

## NaDEET Centre's New Solar Park Increases Electricity Production

2012 has been quite successful regarding the technical side of NaDEET. We had the opportunity to renovate all the accommodation units much more quickly than expected and we received sponsorship of new solar panels. InnoSun is a French based company that supports non-governmental organisations with solar panels so that valuable funds normally spent on electricity costs can be used for project activities instead. Although NaDEET is not connected to a national electricity grid, this donation offsets costs of purchasing panels to keep up with a higher demand due to our increased activities in educating about sustainable living.

Within our LIME Green initiative to achieve a 100% carbon free operation, this is a great opportunity for us to get closer to that goal and to use it as an additional learning opportunity. With funding from a private donor, the decision was made to build an educational solar park with the new panels as a roof.

Soon afterwards, we got a big box of 27 brand new solar panels and the planning phase was underway.

*(Continued on page 4)*



## Solar Cookers Earned Through New Voucher Programme

In mid-October four NaDEET staff members went on a two-day long trip to deliver solar cookers to community members of Klein Aub, Uibes and Maltahöhe who successfully passed the tests at NaDEET Centre earlier this year (see page 2). In all the communities, a solar cooker was set up by NaDEET staff to show the proper assembly. A demonstration on how to use the solar cooker was done by the participating community members for the crowd of interested people that had come to see this new solar cooker model. In the community of Maltahöhe, our community contact person Veronika Katjikuru organised such a demonstration in advance and thereby had a larger group of interested community members.

During the presentations, we interviewed the community members on how their habits have changed after the trip to NaDEET. According to participants, they are all actively using their fuel efficient stoves (FES) on a daily basis to cook their food and especially to boil water. Some have stopped using open fire after they got the FES as they realised its benefits. Many participants made recycled firebricks when they have enough paper or newspapers.



*Ida and Monica carry their solar cookers (packed in the box) as traditionally done with firewood.*

*Changing cooking methods doesn't imply changing all traditions.*



*Diederick shows his fellow community members how to use the solar cooker.*

This year during the programme, we also built one-bucket shower per group, which was given away in a raffle. The three winners said that they installed and use it.

As for the voucher system, all participants felt that receiving a solar cooker after actively demonstrating what they have learnt throughout the programme is more "educational" than simply getting it without guarantee of knowing how to use it. To date 32 solar cookers were delivered to participants who earned three vouchers

or added money. A Maltahöhe participant purchased a solar cooker for his shop and after a month has already sold it. We encourage community members who own a little shop to add solar products to their array of items to make the access to sustainable living technologies easier. NaDEET is happy to assist the community members by putting them in contact with suppliers. However, we only work as a middle person for the equipment as we remain an educational institute and are not in the market of manufacturing and selling. Overall, both the programme and the delivery of solar cookers were successful. As a first time we are satisfied with the outcome although some questions are still to be investigated:

*Should voucher expire or be transferable?*

*Can vouchers be used for solar products other than cookers?*

*Should vouchers be a percentage off the cost or be worth a monetary value?*

We will address these issues critically while keeping in mind our mission: to protect the natural environment by educating its citizens to practice a sustainable lifestyle. Willem Hendrik Jantze from Uibes has demonstrated the success of the programmes so far by reporting that since being at NaDEET he has built a hot box, is looking for a thermos flask to keep his hot water warm and that he is so happy to have had the opportunity to learn about sustainable living!

*Naike Marengo*

# Our Community Programme Develops



*Maltahöhe participants celebrate after receiving earned vouchers from their tests*

At NaDEET, we believe that sustainable living can be learnt no matter at what age. In 2010, we developed a programme for adults to reach out to all members of local communities. The programme, entitled *"Mitigating Climate Change in Local Communities through Sustainable Living Education and Practices"*, aims to give examples on how little things can make a big difference because they help to protect the environment and to improve people's lifestyle. A key component of the NaDEET programme is to empower participants with the knowledge and experience in living a more sustainable lifestyle which includes providing educational material (each participant receives a free copy of *"It's Time to be Efficient"* and *"It's Time to Solar Cook"*) and improving access to sustainable living equipment. During the programme, community members build their own fuel-efficient stove and learn how to make recycled paper firebricks.

To improve access to solar cookers in communities for two years NaDEET purchased large parabolic solar cookers (approx. N\$2000/each) and gave each participating community 10 cookers at the end of the programme to a total value of N\$20,000. The participants were to share these cookers (one/two people) but the sharing was not always happening. The cookers were distributed free of charge due to the high price and lack of easy accessibility. To change this unsustainable aspect of the community programme, NaDEET investigated alternative options for solar cookers and found a different design that is easier to transport and costs only a third. This model can also be fixed to the ground, thereby addressing the problem of some of the owners who kept their cooker locked in the house – and therefore not using it – because they were afraid that it would get stolen.

## **Earn a Solar Cooker: The Voucher System**

To improve sustainability of the programme and reduce dependency on NaDEET for access to solar cookers, we tested a new "voucher system" which gives the participants the chance to earn their own personal cooker. Throughout a Monday to Friday NaDEET Centre programme, participants take the following three tests:

♦ **Practical Energy Test:** *Arrange solar cooker and oven correctly; cook with the fuel-efficient stove using the right amount of recycled paper firebricks.*

♦ **Practical General Sustainable Living Test:** *Sort rubbish properly; put a pot in the hot box correctly; take a reading of the water meter.*

♦ **Written Test:** *Ten questions each with two pictures showing either a sustainable or unsustainable action.*

The tests are developed in order to allow everybody to succeed. Since some of the participants cannot read or write English so well, the written test does not require these skills. The lessons are taught alternating in English, Afrikaans and Nama to ensure that everybody can understand. Participants must score 90% to receive one voucher that is worth 1/3 of the cost of the cooker. The vouchers received are valid for a period of approximately four months to enable those who only got one or two to save money and add cash to purchase the cooker. This system aims to reward those participants that participate fully in the programme, give NaDEET staff feedback on actual skill level and improve access to solar cookers. We implemented the new system with the three communities that came to NaDEET Centre in August and September: Klein Aub, Uibes and Maltahöhe. The Maltahöhe community group was well attended thanks to our established community contact person. The Klein Aub community came for the first time. The nine participants that came soon realised that the other eleven community members that did not come at the last moment had missed out on a rewarding experience. The community from Uibes was also at NaDEET for the first time but many participants already had one of our trees from last year's *365 Trees Project*. Overall, the programmes went smoothly and all the communities responded well to the voucher system. We gave out 99 vouchers out of 132 we could have issued if all the participants had passed all three tests. Currently the vouchers are only redeemable at NaDEET, but we hope that in the near future small businesses in more remote communities will stock and sell solar cookers and other products that community members can redeem their vouchers there. This is one of several challenges that we face as our community programmes evolve.

*Naike Marengo*



*Our sustainable kitchen manager Elizabeth supervising Klein Aub resident Frans while taking his test on how to use a solar cooker.*

# Sustainable Energy for All

NaDEET celebrated 2012, declared as the United Nations International Year of Sustainable Energy for All (SE4All), with a new issue of the *Bush Telegraph*.

We are all becoming acutely aware of the critical role that energy plays in global development and environment issues and in our daily lives. The practical application of renewable energy and energy efficiency is a main programme and infrastructure focus at NaDEET Centre.

This issue of the *Bush Telegraph* aimed to introduce readers to the complexity of the issue surrounding energy today and into the future through the main themes of the year: access, efficiency and renewable. Funded by the Renewable Energy and Energy Efficiency Institute (REEEI), a national energy institute of the Polytechnic of Namibia and Ministry of Mines and Energy, the *Bush Telegraph* also gives readers information regarding the institute's activities. REEEI has the mandate to promote sustainable energy development in Namibia. One of its actions is the development of energy shops in all areas of the country to improve access to renewable and efficient technology. This is an important development for the success of NaDEET's work.

**Take a look inside the *Bush Telegraph* and explore the improved access to energy in Namibia:**

## TAKING ACTION: Access 4 All

### ARE YOU CONNECTED?

Is your home connected to the national electricity grid? If not, will it be in the near future? Namibia is a large country with few people. This makes supplying electricity to all using a national grid very challenging and not economically viable. In 2007, MME designed and launched the OFF-GRID ENERGISATION MASTER PLAN (OGEMP):

- ~ To promote off-grid energy;
  - ~ To promote the use of renewable energy resources;
  - ~ To improve the quality of rural life through provision of energy services.
- REEEI is taking action through Energy Shops and the Solar Revolving Fund.



An Energy Shop is usually an existing business that stocks and sells renewable and energy efficient products into their range of products and services. It works together with REEEI and suppliers to market and stock sufficient supply of products for its customers. REEEI currently launching up to 180 shops within the next 20 years.

the map to see if there is an Energy Shop already in your area.



### CAN I ALSO BUY RENEWABLE ENERGY PRODUCTS IN OTHER PLACES?

Of course, renewable energy and energy efficient products are not just limited to Energy Shops. Check out the map for the symbol to see where this other organisation, such as Elephant Energy, is selling renewable energy products in Northern Namibia.

No energy products shop in your area yet? Go to your local supplier and ask for sustainable energy products today!

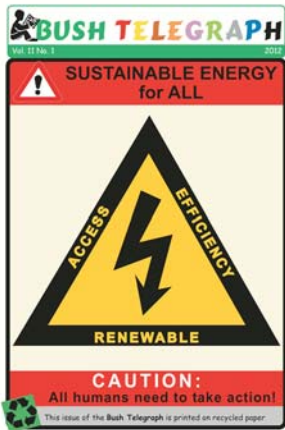
### Solar Revolving Fund



Do you want to purchase a solar water heater? Do you not have enough money for it today? Some renewable energy products unfortunately are more expensive upfront although it will save you money in the long run. The Solar Revolving Fund helps individuals to obtain loans to purchase renewable energy technology products. Applications can be obtained from MME offices nationwide, certified Energy Shops or downloaded: [www.mme.gov.na](http://www.mme.gov.na)

Bush Telegraph

9



**The *Bush Telegraph* is a bi-annual youth magazine distributed free of charge to over 16,000 subscribers. Our print run of 18,000 is approximately half of the local newspaper illustrating the demand for information about the environment.**

**Look out for our next issue on deserts and desertification. To subscribe please send us an email or download this issue and all back issues from:**

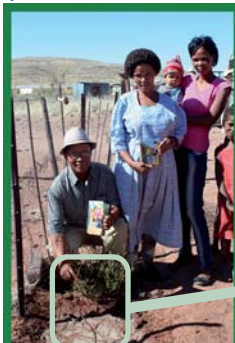
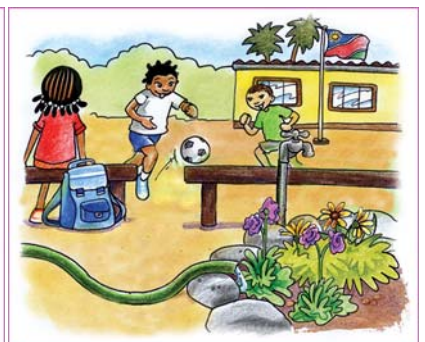
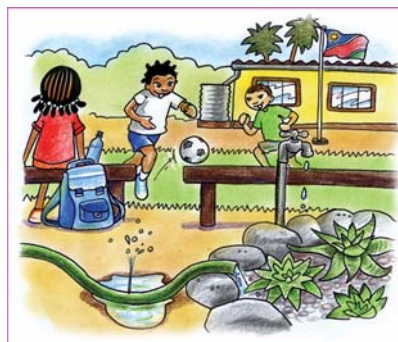
[www.nadeet.org/educational-material](http://www.nadeet.org/educational-material)



### Coming Soon...

The "It's Time to..." series expands! Here's a preview of *It's Time to Grow*, an early childhood booklet pack about sustainable living, which contains 4 booklets, a growth chart, a seed packet and wax crayons.

Can you spot the six differences in the two pictures?



**From small seedling ...to tree!**



## 365 Trees Project a Year Later

Can you recognise it? We hardly could! But, there it is the African Wattle tree that we planted in September 2011 during our 365 Trees Project.

During the solar cooker delivery trip in Uibes, we visited Adeline's house where she proudly showed us her healthy and rapidly growing tree. We are happy to see that our work is...bearing fruit!

(Continued from page 1)



*New Solar Park showing the completed electrical installation. Enclosed room houses the batteries, inverter and regulators.*

The 5.5m x 6.6m building, essentially a wooden structure on stilts, was designed within all regulations of the NamibRand Nature Reserve. As special mounting systems for solar modules are too expensive to bring to NaDEET, we adapted a sliding door system to mount the panels and still achieve a roof covering with the panels. The solar panels are made by the company Masdar and are thin film panels, which are of a different design than most panels used in Namibia.

These thin-film based PV modules are printed onto a glass sheet and a second glass sheet is glued on top. This process brings down production costs and is a new technology that may become more common in green building designs as they are specially designed for use in open-space solar parks, or in large roof PV applications.

Our panels have a surface of 1.4 m<sup>2</sup> with a power output of 100W per panel. We decided to install 26 panels with two strings of 13 to accommodate our off-the-grid battery system. On a

sunny day, we can now produce 2600W at peak output that more than doubles our current Centre system production. Our previous solar installation will be shifted to our base. We can now re-look at many ideas and projects that we could previously not pursue because of lack of electricity.

### **A look ... inside!**

An information and education area will be housed underneath the solar panel roof. As a result of an internship study done on visitors' reactions to a NaDEET Centre tour, it was felt that we were not providing enough information about all of the work that we are doing. Tourists from our neighbouring concessionaires on the NamibRand Nature Reserve, especially from Tok Tokkie Trails, visit NaDEET Centre on a regular basis. We want to share the work that we are doing but also increase support from potential donors. Through interactive display materials, visitors can learn about NaDEET: our history, our mission, our current activities and publications. A small curio corner will be available for visitors that would like to take some NaDEET products home.

Our solar electricity activities with NaDEET Centre participants will also improve as we intend to develop new easy-to-understand posters and activities. The battery monitor that measures the difference between production and usage will be installed to allow participants to continue to monitor usage for the "Measuring our Environmental Impact" activity. We hope this will be completed before February 2013. *Andreas Keding and Naike Marengo*



*NaDEET Staff Vicky showing and explaining how the water-saving facilities at NaDEET Centre support awareness of water scarcity and practice in wise water usage.*

## **The Namibia Climate Change Knowledge Fair**



*Viktoria Keding answers questions after her presentation*

With the theme of "Knowledge, Innovation, Action and Resilience", the Namibia Climate Change Fair held in August aimed to bring together stakeholders from all sectors to exchange ideas and share information. This was one of many events hosted by the Ministry of Environment and Tourism to develop a working platform to address climate change issues nationwide.

As one of Namibia's Climate Change Ambassadors NaDEET's Director, Viktoria Keding, contributed to the talks with a presentation examining the link between Climate Change Education and the facilities where the education takes place.

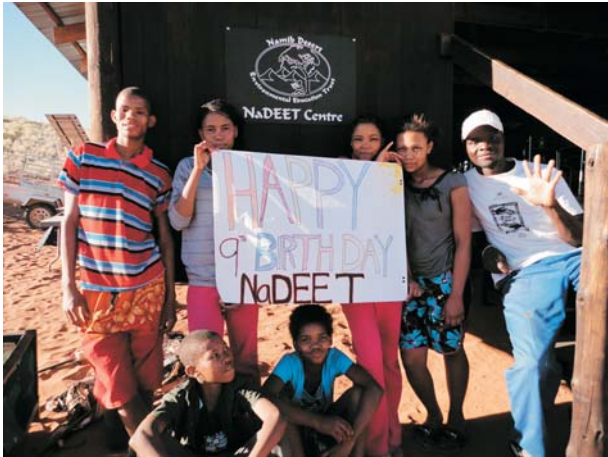
NaDEET aims to inspire more institutions to practice sustainability in all aspects of their operations and recommends conducting an environmental audit to assess the actual environmental impact and areas that can be addressed. Following the presentation, participants were eager to visit NaDEET to see our approach to sustainable living first-hand.

A special presentation was made by the German private school, DHPS, YOUTHink Green Initiative to the Minister of Environment and Tourism Nandi-Ndaitwah. She was given a "list of demands" and a green ribbon to remind her of the environment at all times. Many of these now secondary school learners attended NaDEET's programme during their grade 6 year. We are encouraged to see that young Namibians are gaining an environmental ethic and that they are not afraid to stand up for it.

In August, DHPS also held their first "green" bazaar for their annual festival, which involved the work of YOUTHink Green. NaDEET was represented in a combined NamibRand Nature Reserve information stand. *Viktoria Keding*

# What's Up at NaDEET Centre?

NaDEET Centre is always in full swing! Since our last issue, we welcomed to our Centre three community groups, two groups from overseas, eight primary schools and a workshop. Let who experienced it first-hand tell you more:



On 24th October, the schoolchildren from Edward Fredericks and Nabasib Primary Schools celebrated **NaDEET Centre's 9th birthday** with us!



**"These kids were just an ultimate package!"** commented enthusiastically Absalom Vilho, Assistant Environmental Educator about the Danie Joubert Combined School. "I've been working at NaDEET Centre for a year and a half now and I can definitely say that this school was the best to teach and to work with ever since I started!"



**"For the first time one of my learners caught a golden mole!"** exclaimed Mr Steyn, teacher at Danie Joubert Combined School who despite the thirteen previous visits to NaDEET Centre with his school had never had the chance to see the famous swimmer of the Namib Desert.

Grade 7 learner, Ruchy Groenewaldt (right bottom corner), has been at NaDEET Centre twice in 2012 after switching schools during the school year. During his second visit in October, he found a totally renovated NaDEET Centre: **"Two times at NaDEET Centre and not re-recognising it!"**



Renate Khoeses, teacher at Jakob Soul Primary School, putting muffins in the solar oven with one of her learners.

Renate was at NaDEET Centre in 2006 as a student with Windhoek College of Education and now she experienced it as an educator. **"NaDEET is nice, spectacular and spontaneous; it's both environmental education and a real life experience!"**



**"My wife is fired!"** This was the reaction of Isak after discovering how much electricity ironing cloths consumes during our "Waste Energy Experiment".

**"I haven't been at NaDEET Centre since 2007 and this year I was really impressed by NaDEET's progress, both programme and facilities wise!"** commented Gesche Roxin teacher at the Deutsche Höhere Primary School (DHPS), a school that has been coming since 2004.



# From the Namib to the Negev

Learning how to take knowledge and turning it into action was one of the reoccurring themes of the recent 4<sup>th</sup> International Drylands, Deserts and Desertification Conference at Ben Gurion University of the Negev, Israel. Scientists, government officials, NGO leaders and various other delegates from more than 130 countries met to share information and develop a way forward on outcomes of the Rio +20 conference. There was a significant shift in the focus of the conference away from *greening the desert* and towards Zero Net Land Degradation (ZNLD). Workshops were held to develop a framework for action for implementing ZNLD that broadens the understanding of loss of productive land from only dryland areas to all land areas. ZNLD aims to combine the prevention of further land degradation and restoration. Both of these actions require a broad-based approach across all stakeholders, including environmental education. NaDEET's Director, Viktoria Keding, was invited to share NaDEET's experiences in desert-based environmental education for the second time. Keding gave two presentations and held numerous discussions with delegates to share NaDEET's philosophy of being a working model of sustainable living.



*Viktoria Keding with Namibia's Director of Tourism Sem Shikongo in the dunes of the Negev Desert*



*A modern Israeli Negev Desert home built out of local and recycled materials*

NaDEET's emphasizes using our resources more efficiently and reducing our demand for resources. A desert is an extreme environment that can give us numerous lessons in how to best adapt to our surrounding environment. Other projects from African nations were able to show their strengths in the field of taking action on a community level in a special evening that was held to honour the late Wangari Maathai and the Green Belt Movement.

This approach to addressing global environmental issues was supported by keynote speaker, Paul Ehrlich, in his plea for stakeholders to take action today.

*Viktoria Keding*

## Visitors from Abroad

### Freundschaft mit NaDEET



Bags packed and off we go! Two weeks travelling around Namibia and one week at NaDEET Centre to taste our environmental education programme.

Every second year Reinhard Keding, chairperson and co-founder, organises a trip to Namibia for interested Germans to get to know the country and to learn more about NaDEET by staying at our Centre. The visitors were involved in solar cooking, played "Shop 'Til You Drop", and went for a dune walk and a game drive to enjoy the beauty of the Namib Desert.

Highlight of the week was the trip to Maltahöhe where our guests were warmly welcomed by the community members who showed them how they have implemented at their homesteads what they learned at NaDEET and organised a "cultural lunch" with traditional songs and dances. We are thankful for the contribution and support that Freundschaft mit NaDEET has been giving us since 2009 and we hope that the enriching experience at NaDEET will draw more people to become members of the organisation.



*Viktoria Keding and Chairperson Reinhard Keding with Maltahöhe residents*

### German-Namibian Youth Exchange

As part of a partnership exchange between the church of Braunschweig, Germany and the Evangelical Lutheran Church in Namibia (ELCIN), youth church members had the unique chance to visit their respective countries and spend a week together at NaDEET. Here they had the opportunity learn and compare the implementation of sustainable living in the Namibian context to their own. After a challenging day-long dune walk, German youth group leader Mr Sebastian Dennecke remarked:



**"We thank God for giving us the unique opportunity to be at NaDEET and to see the Namib Desert for the first time; we really had a great time and met wonderful people!"**

# NaDEET thanks our on-going donors and supporters



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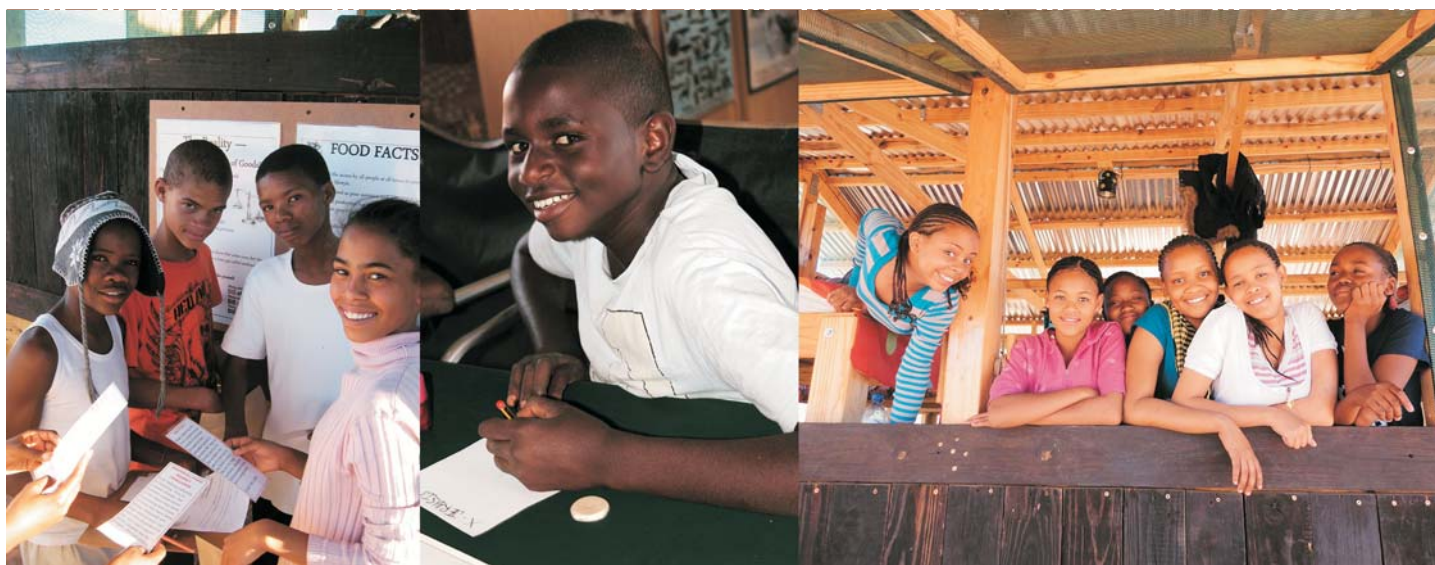


A SPECIAL  
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... and all of its donors!

# WE NEED YOUR HELP



NaDEET depends on individual donations to fund our environmental education projects. Most Namibian school children and their families cannot afford to cover the cost of a NaDEET Centre programme. It is however one of NaDEET's core principles to provide environmental education for everyone, regardless of their financial means.

**Please help us with a donation today!**

One child for one day N\$165 (€17, US\$22)

One child for one week N\$660 (€68, US\$88)

One school group for one week N\$22,000 (€2,200, US\$3000)    One community member one day N\$250 (€25, US\$30)

*YES, I would like to support NaDEET!*

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Send us your contact details to receive our newsletter and to thank you!

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NaDEET's electricity aims to be 100% wind- and solar-powered

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Juliane Pilo (July 2012-July 2013)

### Environmental Education Intern:

Viktoria Endjala (July-December 2012)

**Intern:** Naiko Marengo (March-December 2012)



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DHPL 2012