance Energétique* : Engager des solutions technologiques pour atteindre une efficience énergétique d'un bâtiment, d'un équipement domestique, d'une machine et d'un procédé industriel de conversion pour obtenir le travail visé à moindre consommation énergétique. Ce qui nous amène à dire que l'énergie la moins chère est celle qu'on évite de consommer.
- *Diagnostic Performance Energétique « DPE »*

Au-delà des comportements civiques et responsables pour baisser notre facture de consommation d'énergie en évitant le gaspillage, les solutions d'efficacité énergétique dans les secteurs du bâtiment, du transport, de l'Industrie et du tertiaire sont le résultat des diagnostics à travers l'Audit Energétique qui va identifier les insuffisances et les causes de la consommation excessive des équipements et des procédés industriels qui constituent la chaine de production et de consommation de l'énergie pour accomplir un travail demandé et rendre un service. Attendu.

La démarche NégaWatt :

Si la **MDE** est un concept de « non consommation » ; la démarche **NégaWatt** vise à minimiser les besoins énergétiques pour un service rendu égal voir meilleur.

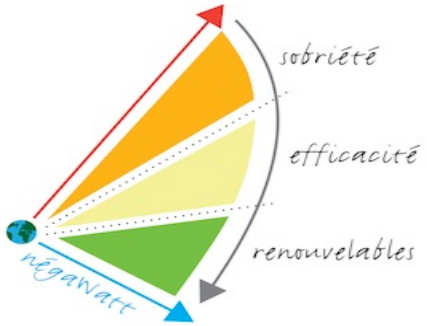


Fig 3 (source: association négaWatt)

Ce potentiel d'économie d'énergie est baptisé potentiel « NégaWatt » puisqu'il met en évidence une énergie conventionnelle non consommée grâce à une démarche basée sur la Sobriété, l'Efficacité et les sources d'Energie Renouvelable.

C'est ainsi, que j'ai voulu, par cet article, introduire le concept « Efficacité Energétique » en se posant les trois interrogations et y répondre brièvement, en attendant de développer, reste à développer par la suite les entrants et les aboutissants de cette démarche qui est, à elle seule, capable de garantir un accès universel à l'énergie à l'ensemble des populations de notre planète tout en assurant sa protection contre une dégradation possible de la vie si on ne cherche pas à changer radicalement nos comportements en matière d'exploitation et d'utilisation des énergies fossiles.



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Making a difference with PV home systems

by Bettina Schmidt

While I enjoy debating issues on renewable energy I find it important to address the question "What can I do to make a difference?" We chose to install a PV system on the roof of our home here in Germany.



How did we go about?

The first issue on our mind was to find a small but experienced company we could trust. We found this company and could also visit houses where they had already installed PV systems. This was very reassuring.

We were told that all in all the installation would take 3 days:

Day 1: Setting up the scaffold, fitting the roof anchors and attaching the frames

Day 2: Installing the panels and wiring them on the roof

Day 3: Direct current (DC) wiring from the panels into our home. Mounting the converter and connecting the PV system to the rest of our electricity supply.

The next step was to get a quote with all technical details, so that we could undertake research for example on the quality of the solar panels.

Once we signed the contract for the PV system we had to register it with Germany's central PV agency. We also had to talk to our house insurance about a special insurance for the PV system.

We also had to decide whether we would use the produced energy ourselves or sell it by feeding it into the public electric grid. We chose to sell all we produce. We then could use the income to pay back the credit from the bank, since we did not have the necessary cash.

The total cost for the PV system with 55 solar panels and a maximum power of 11.275 kWp was 32,000 €.



We calculated that it will be paid off in 9 years. For us that was a good investment. No bank would give us such a return of investment.

We were very excited to be able to produce sunny energy.

In the cold German winter of 2010 a team of four installed the home system: a project manager, two roofers and an electrician. All was very well planned. They came and unloaded their truck with their installation kit including

- 55 Solar panels: 205 Watt panels weighing 19 kg each and 1×1.5 m in size,
- Roof anchors: stainless steel hooks screwed into the rafters of the roof, forming a base for the mounting system,

- Mounting frames made up of two parallel aluminum bars for each row of panels,
- Clamps to hold the panels onto the frame,
- Tool boxes,
- Direct Current (DC) to Alternate Current (AC) converter, wiring material and circuit breaker box

Technical details of the solar panels

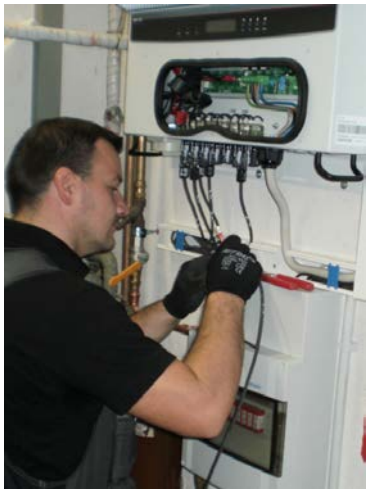


In November 2010 we compared the various solar panels for sale and chose Heckert Solar panel HS-PXL205 with 139.3 Wp/m². To cover the roof surface of 80.58 m² we bought 55 panels with a maximum power of 11.275 kWp.











For such a large PV system we chose a DC/AC converter Power One of AURORA.

Sunshine and sun power: What did we produce?

The monthly generated energy varies for example from the lowest in January 2011 of 178 kWh (in winter) to 1,622 kWh in June (in summer). In total we produced

2011: 12,451 kWh,

2012: 12,238 kWh,

2013: 10,710 kWh.

Small is beautiful

As months went by we learnt a lot about PV systems. It does not always need to be a large PV home system. Also small systems work. Here an example. Take six solar panels plus a SMA Sunnyboy 1300TL converter for a maximum of 6x230 Wp (total 1.38 kWp).





To buy the six panels and converter in Germany you pay 2000 €. If additionally a battery and electrical supply is needed, the PV home system would cost 4000 €.

Hope for 2016

I hope ANSOLE together with donors and sponsors can raise funds to bring such PV systems to work in homes across the African continent. It would also be great for ANSOLE to cooperate with training and research institutions as well as companies to train technical staff, men and women, who can install and provide maintenance for such PV home systems.



Dr. Bettina Schmidt is one of ANSOLE e.V.´s board members. She is a social scientist and has studied and worked at universities in Southern Africa and in the field of international development cooperation with a focus on health care. She is also board member of World University Service (www.wusgermany.de) and worked as project manager, lecturer and consultant in Germany and Africa, for example in 2006 for the Nelson Mandela Children's Fund. **Contact**: b.schmidt2@t-online.de