



Contents

Women, Gender, and Energy in South Africa <i>Editorial</i>	1
News from the Secretariat	3
Networking Around Southern Africa	4
Meeting ENERGIA Members <i>Noluthando Poswa</i>	5
One Man One Megawatt, One Woman One Candle: Women, Gender and Energy in South Africa <i>Wendy Annecke</i>	6
Gendered Impacts of Various Renewable Energy Technologies in Maphephetheni, Kwazulu-Natal <i>Maryann Green</i>	9
Gender Equity in Off-Grid Utility Implementation: Challenges and Opportunities <i>Nomawethu Qase</i>	12
Transforming the Energy Sector – Transforming Local Government: SEED's Mission in South Africa <i>Sarah Ward</i>	14
Internet Resources	16
A Gender Profile of Solar Stove Buyers and Users: Findings from the Second Phase of the GTZ/DME Solar Cooker Field Test Programme <i>Marlett Wentzel</i>	17
DME Spearheads Energy Projects with a Focus on Women <i>Noluthando Poswa, Olga Svoboda and Kosi Lisa</i>	20
Resources: Rural Energy Guides	22
Bulletin Board	23
Next Issues	24



Ms Noluthando Poswa, Senior Manager at DME, receiving her Women in Energy Award 2002 from Mr Joe Matsau, Managing Director (Corporate), Eskom Holdings Ltd. (Photo: Courtesy of Chanel Platt & Associates)

Women, Gender, and Energy in South Africa

Work in South Africa on gender and energy really only began in 1994 following the strong national mandate for equity. Much of this work has been internally sponsored and funded and, partly as a consequence, is not well known outside of the country. Since we believe that much of this work will be of interest to our members, this issue of *ENERGIA*

News focuses on women, gender, and energy in South Africa.

This issue of *ENERGIA News* highlights the women who work in the energy sector in South Africa and the work they have been doing with women and gender in the sector since 1990. All stakeholders are represented here. The national Department of Minerals and Energy, women activists in NGOs, grassroots women and men, women academics at universities, women who are energy consultants, women in the new private utilities who supply energy services in rural areas: they are all present on these pages. There are strong themes that link the articles: the activities of women since the new dispensation in 1994 and the HIV/Aids pandemic are two.

The first article by Wendy Annecke introduces the reader to the history of women in the energy sector of South Africa. It starts at the turn of the last century, when women were the invisible collectors and users of wood, and men were busy developing the electricity industry for all to see. It ends one hundred years later with the appointment of a woman to one of the most powerful portfolios in the government of South Africa - that of Minister of Minerals and Energy. The article, which is derived from the author's thesis, tracks how some women have taken on decision-making roles. It points out that despite the increased number of women (engineers, social scientists, and business women) in the sector since 1994, most women are still in the same invidious positions as their grandmothers were years ago, and explores some of the work that has been done to try and ensure that poor women have access to safe and affordable energy services.

Most of the work being done at present in South Africa concerns renewables. This is because South Africa has achieved the targets it set itself for connecting households to the grid. Between 1994 and 1998 two and a half million households were connected to the grid through a heavily subsidised programme. The socioeconomic and political benefits have been considerable, and many of the studies documenting the process are mentioned in Annecke's article.

Since 1999, with the emphasis shifting from grid electricity, one sees renewables being advocated for those areas beyond the reach of the grid. Maryann Green is an academic who has been involved (with Will Cawood and others) in one of the oldest Solar Home System projects in South Africa. The project has been extended to solar and gas power for computers at a local school, biogas for the school laboratories, solar dryers for use with local produce, and water pumps. In her article, Maryann systematically evaluates the gendered impacts of the various renewable technologies at the site. She uses the Harvard model of gender analysis to do this, and this will certainly be of interest to many **ENERGIA News** readers. Maryann's article published here is taken from a much longer and more detailed paper which will be published on the *ENERGIA* website.

In the third article, Nomawethu Qase reports from a man's world. Nomawethu is one of the few women working in NuRap, one of the five private utilities that have been granted concessions to supply Solar Home Systems and other energy services in specific rural areas. The concessionaires' capital and operating costs are heavily subsidised by the government, with the aim of stimulating the rural market and facilitating energy services for the poor. These rural energy companies are run and staffed largely by men, and Nomawethu explores some of the reasons for this.

Sarah Ward is an activist from an academic background who has worked in the energy sector for ten years. In her article, she describes how the work she is now doing with local government grew out of the mobilisation of women at the time that the new

energy policy was being written. When the first democratically elected government came to power, new policies were needed in every sector. Black people, who had previously been excluded, claimed their places in many ways. The energy sector, however, proved resilient to change. Sarah was at the heart of many of these struggles, and she reflects on the accomplishments for women and sustainable energy since then. She is also the author of a book on energy, which has proved very popular.

The next article is by another stalwart in gender and energy issues. Marlett Wentzel gives an account of the gender and class differences between two sets of people who buy solar stoves: one a low-income group and one a high one. Marlett submitted two other papers. The first concerned using HIV/Aids volunteers, who are mostly women, to promote a smokeless way to light fires and use braziers, and pointed out the link between those with compromised immune systems and the need to improve air quality and reduce smoke. Her other article reflected on her experiences as the chairperson of a renewables organisation, and the gendered role she played as a woman chair of the society. It explores gendered power and roles, and raises questions about her own lack of power and her 'willingness' to fall into classic gender traps. She questions how to balance the responsibilities of women and men in achieving equity in relationships and workloads. Unfortunately, we did not have space for these two articles but they can be obtained from the author.

The Department of Minerals and Energy (DME) has spearheaded initiatives to meet women's energy needs and empower women in the sector. The authors of the sixth article describe some of these. Noluthando Poswa, who won the Women in Energy Award 2002, heads Special Projects, which is responsible for the Integrated Energy Centres, while Olga Svoboda runs empowerment courses at MEETI, the Minerals and Energy Education Training Institute. Kosi Lisa, as Director for Community Development, is responsible for guiding and implementing the Department's HIV/Aids awareness campaign and strategy. HIV/Aids affects more than 12% of the population of South Africa, and more women than men are infected. Planning will not be effective unless this pandemic is taken into account.

This issue would not be complete without a brief glance at our neighbours in Africa, and the work they are doing as featured in "Networking around Southern Africa". We will continue to work to strengthen our links through SAGEN and *ENERGIA*. ■



◆ Tiego Makhabane holds a BSc from the National University of Lesotho, and a Certificate in Rural Energy Project Planning and Environmental Management from the University of Twente, the Netherlands. She has worked with biomass, electricity, and renewables in urban and rural areas. Tiego runs her own company, Dikepolana Resources Pty Limited.

◆ Ms Makhabane can be contacted at: **Dikepolana Resources (Pty) Limited, P.O. Box 747, Buccleuch, 2066, Sandton, South Africa;** Tel: +27.(0)11.656 0601, Fax: +27.(0)11.802 0041, Email: MakhabaneT@wol.co.za



◆ Wendy Annecke is a Senior Research Specialist at the Human Sciences Research Council in South Africa. She is currently working on skills development, best international practice in the electrification of urban informal areas, and a project to develop indicators for evaluating development progress.

◆ Ms Annecke can be contacted at: **Human Sciences Research Council, Plein Park Building, Cape Town 8000, South Africa;** Tel: +27.(0)21.467 5238, Email: wannecke@hsr.ac.za or glo-worm@iafrica.com



News from the Secretariat

ENERGIA Phase 3

ENERGIA is currently in its third phase (2003 – 2006). The core funding continues to be from DGIS¹ and Sida², who together contribute forty percent of the total budget. Fund raising is therefore a priority in Phase 3.

The emphasis in Phase 3 is not only on engendering energy, but also on incorporating gender and energy into overall sustainable development. The primary goal is capacity building as reflected in its objective “to contribute to strengthening the capacity to integrate gender and energy into policies and programmes of government institutions, NGOs, knowledge institutions, multi- and bi-lateral donors, and private companies engaged in sustainable development in the South and the North”.

Thus ENERGI A Phase 3 will pursue three strategies:

- Build the capabilities of network members, focal points, policymakers, planners, and project implementers to integrate gender and energy concerns into sustainable development; and strengthen the institutional capacity of organisations and individuals committed to, and working in, gender and energy to operate as a strong network.
- Provide advocacy and advice to policymakers and planners on mainstreaming gender and energy in sustainable development policies and programmes at the national, regional, and international levels.
- Deepen the understanding of the energy, gender, and sustainable development linkages through the analysis of existing literature and case study research; and use the findings to improve project, programme, and policy design.

Capability Building

Gender and Energy Training Programme

An essential part of the capacity building strategy of Phase 3 is the development of a gender and energy training programme. This is to be achieved in two stages: development of gender and energy training materials, and then the implementation of training workshops. The first stage is currently in progress, with the first in a series of training workshops planned for early 2004 in Africa. This activity is being conducted in close collaboration with the Technology Development Group of the University of Twente in the Netherlands.

Institutional Development

ENERGIA Regional Desk Officers Regional Desk Officers (RDOs) will coordinate and facilitate national and (sub-) regional network activities from within the region. RDOs will meet regularly with regional and national focal points and play a strategic role in defining gender and energy priorities for the region. The Asia and Africa RDOs will be in place by mid-November 2003.

Gender Strategy and Action Plan for the Rural Electrification Board of Bangladesh

ENERGIA is presently supporting the Rural Electrification Board (REB) of Bangladesh in developing a comprehensive Gender Strategy and Action Plan to be integrated into the REB Master Plan (covering the period up to 2020) to be ready by January 2004. An important part of **ENERGIA**'s input will be to link this effort to related gender and energy networking initiatives in Bangladesh and in the region.

Research and Analysis

Gender in Energy Projects Approved by DFID, UK Department for International Development

Developing a policy-credible analytical framework for research on gender, energy, and poverty is the goal of a new **ENERGIA** project approved by DFID's KAR (Knowledge and Research) programme for 2003. Elizabeth Cecelski will act as Principal Investigator, reviewing past concepts and empirical evidence. Partner institutions in developing countries will form a Collaborative Research Group to carry out empirical field research and review each other's work. **ENERGIA** members will also be collaborating in another project, “Enabling urban poor livelihoods policy-making: understanding the role of energy services” to be headed by Joy Clancy.

Knowledge Resources

Annotated Bibliography for Asia and the Pacific

This bibliography will contain important material on gender/women and energy that is pertinent to the Asia and Pacific regions. It will be accompanied by a comprehensive overview of projects and programmes involved in these topics in the two regions.

Network Building

Asian Focal Point Meeting in Thailand, November 2003

All the region's national focal points will join minds to set an agenda for future **ENERGIA**

activities in the Asian region. At present the focal points are involved in an e-discussion to identify the main issues that need to be worked on at the workshop.

Gender, Energy and Water Network (GEW Net), Nepal

The Centre for Rural Technology, **ENERGIA**'s Focal Point in Nepal, shared recent news from **ENERGIA** at the GEW Net Steering Committee Meeting in September 2003. The forthcoming **ENERGIA** Asia Focal Point Meeting and gender sensitisation training were among the topics discussed.

Gender and Energy National Workshop in Uganda

The East African Energy Technology Development Network, EAETDN-Uganda, will host a national consultation workshop to facilitate the formation of a gender and energy network in Uganda. The workshop will be held in collaboration with **ENERGIA** in December 2003 as a follow-up to the Gender and Energy Africa regional meeting held in 2000.

Southern Africa Gender and Energy Network (SAGEN) Workshop

SAGEN will host a workshop before the end of the year to facilitate the development of a sub-regional proposal. This proposal will formulate strategies and activities to mainstream gender in energy in keeping with post-WSSD planning.

Regional and International Advocacy

Renewable Energy Technology for Rural Development

This conference, held in October 2003 in Nepal, looked at technical, policy/institutional, and educational/information dissemination aspects of renewable energy technology. The South and North Focal Points for the India Gender and Energy Network participated in the workshop and contributed to the gender discussions.

Renewables 2004

By being on the steering committee and participating in the preparatory process, **ENERGIA** is ensuring that gender and energy issues are taken up at the International Conference on Renewable Energies in Bonn, Germany, in June 2004. More information on this event and **ENERGIA**'s involvement can be found on page 11. n

¹ Directorate General for International Cooperation of the Netherlands Ministry of Foreign Affairs

² Swedish International Development Cooperation Agency

Networking Around Southern Africa

Compiled by the editors

Margaret Matinga from Malawi

Margaret Matinga, a researcher for the Africa Regional Policy Research Network - AFREPREN, is assessing the impact of the Mbayani low-cost electrification programme on women in a poor urban area. The programme was initiated by ESCOM, the Malawian utility, and aims to improve access to electricity through reduced connection costs and specialised pro-poor wiring methods. The compact 15-Ampere ready board consists of a bulb attached to the unit, and sockets for plugging in a fridge, a television set, a radio, an iron, and a hot plate.

Both men and women have reported that electricity improved their living standards. For women, the benefits included energy for cooking, lights, information and entertainment through the use of radio, a reduction in time spent travelling (to buy charcoal and paraffin), and reduced drudgery. Men said much the same, and included the reduced drudgery for their spouses as a benefit. There was no significant benefit in terms of increased opportunities for income generation for either men or women. Both men and women raised concerns about reliability; women were also worried about safety, whilst men worried more about costs and constraints in uses.

◆ Margaret Matinga is also working on power sector reform in Malawi, and its impact on electrification, for her Master's thesis. She can be contacted at: mtanmar004@mail.uct.ac.za

Max Mapako from Zimbabwe

Max Mapako, a member of AFREPREN, has been working on a variety of energy and gender projects in Zimbabwe for many years. The *Jatropha Curcas* project, which was intended to develop a substitute for kerosene, turned into an income generating activity for soap making! *Jatropha Curcas* Linn (JCL) survives in poor soil and stony areas. This plant is not eaten by livestock, and is therefore grown in hedgerows to protect lucrative vegetable gardens. JCL produces castor-bean-like seeds which contain 60% oil by mass. However, it was found that the oil had a much higher viscosity than kerosene or diesel, limiting its use in household lighting and engines.

Fortunately, the soap-making trials were much more successful, and a group of women has been able to produce a rich lathering, gentle soap which has become very popular. The residual cake that remains when the oil has been extracted has proved to be an excellent organic fertiliser. There is significant local and international demand for the seeds: producing enough seeds is the next challenge. Thus an energy project has turned into a manufacturing one, to the satisfaction of the women, men, and children who gather and sell the seeds to the oil press operator.

◆ Maxwell Mapako can be contacted on: maxwell_mapako@yahoo.com and more information on the project can be found on the Biomass Users Network web page at: www.kcl.ac.uk/kis/schools/life_sciences/life_sci/pg/who/homepage/jwoods/bun-zim/bun-zim.htm

May Sengendo from Uganda

May Sengendo from Uganda presented a paper which helped trainers understand gender mainstreaming at a workshop on Gender and Energy: Capacity Building for the Uptake of Renewable Energy Technology in Africa. The workshop was held in June 2002 in Johannesburg, and was organised by Khamarunga Banda on behalf of the United Nations Environment Programme and the Minerals and Energy Policy Centre (MEPC). May looked at training guidelines for gender and energy workers, and specifically how to combine skills in participatory methods with a gender mainstreaming perspective in order to ensure gender-responsive policies.

May explained that participation must involve interactive dialogue that enables the collection of data and promotes self-reliance at the same time. The methods used in Uganda to obtain energy information included resource maps, social maps, mobility maps, time lines, historical profiles, and seasonal calendars. The energy information was quantified and collated with the activities carried out by women and men, and the related energy requirements were deduced. This revealed that women's needs involved household, agricultural, and income generating activities, whereas men were focused on income-generating activities. May then suggested a checklist for ensuring gender mainstreaming in energy programmes, organisations, and policies. The material from this workshop is available from MEPC at the address given below.

◆ May Sengendo is completing her doctoral thesis at the African Gender Institute of the University of Cape Town, and has been engaged in developing Uganda's first gender-sensitive energy policy which we eagerly await. She can be reached at: sengendo@infocom.co.ug

Khamarunga Banda's work at SAGEN and AFREPREN

Khamarunga Banda from Kenya is currently based at MEPC in South Africa. For the past eighteen months she has been co-ordinating the Southern African Gender and Energy Network (SAGEN), and has been responsible for implementing the new focus on gender and energy for AFREPREN. SAGEN produced an overview paper on women and energy in Africa for the World Summit on Sustainable Development in August 2000. The AFREPREN/MEPC Policy Seminar in May 2003 was a follow-up to the WSSD and focused on renewables, and a report is available from MEPC.

As part of AFREPREN's focus on gender and energy, Khamarunga has been conducting a study on access to electricity in the Limpopo Province of South Africa. She has been struck by the high incidence of child labour and the detrimental effect of this on children's schoolwork and leisure time. The high incidence of adults with HIV/Aids may further exacerbate child labour. Khamarunga has promised to write this up for us when she has completed her study.

◆ She can be contacted by e-mail at: khamarunga@mepc.org.za or by mail at: MEPC, P.O. Box 395, WITS 2050, Johannesburg, South Africa.

Could you please tell me how you got involved in the energy sector?

I got into the sector through the development initiatives that I have been involved with in terms of empowering both females and historically disadvantaged South Africans. I have an ambition to see women prosper and be exposed to opportunities in the energy sector, from training to empowerment and climbing the business ladder.

As Senior Manager: Special Projects, what does your work entail?

Within this Directorate for Special Projects, the main focus is on rural household energy provision and issues, and this implies working closely with women as they are the primary focus for improvements in household energy. The DME's strategy for increasing the ability of rural communities to get improved energy supplies is based on implementing the Integrated Sustainable Rural Development Programme. This is discussed in my article in this issue of **ENERGIA News**.

What are some of the special projects that your Directorate has been involved in that focus specifically on women's empowerment?

The focus for this year is on women in the renewable energy sector. We have used the Technology for Women in Business (TWIB) infrastructure to facilitate training workshops for women in renewable energies. This includes exposing women to various renewable energy technologies in the context of business development.

In partnership with Women in Oil and Energy South Africa (WOESA) - a leading organisation in facilitating the participation of women in business ventures in the oil, gas and other energy sectors - we are facilitating access to funding, training, and opportunities for women in the industry.

To this effect, we have just sponsored a training course, delivered by MEETI (Minerals and Energy Education Training Institute), called "Opportunities for women and entrepreneurs in energy", in conjunction with WOESA, where most of the participants were women drawn from the WOESA database of members.

We also run children's programmes where we have one week assigned as 'Child Energy Week'.

We take children, both boys and girls, to a power station and expose them to various career opportunities in the energy sector. A training manual plus a teacher's handbook have been prepared to guide children through careers in both the energy and mining industries. We hope this will

Meeting **ENERGIA** Members



Noluthando Poswa
Senior Manager: Special Projects

Department of Minerals and Energy, South Africa

Interview by Tieho Makhabane

encourage more girls to take up careers in these industries.

Another important activity within the directorate is to train trainers. Here we encourage public-private partnerships to empower women. The course manual was sponsored by SASOL (an energy company with a focus on oil and gas), and this year we are working closely with the National Development Agency to prepare for the national roll out of the training of trainers course.

In August 2002, you were given the 'Women in Energy Award' sponsored by ESKOM and endorsed by DME for an 'Innovative Approach to Energy Efficiency'. Can you tell us about this?

In the Women in Energy category of the ESKOM awards, the focus is on new ways to use energy with greater efficiency, new ways to uplift communities through the efficient use of electrical power, and new ways to improve people's lives.

The award acknowledges women who demonstrate a clear commitment to energy efficiency and have been key drivers or leaders in sustainable energy practices or programmes, in Demand Side Management interventions, or in initiatives within communities, especially disadvantaged ones.

My winning of the award was seen as recognition of the many activities that I

spearhead within Special Projects, particularly the championing of the Integrated Energy Centre (IEC) programme. I work with women in the communities, where a quarter of their income, on average, is spent on energy. Energy usage is generally inefficient, unhealthy, and unsustainable because people do not know how to access and use energy efficiently. The IEC's programme that promotes energy efficiency is achieving remarkable results and we have secured funding to establish twenty centres. Each centre will have an energy shop with a permanent exhibition of energy efficient technology, as well as educational material on energy, its use, and the manufacture of energy products.

Finally, what do you perceive still needs to be done to ensure that more women enjoy the benefits and opportunities in the energy sector at all levels?

I think a lot still needs to be done. There is still a major gap in terms of women penetrating the energy and mining industries. However, our Minister is very diligent in making sure that women are exposed and given opportunities. Right now I have with me company profiles of women in mining to submit to the Minister. The Department is in the process of establishing a Chief Directorate of Community Development, which will be fully-fledged by next year. This will become involved with two-way design and implementation of programmes between communities and the department. Women will be catered for at every step. ■

◆ Ms Noluthando Poswa is a Senior Manager within the Directorate of Special Projects in the Department of Minerals and Energy. She also heads Women in Oil and Energy South Africa (WOESA), which aims to empower women to understand the business and management of the industry, and to sensitise the industry and government to the needs of poor people regarding access to, and control over, appropriate energy. She champions the Department's IEC programme, which spearheads marketplace initiatives that promote energy efficiency within the disadvantaged communities.

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One Man One Megawatt, One Woman One Candle: Women, Gender, and Energy in South Africa

Wendy Annecke

This is a brief overview of the history, over the last hundred years, of women and gender in the energy sector of South Africa, taken from my recent doctoral thesis. South Africa is a society where race has overruled any other category of social organisation and is thus key in accessing privileges and resources, and so attention has to be paid to race as well as to gender.

The study starts with a description of women in the energy sector in South Africa in the early 1900s, when the majority of women, and in particular black women, were invisible users of wood, primarily in the domestic sphere. Men, on the other hand, were working in the public domain developing an already significant electricity industry, mostly for the benefit of the gold mines around Johannesburg. The study ends a hundred years later with the appointment of black women to two of the most powerful positions in the national economy: the Minister and Deputy Minister of the Department of Minerals and Energy.

The events that have shifted women from invisibility to top positions are significant. However institutional transformation is not necessarily accompanied by social transformation. Many women in South Africa still live in conditions similar to those of a hundred years ago, carrying wood and water for daily use probably over longer distances and with greater danger from gender-based violence than their grandmothers and great grandmothers before them.



Women have emerged as powerful participants and decision-makers in the Energy Sector - Ms Phumzile Mlambo-Ngcuka, Minister of the Department of Minerals and Energy, left, with Wendy Annecke, author of this article, right, and Mr. Duma Nkosi, Chair of the Parliamentary Portfolio Committee. (Photo: Courtesy of EDRC)

There are few causal links that can be drawn between women and energy. However a cursory analysis of the positions that women hold along the energy chain reveals male domination from power stations and chemical laboratories to technical teams and tariff/price negotiations in boardrooms. In the biomass sector, where most women are situated, women are seldom in control of resources. In terms of South Africa's commitment to gender equality, as spelt out in the Constitution, and in terms of South Africa's ratification of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1996, women should be able to participate on an equal footing with men, and enjoy the same rights as men, in all sectors. My thesis tries to assess the progress we have made along this path.

A Feminist Perspective

The study brings a feminist perspective to bear on women/gender and energy studies and argues that feminist politics is what distinguished early South African gender and energy literature from other approaches. The definition of feminist used is broad enough to include those women who consider themselves Womanists or Blackwomen, since the primary feminist

characteristic would be to mobilise to make a difference to the conditions of women

One of the reasons that women/gender and energy studies developed somewhat differently in South Africa to the rest of the world was its pariah status and the academic boycott in place against the apartheid state in the late 1980s and early 1990s. South African energy researchers were not aware of the way in which the Women in Development (WID) approach was being incorporated into energy projects. Essentially the WID approach seeks to reduce women's burdens and offer women new opportunities. It can be observed in those projects that acknowledge the gender division of labour and assist women to fulfil their (specifically energy-related) roles and responsibilities towards children, men, and other women.

In South Africa, women's gendered roles were contested terrain. The liberation struggle was a struggle for political power. Women's emancipation and gender equality were also understood as a struggle for power, and the contest was framed in political terms. It was articulated not by development workers, but by women who were part of the liberation movement, so that the struggle between men and women was far more 'up

front' than in many other parts of the developing world.

Early South African gender and energy research reflects this concept of gendered relationships as a struggle involving co-operation and conflict. Later this understanding was reflected in the preoccupation with strategy: whether or not the delivery of energy services, and gender equality through the empowerment of women, should be written into policy and the goals of development (James 1991; Makan 1994; Crawford Cousins 1998). It was generally believed that while lightening women's burden was important, equality was unlikely to be achieved unless women's subordinate position changed. This specifically in relation to the burden of domestic fuel management and cooking, but also with reference to women's location in relation to men in decision-making structures and economic investment in the energy sector.

The unabashed challenge to patriarchy came from women of different disciplinary backgrounds working in the sector.

After 1994, gender struggles in South Africa became institutionalised and quite quickly 'women's issues' became depoliticised. Around the same time, women energy researchers began to read and be influenced by international literature, and their own work began to reflect a much less political view of gender. Empowerment, for example, which had been a project of emancipation, became watered down and used instrumentally in such notions as women being empowered by solar cookers. Prior to 1994, enabling women to better do what they have always done would have been seen as trapping them further in the roles proscribed by patriarchy.

Part 1

The first part of the thesis explores the essentially masculine project of development following WWII. It observes that when the early, large infrastructure energy projects failed to alleviate poverty, one of the reasons given for their failure was that women had been excluded. Various approaches (WID /WAD/GAD/ GED¹ and post-modern) for the inclusion of women began to filter into energy for development projects. Through the examination of domestic energy use, the role of women began to be highlighted and attention began to be paid to 'women's energy needs'. The founding of *ENERGIA* in the mid-1990s demonstrated the determination of a group of enterprising women to put (and keep) women and energy on the international agenda. South Africa was not part of this.

In the 1980s, progressive energy research in South Africa was conducted by a group of men at the Energy and Development Research Centre, who insisted on the importance of energy provision for all the population, rather than a narrow emphasis on energy for strategic goals and the white middle classes, but they neglected gender issues.

The relationship between politically progressive research and feminist research was revealed, since these men neglected to find out how women perceived their energy needs, and instead took ready-made solutions (such as solar systems) into rural areas for women to use, and were disheartened by their failure.

Part 2

The second part of the thesis particularly examines the relationship between feminist researchers and the energy sector. It does this by evaluating the first three women-centred energy studies that were undertaken in terms of the demands made by South African feminists as well as against the backdrop of international understandings of feminist research. The three studies put women at the centre, and examined energy as one of the necessary daily requirements. They highlighted the energy concerns of poor women and, at the same time, they provided examples of gendered, hierarchical power relationships within households, communities, and society, which, although not directly related to energy needs, function to maintain and perpetuate women's subordinate position, and their inability to improve their own conditions. The studies ask whether providing energy services or challenging structural power relations will contribute more to the goal of gender equality. These women-centred studies introduced a new perspective, on energy *users* rather than energy *use*, and changed the way domestic energy studies were carried out.

Once women's invisibility in the sector had been raised, various attempts were made to redress this. The Women's Energy Group (WEG), started by Rita Mfenyane, was an innovative response to the lack of women in the negotiating forums that were constituted to develop new policies for the post-apartheid era. WEG members, in particular Sarah Ward, made a significant contribution to the development of new energy policy by designing and conducting a consultative process for 'the poor' including women, and developing policy accordingly. This part of the thesis ends with a look at the difficulties of sustaining a women and gender focus in research organisations which are used to, and comfortable with, masculine norms.

Part 3

The third part of the thesis will perhaps be of most interest to *ENERGIA* readers because it looks at factors that have assisted the progress and visibility of women in the sector, in particular:

- the major energy research programmes in South Africa since 1994 that have involved women as researchers and had women/gender issues as part of the project, and
- the impact of other strategies including the appointment of a gender-aware Minister.

1) The major research programmes and resulting literature for the period 1994-2000 can be divided into four categories:

a. Monitoring, evaluating, and assessment of energy use patterns.

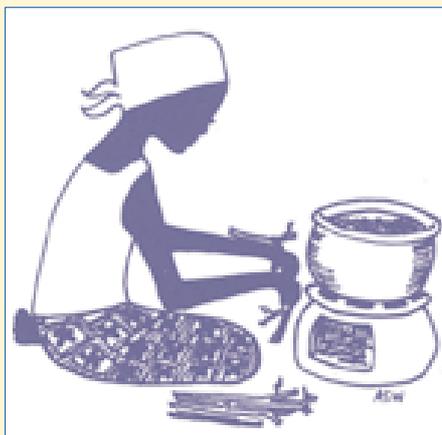
This includes reports based on fieldwork: paraffin and wood studies, farm workers as a special category, the social determinants and rural electrification studies, comparisons between the satisfaction of grid and off-grid users, energy-use and income generation (Hansmann 1996; James and Ntutela 1998; EDRC 1998; Annecke 1998; Qase 1999).

The Role of Electricity in the Integrated Provision of Energy to Rural Areas, and The Social Determinants of Energy Use in Low-income Households in Metropolitan Areas, were two national three-year programmes that paid attention to energy use in low-income households. Both ran from 1995-1997, and saw women researchers moving into positions of qualitative and quantitative project leadership for the first time. This considerably increased the pool of women with energy research experience. These programmes were important because they influenced the manner in which domestic energy problems were perceived and solutions sought, and they provided the information needed for policymaking. Over forty reports were produced. Issues which came up regularly included the need to treat the household as a site of conflict and co-operation, to differentiate between the members of the household and note their ability to command labour, every day multiple fuel use, patterns of fuel and food consumption, energy and women's income generation, and issues of health and safety. In particular many questions were asked about the efficacy of electricity as a contributor to women's health.

It was found that the health care available to women in terms of clinics and staff had not improved significantly since electrification (Thom 1997; Ross et al 1997). However safety had improved since there

was a reduced likelihood of fires through using fewer or no candles. A benefit of electrification often mentioned was women's perceived ability to move around safely at night when there were neighbourhood lights.

Another finding was that electrification does not automatically produce conditions which lead to more-equitable gender relationships. Alleviating the burden of wood collection through the delivery of affordable electricity and appliances may be an improvement, but women are still responsible for food preparation and cooking among their many other tasks. However, it has been hypothesised that the *process of electrification* could be used to facilitate social changes, which could be conducive to more equitable relationships between men and women (Crawford Cousins 1998; James 1998). The *process of research* may also provide opportunities for men and women to raise issues they were usually silent about during interviews or community meetings with facilitators present. Having begun such a conversation, further engagement may bring about a change in relationships in the future.



b) Conceptual papers

There is a body of South African literature concerned with thinking about gender issues. These include Amita Makan (1994) on a gender perspective for energy planning, Bronwyn James's (1995, 1998) work on exploring the silences in development theory and the possibilities of empowerment in the electrification process, Crawford Cousins' (1998) consolidation and integration of rural electrification knowledge, and contributions to the Green and White papers. Others include the gender framework suggested by the conceptual review by Hooper-Box et al. (1998) of energy research methodology, and suggestions for an expanded and mandatory framework for gender and energy research; and Annecke's (2000) concept paper for the UNDP and her paper on women and climate change (2002).

c) Policy papers

These include Ruiters' (1995) audit of the race and gender composition of the energy sector, the women's energy budgets (Makan 1995; James and Simmonds 1997), and the contributions of women to the White Paper on Energy Policy. The two women's budgets pointed out that the energy budget has not been sufficiently 'turned around' since apartheid days, and still allocated less than 1% to energy for development and/or gender matters.

The attempts by women to influence policy have been documented by James (1999) and Annecke (2000). Efforts to engender new policy in South Africa were disappointing. A strategy to deal with hierarchical power was needed but not forthcoming. However, a framework had been devised to analyse energy activities and identify strategic leverage points at which intervention is necessary, or most likely to succeed.

d) Renewables

Perhaps the most disappointing research programme from a gender perspective was the Biomass - Plant for Life study (1991-1996), which was terminated after a long and inconclusive research phase without implementation being attempted. Women, who had been excluded from the study, were furious. At the final workshop they raised questions of empowerment and equality as well as delivery, and tackled the patriarchal and hierarchical powers head-on. They demanded that a 30% quota of women be mandatory on all decision-making forums concerned with energy and development. Little further work has been done on biomass for energy in South Africa. However, with the roll-out of Solar Home Systems and renewed interest in solar cookers, solar geysers, and renewable technologies, Winnifred Mandlazi, Marlett Wentzel, Tieho Makhabane, and Maryann Green have produced work on biomass, biogas, and solar technologies (see articles in this issue).

2) Other strategies: numbers and a woman minister

The last chapter of the thesis reviews the progress made by women at various levels and through multipronged interventions. It evaluates the extent to which poor women's energy needs have been met through the delivery of grid and off-grid energy services, and whether the ability to command labour and share tasks would make a difference to domestic burdens, especially of poor women. Since 1994, increasing numbers of women have entered the energy sector in decision-making positions. The electricity utility, ESKOM,

embarked on a pro-active women's empowerment programme and employs more than 21 women engineers in a variety of positions (Johnson and Fedorsky 2000). Some oil companies have also encouraged women's entry into the sector. However, the biggest breakthrough for women came with the appointment in 1999 of Ms Phumzile Mlambo-Ngcuka as Minister of the Department of Minerals and Energy. By the end of 1999 all men at the DME had signed a Gender Pledge, a unique and revolutionary document that places sexual politics at the heart of all daily activities and gender relationships, and requires men and women to work for equality. The Minister initiated an annual Technology for Women in Business (TWIB) award, and a landmark for women's participation in the sector was achieved when the first two days of the African Energy Ministers' Conference, held from 11-15 December 2000 in Durban, were devoted to the theme of Women in Energy (ESMAP 2001).

Looking Ahead...

The study closes with a reflection on the impact that the HIV/Aids pandemic is likely to have on energy planning, and some recommendations on how the relationship between research and policy should be strengthened so that policy reflects the government's commitment to gender equality and is adequately resourced.

In the last hundred years, some considerable progress in terms of women has been achieved in the energy sector in South Africa; women have emerged as powerful participants and decision-makers in several forums, but the fact that for many women conditions have not improved means there is still a great deal of work to be done. ■



◆ The author is also a guest editor for this issue. Her contact details are found on page 2

◆ All the papers referred to in the article can be sourced in the Annotated Bibliography of Women and Energy in Africa (2002) on www.energia.org

Gendered Impacts of Various Renewable Energy Technologies in Maphephetheni, Kwazulu-Natal

J. Maryann Green

Over the past ten years, Solar Engineering Services (SES), a private company involved in development projects, has installed a variety of renewable energy technologies in Maphephetheni, in rural Kwazulu-Natal.

While these projects have been successful from a technical perspective (most of the equipment was installed correctly and is functional), the impact of the technologies on rural incomes and labour burdens, particularly as they affect rural women, had not been fully documented. A study was therefore implemented to assess the benefits that have accrued to women and men, and this provides a gender-based evaluation of renewable energy projects implemented in Maphephetheni. The full paper (which is available from the author) provides a description of the methodology, and a discussion of the gender issues arising from the results. It was thought that the use of the Harvard Model for analysing energy-related activities might be of most interest to *ENERGIA* readers, and this was therefore selected as the focus for this article.

The energy technologies that were investigated included:

- Solar thermal applications: 2 solar crop driers, 5 solar cookers
- Solar PV applications: 54 Solar Home Systems (SHSs)
- Water pumping: 1 ram pump, 4 treadle pumps
- Biogas digesters: 1 domestic system

In order to determine the impact of the range of energy technologies, a sample of 28 households that used renewable energy technologies was selected. This included 17 women who owned SHSs, five women that used solar ovens or crop driers, five who used the treadle and ram pumps, and one household with a biogas digester. A control sample of 31 households with no access to any of the technologies was also selected. There were no statistically significant differences between the two groups regarding household composition, educational levels, and income levels and sources.

The Harvard Model of Gender Analysis

The Harvard Model is one of the gender analytical tools available for analysing social activities (Skutsch 1997). Mostly, these tools provide matrices for analysing field data in rural development projects. Using such a matrix requires a sophisticated understanding of social relationships and the underlying factors. The procedure is to draw up an activity profile in relation to tasks and work: those that are productive in terms of goods and services, those that are reproductive (maintenance of family members), and community support activities. These reflect the triple role of women in society. The analysis is then taken further by focusing on the access to and



Traditional fuel collection in South Africa (Photo: Courtesy of E. Cecelski)

control of resources. The third step is to analyse what factors lay behind the observed patterns of activities, access, and control. The interview guide used in this study was adapted from the Harvard model and included the use and impact of energy technology, access to, and control over, energy resources, and perceived benefits.

The Harvard model was selected for this study because livelihoods in the area are predominantly based on subsistence agriculture with social welfare support and it seemed appropriate for the lifestyles of women in Maphephetheni. The model provided a good reflection of household activities, and the researchers converted people's responses predominantly into time-based data. Access to and control over technology was difficult to determine from the people's responses but coupling the information with observations provided sufficient insight. Small focus group discussions would have provided a better reflection of the links among perceptions of household power relationships, efforts saved, and the technologies concerned. Unfortunately, this possibility was only considered after analysis of the data and could not be supported with the available funding.

Productive Activities

The data were analysed to see whether the availability of any of the energy technologies allowed women's working patterns to change (particularly in relation to men's). Productive activities related predominantly to crop farming in Maphephetheni. Culturally, men did not work in the fields unless they had commercial enterprises on their own land. So their time spent in planting, maintaining, and harvesting was minimal as shown in Table 1. Those women in the traditional energy group spent slightly more time planting crops than women in the technology group but there was not a significant difference.

Table 1: Average time spent weekly on productive activities

Type of Work	Traditional Energy Group (Hrs)		Technology Group (Hrs)	
	Women	Men	Women	Men
Planting	7.6	0.6	6.5	2
Maintenance	6.4	0	5.8	0
Watering	7.3	0	4.1	1.2
Harvesting	0.9	0	1.5	0
Craft Work	sporadic		sporadic	
Total Earnings	R70/month (3 people)		R1300/month (11 people)	

There was likewise little difference between the time the two groups of women spent maintaining (weeding) their fields. Watering fields is one area where one would expect a major difference between the two groups and, indeed, traditional energy users reported spending almost twice as much time watering. A t-test showed that this saving of 3.2 hours each week was statistically significant. None of the men in the traditional energy group did any watering, and only four men in the technology group did. Perhaps "women's" work becomes more attractive in the presence of technology!

Women lacking pumping technology reported spending less time harvesting than those with pumped water. It could be that women with technology used the time saved to harvest their crops. There may also have been more to harvest because of the accessibility of pumped water.

Those women in the technology group with SHS lights reported using them to extend their productivity through craftwork. However, they could not quantify their time spent on this, as it was so sporadic and was still done mostly during the day while children were at school. They sewed clothing and household goods, made beaded items, and produced basketry.

From the traditional energy group, three women earned R70¹ a month between them selling items such as crops and fertiliser, while 11 women with energy technologies made a total of R1300 per month from sewing and crafts. These figures give an average of R23 and R118 per month respectively for those women involved. In the technology group, three women earned a total of R320 a month selling items such as crops and fertiliser, while two women earned R250 a month from sewing and handicrafts. These equate to averages of R107 and R125 a month for these households. It could have been expected that these figures would relate to the relevant technologies and, indeed, one woman reported earning R57 from selling fertiliser effluent from the biogas technology. The dressmaker, however, used a hand machine, and the craftwork was also done by hand. Although, in general, the productivity could not be related directly to a specific technology, it is clear that more of the women with access to technology managed to be productive.

It should be noted, however, that there was not much incentive to increase income-generating activities in Maphephetheni. The community did not have a ready market or a cash-based economy. What is the point of being productive when your neighbours do not have money to buy your products? Neither is there much incentive since the women all tended to produce very similar items.

Reproductive Activities

Men did not fetch water, irrespective of the availability of technology. Women in the traditional energy group reported spending 7.7 hours per week fetching water, while the technology group reported an average of 5.6 hours. The apparent average reduction of

2.1 hours hides a wide variation in individual times and was heavily influenced by the location of community taps and the presence in some cases of household taps. The ram-pumped water was not potable without treatment and so was seldom collected for household use.

Table 2: Average time spent weekly on reproductive activities

Type of Work	Traditional Energy Group (Hrs)		Technology Group (Hrs)	
	Women	Men	Women	Men
Collecting Water	7.7	0	5.6	0
Collecting Fuel	6.0	0	5.8	0
Laundry	4.4	0	5.2	0
Childcare	21.0	0	11.9	0

There was little difference in the time spent on collecting fuel (predominantly wood) between the two groups of women (but then only biogas, and solar cooking to an extent, addressed this issue). However, when the data for the woman with access to biogas were compared to the traditional energy users, there was a significant difference – namely the biogas user collected no wood at all. There were no differences between women using solar ovens and those in the traditional energy group. The average amount of time that women in the traditional energy group spent in childcare was much greater than for the technology group but there was such great variation in the individual times that these differences are not statistically significant.

Technology made no difference to the amount of time the women spent doing laundry. A few of the pumps may have helped the women do their washing closer to their homes.

Community Activities

Women's roles in society often include being responsible for community activities and group involvement outside the home. This is where one's worth is often validated by one's peers. This activity was interpreted as relating to working in the training centre for sewing or baking by six women, one worked at the local crèche, and two were cooking to provide meals for schoolchildren.

Of the nine women, the four with no technology support reported spending an average of 7 hours per week, and the five with technology support 14 hours per week on such activities. This indicates that, seemingly, more time was spent in communal activities when technology support was available. Nevertheless, very few women worked on community activities.

Table 3: Average time spent on communal activities

Type of Work	Traditional Energy Group (Hrs)		Technology Group (Hrs)	
	Women	Men	Women	Men
Community Projects	7	0	14	0
Meetings	0	*	0	*
* Could not be quantified				

Three men were members of school governing bodies but could not provide activity times because meetings were rare and often cancelled. Community activities were not a major commitment in Maphephetheni. Therefore the major conclusions are that men spend little time on community activities, and that energy technology may help those women who are involved to contribute more time to community life.

Access to and Control of Energy Resources

All the women with technology reported that they had access to the equipment at any time and could use it when they wanted to. The pumps were under the control of the women who said that the men were not involved at all since the pumps served the community gardens. In the case of the ram pump, the women also maintained it after receiving training. It was different with the treadle pumps – here, the women had to wait for someone else (a man) to fix the equipment. The solar ovens and the crop dryers were linked to women's tasks and therefore men did not control them. The women reported that they had ready access to the SHS-produced power and generally used the lights, TVs, and radios as they wished. However, they were too busy during the weekends: then husbands and teenage children used the radio and TV more.

Conclusions

This study has shown that the impact of the energy technologies has predominantly been on women's lives. It has enabled less time to be spent on certain strenuous field activities and more time to be spent on community activities. It has permitted women to realise that they are capable of being trained to do daily maintenance. It has also shown that very little income generation has resulted from the access to energy technology, one of the main reasons being the lack of local markets. Maphetheni has a very small cash economy, and when the women make items, or produce excess crops, there is no-one with money to purchase what they produce. A tourism project is expected to make a difference by providing a market.

The women perceived that the benefits from technology mostly lay in having more time to do what they already enjoyed doing rather than taking on new activities and, as a result, they are less tired and less harassed. The men's benefits lie in their leisure activities: watching sport on TV and socialising with their friends. More time should be spent in training women to maintain their own systems. They are the major users and if they could fix minor problems they would reap the immediate benefits, as is the case with ram pumps. Both men and women were capable of this – but cultural views of who does what have to be overcome in order to ensure that capability is put into action.

Greater impact from the energy technologies could be gained by presenting innovative ideas after installation and providing a more supportive marketing environment for the sale of productive goods.

Research that seeks to analyse these impacts would benefit from larger samples and a participatory methodology for obtaining more detailed data. ■

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1 There are about 8 South African Rands (R) to one US \$.

RENEWABLES 2004, JUNE 1-4 2004, GERMANY

Germany will host the International Conference for Renewable Energies, *Renewables 2004*, in Bonn next year. The conference will chart the way towards an expansion of renewable energies worldwide, responding to the call of the Johannesburg summit for the global development of renewable energy. The conference will address the key question: *how can we substantially increase the proportion of modern renewable energies in industrialised and developing countries?*

◆ Further information can be obtained from: **Secretariat for the International Conference for Renewable Energies, Bonn 2004, Postfach 5180, 65726 Eschborn, Germany.**
Tel: +49.(0)6196.794 404, Fax: +47.(0)6196.794 405; E-mail: info@renewables2004.de; Web site: www.renewables2004.de

A series of preparatory events are being organised in various regions to mobilise support for the conference and define regional priorities for further steps. *ENERGIA* has participated actively at several of these events and been instrumental in integrating gender and renewable energy issues in the outcomes of the following consultations:

1) "Renewable Energy On The Market", a conference organised by the Danish Government, in Sonderborg, Denmark, 17–19 September 2003. Renewable energy experts and representatives of governments

from 60 countries attended this event. The findings will be incorporated into the preparatory process for *Renewables 2004*.

◆ More information on the conclusions of the conference can be found at: www.mim.dk/reconference/conclusions.asp

2) A civil society strategy workshop in Bonn, Germany, organised by the Heinrich-Böll-Foundation, German Forum for Environment and Development and WWF Germany. 54 representatives from NGOs involved in renewable energy across the global were present. The main outcomes of the workshop were:

- the formation of "Citizens United for Renewable Energy and sustainability" (CURES), a network of non-governmental organisations that have joined hands in preparation of *Renewables 2004*
 - a declaration to support CURES inputs at *Renewables 2004*
- ◆ For more information on the declaration and how to sign up to it, please contact the German Forum for Environment and Development, Jürgen Maier at: chef@forumue.de

ENERGIA will also be represented at the preparatory Regional Conference for Latin America and the Caribbean, Brazil, 29–30 October, 2003. Adélia de Melo Branco, Joaquim Nabuco Foundation, Brazil will participate in the regional meeting to advocate for the inclusion of gender and renewable energy issues in the discussions and outputs of the meeting.

Gender Equity in Off-Grid Utility Implementation: Challenges and Opportunities

Nomawethu Qase

Nuon RAPS Utility (Pty) Ltd., or NuRa, is a partnership between RAPS (Pty) Ltd (South Africa) and a Dutch utility (NUON), established for the purpose of providing off-grid energy services to remote rural households in northern KwaZulu-Natal, a province on the east coast of South Africa.

The basic provision consists of a 50 Wp Solar Home System (SHS) with a 100 Ah battery, which provides enough power to run four lights for 3 to 4 hours per day, a black and white television, and a small radio. The capital and operating costs are heavily subsidised by the government, and the systems are provided on a fee-for-service basis, through an energy store or an energy service company (ESCO).

This article explores some of the challenges facing NuRa in terms of promoting gender equity in the business. Initially, the key functions of the utility are outlined, followed by a discussion on empowerment opportunities within the utility. A staff profile is included showing the ratio of men to women in the utility. In line with the analysis presented, this article highlights some of the critical imperatives when seeking to advance gender equity in off-grid utility implementation.

Key Utility Functions

Energy Store Set Up and Management

In 2001, RAPS, with funding from the Dutch Government, ran a pilot programme including a feasibility study, the installation of about 400 SHSs, and three energy stores. Since May 2002, NuRa has accelerated the rate of installations and opened an energy store and a regional office at Mkuze (a small town in the area). The energy stores are responsible for customer liaison, receiving applications and payments, and the maintenance and sales of appliances, paraffin, and liquefied petroleum gas (LPG). The regional office functions as the main stock warehouse and directs planning and marketing activities etc.

Revenue Management

The utility uses an 'EnergyStream' Energy Service Management System (ESMS) developed by RAPS Technologies to run its business. The ESMS is a purpose designed and developed software and hardware solution, which connects the energy stores, the regional office, and the head office (based in Pretoria) forming a tightly integrated information system. All applications are electronically captured at the stores using point of sale (POS) equipment, approved at head office on the System Master Station, with job cards then generated electronically at the appropriate store for action. The ESMS

makes cash book management, stock control, general vending, and job card management easier, over and above the critical function of managing SHS fee collection. It has been difficult for POS operators to understand and be able to use the system, but through patience, improvements in training, and comprehensive procedure documentation, they have mastered the critical tasks necessary to keep it in operation. Women generally dominate this vital function.

The table below shows the numbers of men and women at the four energy stores, in relation to the job positions available within the utility. (Data for Mkuze include staff at the regional office)

NuRa Staff Profile								
Function	Mkuze		Mbazwana		Manguzi		Jozini	
	Men	Wom.	Men	Wom.	Men	Wom.	Men	Wom.
Commissioning Agent		2						
Maintenance Technician	4		2		1		3	
Inspector (Technician)	1		1		1		2	
Energy Store Manager	2		1		1		1	
Point Of Sale Operator		2		1	1	1		2
Stock Control Officer	1							
Administration Manager		1						
Regional Manager	1							
Administration Clerk		1						
General Worker (inc. drivers)	5	2						
Total Staff	14	8	4	1	4	1	6	2

Out of a total of 40 staff members, 12 are women. Only one woman is in a management position and virtually no women are involved in the technical field operations. The only woman who was involved in installation work has left the energy field to pursue a different career. Possible reasons for the low ratio of women to men are provided below.

Empowerment Opportunities

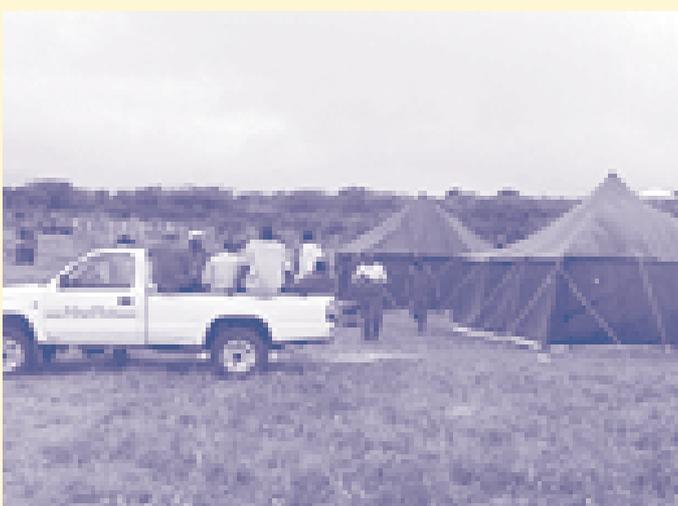
Technical Installations, Inspections, and Maintenance

Men have generally thrived in the technical functions of installation, maintenance, and inspection. For a period of approximately 18 months, NuRa did the installations itself, but this function has since been outsourced to subcontractors, most of whom are former NuRa employees. The utility remains responsible for the inspection of all installations and maintenance of the systems. Women have missed out on the opportunities offered by outsourcing, either because of the physical demands of the work or due to limitations placed on them by their cultural environment. For instance:



Technician carrying out internal wiring – ladders form part of the tools that they have to carry around. (Photo: Courtesy of Nuon-RAPS Utility Pvt. Ltd.)

- Very few women responded to the job advertisements and/or expressed interest in these technical positions even though the advertisements were non-discriminatory. Whilst the majority of applicants were young and inexperienced, men had a competitive advantage because of tertiary-level educational qualifications in either electrical engineering or management fields.
- The physical terrain makes fieldwork difficult and potentially dangerous. The area is sandy and bushy to the east, while the western side is mountainous and rocky. Livestock in the area generally roves around uncontrolled posing a danger to motorists and, as a result, some technicians have been involved in car accidents. Vehicles get stuck in the sand and bushes so that technicians sometimes have to carry their equipment (mounting poles, solar panels, battery enclosures and batteries, plus working tools) over long distances to the houses.
- When the utility did its own installations, teams of technicians and their drivers had to camp out in the villages where they were working. This arrangement was unsuitable for women given the prevalence of rape and other gendered violence in South Africa.
- NuRa management has introduced motorbikes for use in maintenance callouts and inspections to counter the transport problems. Since motorbikes are not commonly used in South Africa, all the affected staff had to apply for motorbike licences. However, the women who are responsible for marketing and community liaison work have simply refused to obtain these licences arguing



Installation team camping on site! (Photo: Courtesy of Nuon-RAPS Utility Pvt. Ltd.)

that they are not accustomed to wearing trousers which seem to be the most appropriate dress for riding a motorbike to counter the transport. They ask why they should buy trousers just to ride motorbikes.

Energy Store Operation

Whilst women are not involved in technical field operations, there are opportunities for them to get involved in energy store management. The utility aims to open a network of approximately 25 energy stores to cover the targeted 50,000 installations. It is expected that local residents will ultimately operate these energy stores on a franchise basis. Future responsibilities will include marketing, revenue collection, and maintenance of SHSs. Revenue will also come from the sale of other energy-related products including liquefied petroleum gas and paraffin. No women are currently involved in energy store management functions, but through operating the POS systems they are exposed to this function, and so could use this experience to advance their careers. There is also a possibility for women to use their flair in administrative skills by taking up management roles within the regional offices since a total of four regional offices are envisaged for the entire utility operation.

It is essential, for a handover of store operations to local franchisees, that there should be local personnel with the capacity to successfully manage and run the energy stores as independent businesses according to the NuRa management framework. In addition, a store's clientele would have to grow to the extent that commissions on revenue would fully support the store.

Conclusion

So far, the comprehensive training offered to the technicians has been useful in empowering former utility staff to take over the subcontractor installation opportunities. At this point it is crucial to offer support to the women who have taken up employment opportunities within the utility, since this has been a major step for them, changing the prevailing mind-set of girls being seen only as future wives, while boys are seen as prospective husbands and breadwinners, capable of learning new technologies. ■



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Transforming the Energy Sector - Transforming Local Government: SEED's Mission in South Africa

Sarah Ward

The Sustainable Energy for Environment and Development (SEED) Programme is about transforming *who* works in energy, *what* the focus of that work is, and *where* the work happens. Of course there is a whole lot of *how*, much of which SEED has been willing to learn along the way.

SEED is tackling the gender, race, and class dimensions of the South African energy sector: by doing real work with real people in real delivery organisations. Energy capacity across the world, but particularly in apartheid South Africa, has historically been held in the hands of white male engineers. It has also been almost entirely supply and technology driven, with very little attention given to demand issues such as people's energy service needs and energy poverty, or even environmental issues. *Changing who is working in energy is a vital part of the process of changing what energy work is undertaken and how it is done*

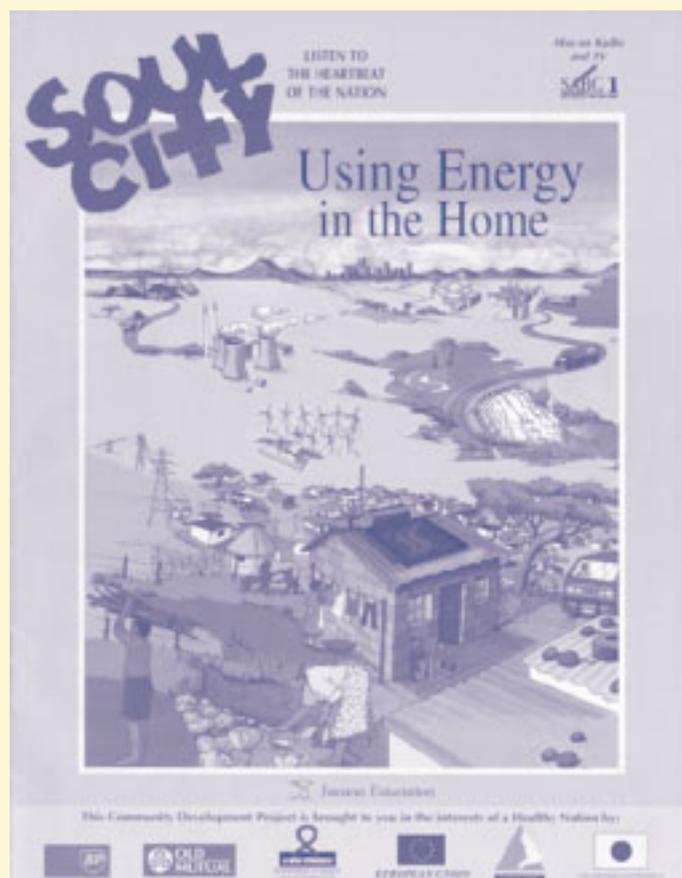
SEED's aim is to integrate sustainable energy practices and approaches into urban development in South Africa through building partnerships and the necessary capacity to do this work, and to achieve this by providing ongoing support and information to the partner organisations and other relevant organisations. SEED focuses particularly on energy issues as they affect low-income households, on energy in public development such as public transport and services, and on energy in public processes such as planning and city management.

The seeds of the SEED Programme were planted back in 1994. In the build-up to, and the heady days after, the first democratic elections in South Africa there were many 'windows of opportunity' and there was great enthusiasm to leap through them and take on the challenge of fundamentally changing South Africa. The Women's Energy Group (WEG)¹ and EDRC² seized the opportunity to write a discussion document, or 'Green Paper', in preparation for the new Energy White Paper. WEG's main foci were the household energy section of the paper and engendering other sections particularly where women's representation was an issue. This was to be the first time in South Africa that poor households (and the burden of energy poverty³ which is mainly borne by women) and gender issues were to be considered in terms of energy policy.

As part of this Green Paper process, the national Department of Minerals and Energy (DME) proposed a National Energy Summit. After a fairly torrid battle between the DME and WEG, WEG managed to obtain DME support for a programme to raise the capacity of community representatives so that they could participate actively in

making the new energy policy for the country. The process included a number of capacity-building community energy workshops that took place around the country. Women participants were given priority. At each workshop the participants voted for representatives who would then attend the National Energy Summit and participate in a pre-Summit preparation day. Due to these efforts, 100 outspoken and confident community representatives attended the 1995 National Energy Summit. Nearly all were black, more than half were women.

During this process, community representatives repeatedly prioritised two issues: firstly the need for *access to appropriate energy information* and, secondly, *the need for capacity to address energy needs at the local level*. The Energy & Development Group (EDG)⁴ responded to the DME's call for tenders to address these issues with what was to be the precursor to the SEED programme - the Household Energy Action Training (HEAT) programme (1996 to 1998). While the DME funded some of HEAT's activities, its information activities were substantially funded by Soul City - a multimedia 'edutainment' programme. HEAT developed and tested energy information packages and messages with community groups, at least half of which were women's groups. Soul City's TV and radio series carried these messages and 750,000 *Energy Use in the Home* Soul City booklets⁵ have been distributed through the print media (inserted in South African daily and weekly newspapers such as the Star, Argus and Sunday Times) and through workshops.





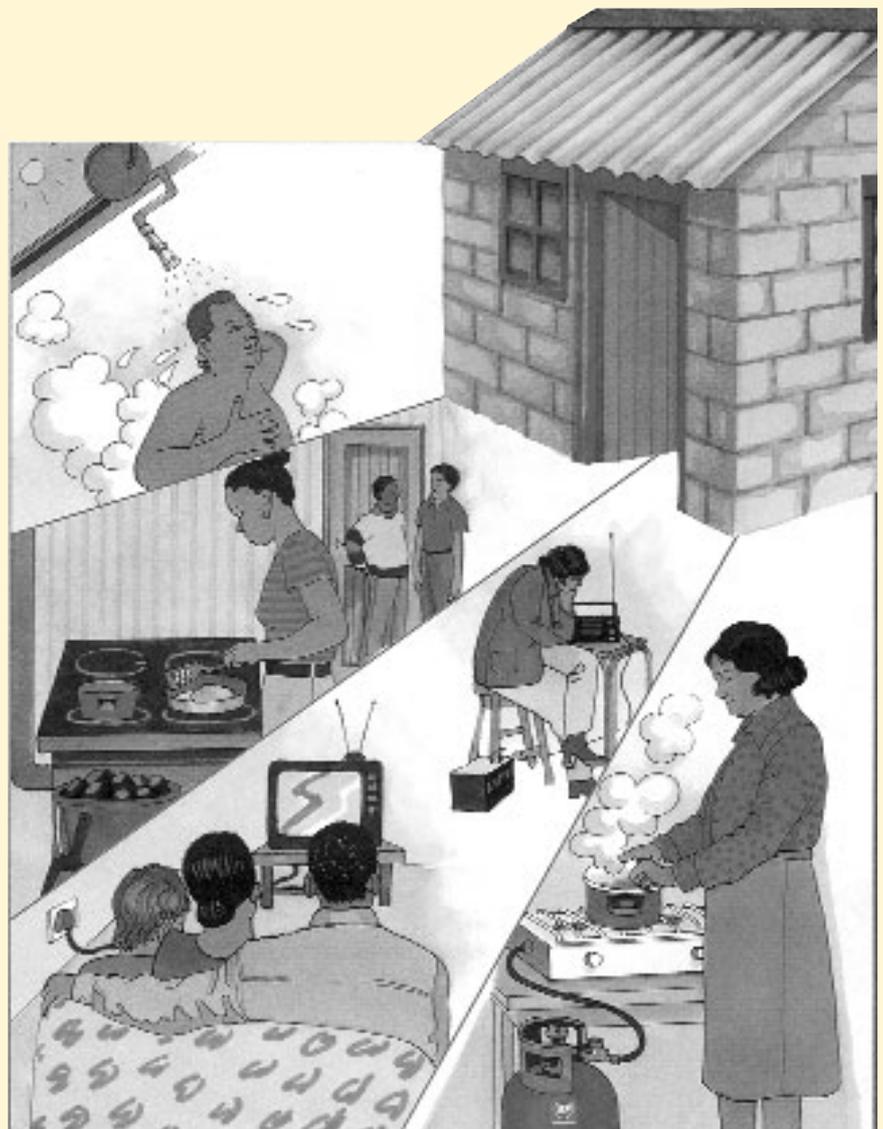
women-headed households, and green interventions (insulated ceilings, solar water heaters etc.).

When SEED began five years ago (1999), energy issues were invisible to local government - so SEED focussed on energy in low-income housing developments, as this was the country's urban development focus at both national and local levels. SEED's basic tenets were: *learn by doing*; *communicate these lessons* to decision makers in parliament, national and local government; and *every action should have large reverberations*. Three years later, energy had become less hidden and more a part of local and national agendas, SEED then began to extend its work into integrated energy planning for whole cities (SEA is working on South Africa's flagship energy strategy for the City of Cape Town). This is leading up to the *City Energy Strategies Conference* (see box) that aims to inspire and enable all South African cities to develop their own 'ambitious and realistic' energy plans. SEA, with the support of ICLEI (International Council for Local Environmental Initiatives) and UNEP (United Nations Environment Programme), is proposing an *African Energy Cities Network* as a means for African cities to share and learn from each other's experiences – the first meeting of this Network will be held immediately after the conference.

This is a programme of action, and from all the evidence these actions speak. There have been many wonderful men, and women in particular, who have contributed to this programme – they should all be proud of their successes. ■

The capacity building strategy aspect of the HEAT Programme evolved into the urban component of the SEED Programme⁶. SEED Advisors are the backbone of SEED – they are generally young black South Africans, usually with tertiary degrees and a pioneering spirit. They work in *partner organisations*, as contracted or permanent staff, and are chosen by the partners and SEA⁷. SEED provides ongoing support to the SEED Advisor for on-the-job learning as well as forums for the exchange of experiences. SEED extends this support and training to the partner organisation in which the SEED Advisor is located. In a pioneering field such as this, support and the exchange of experiences are vital. The Advisors are the heart of the programme and have shown admirable commitment and strong pioneering spirit. The Advisors are all progressive people who bring their own politics and morality to bear in their work: the women have been particularly effective in promoting women's issues and a gender understanding of their work, but so have many of the men. On the whole, the women Advisors have focused on household energy issues, and work with women in households, savings, or childcare groups, and quite often with women teachers – an approach that requires nurturing, patience, and attention to detail. The men have, by contrast, worked more in strategy, politicking, and networking around energy issues. The women tend to work more directly with communities while the men are in more "formal" institutional positions.

Six of the twelve SEED Advisors and SEED Links are women (two of SEA's three directors are women). SEED Advisors work in a variety of ways depending on the needs of their particular organisation. They work with community members at the household level and run workshops that promote participation in energy and environmental issues in housing development projects. They train youth members of the community through 'energy activist' courses, they set up demonstration centres in township areas, and build demonstration houses. They train building inspectors and run courses for teachers and community representatives. Some of the Advisors are now working at a strategy planning level and managing other staff. In terms of projects, some that relate especially to women are the hot box small business development project, women food traders and energy management, solar water heaters for crèches, micro-loan schemes that target



- 1 WEG, a South African organisation, provided support to women in the energy sector and promoted women's energy issues particularly with regard to energy poverty. It was particularly active from 1994 to about 1997 and involved a range of women from community representatives to university researchers and corporate energy sector employees.
- 2 Energy for Development Research Centre – a research institute at the University of Cape Town. Despite being a progressive institute, EDRC was dominated by white male professionals in engineering and related fields, and WEG found itself constantly in a position of having to defend its proposals. The women researchers at EDRC were mostly active members of WEG, but WEG was not always happily tolerated by EDRC.
- 3 Energy poverty is the lack of access to adequate energy resources for nutrition, health, warmth and so on. Energy can consume more than 25% of a poor urban household's income – it is generally an extremely hidden element of poverty.
- 4 EDG – an energy consultancy run by three partners - two men and one woman - based in Cape Town. It is committed to promoting access to sustainable energy services.
- 5 These are colourful multilingual 33 page A4 booklets which have proved extremely popular.
- 6 SEED Phase 1 ran from 1998 to 2001 with funding from DANCED and co-funding from the SEED partner organisations (which include national and local governments). The Phase 1 was successfully completed, and Phase 2 of the urban programme (2001–2004) is now underway (funded by the partner organisations and DANIDA).
- 7 SEA is a Section 21 company (not-for-profit), which grew out of EDG.

City Energy Strategies Conference, 19 – 21 November 2003, Cape Town

Further info at:

www.sustainable.org.za/CESConference/AboutConference.htm

African Energy Cities Network: First meeting, 22 November 2003, Cape Town

Further info at:

www.sustainable.org.za/CESConference/AECNObjectives.htm



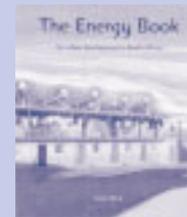
◆ Sarah Ward is an urban and regional planner and an energy activist who was involved in bringing low-income household energy issues into the new Energy White Paper in 1995. She then set up the successful Household Energy Action Training (HEAT) programme. She currently manages the national Sustainable Energy for Environment and Development (SEED) programme which places, trains, and supports SEED Advisors in local authorities and NGOs. She is a director of

The Energy Book for Urban Development in South Africa by Sarah Ward

The Energy Book is a practical guide for energy activists, professionals, development workers, community organisers, and all people striving for sustainable urban development.

This handbook covers sustainable energy approaches and practices, particularly for housing and public development. It moves from the big picture of global warming to local issues of energy efficient housing and better energy choices. The book sets out to make the whole energy picture accessible:

- The global energy story
- The South African energy story
- Energy in the home
- Access to energy
- Energy and local area development
- Making energy efficient houses
- Working with people and energy



People who are unsure about the technicalities of energy, electricity supply (volts, amps etc.) and which appliances are the most energy efficient, as well as those who want to know about building energy efficient houses and many other things should find this easy-to-read-and-use book very useful.

The book costs R80 (VAT incl.) plus postage. The book can be ordered on-line at: www.sustainable.org.za/energybook.htm

Sustainable Energy Africa (SEA), an NGO committed to promoting the development and use of sustainable energy resources for all South Africans and Africans.

◆ For further information, please contact: **Sarah Ward, Sustainable Energy Africa (SEA), P.O. Box 261, Noordhoek, 7979, South Africa; Tel : +27.(0)21.7892920; Fax: +27.(0)21.7892954; Email: sarah@sustainable.org.za; info@sustainable.org.za, Web site: www.sustainable.org.za**

Internet Resources

Toolkit for women is a web site that aims to help women's groups to use international agreements in their advocacy work and in concrete projects on the ground, to monitor progress in implementation, and to make these agreements become reality. The site has a 'welcome to newcomers' page, which gives an overview of the United Nations World Conferences since 1990. The site map navigates you through the whole web site and provides access to an extensive array of documents, events, links etc. The Toolkit booklet can be downloaded from the web site. Visit this site at: www.earthsummit2002.org/toolkits/women/intro/intro.htm

Solar Household Energy Inc.'s website www.she-inc.org/about.htm reports on solar

cooking initiatives and developments from Africa, Asia, Latin America and the US. The organisation's challenge is to provide a practical and appealing alternative to the use of non-renewable fuel for cooking in the developing world, a practice that takes an enormous human and environmental toll. The increasing burden on women in foraging and carrying, and the health impacts due to cooking on smoky fires is central in this challenge. In its resource section, the web site gives links to other related organisations, reference tools, equipment suppliers etc.

INSTRAW is the website of the United Nations International Research and Training Institute for the Advancement of Women (UN-INSTRAW) and provides access in three languages: English, French and Spanish. INSTRAW works towards gender equality and the empowerment of women through its **Gender Awareness Information and Networking System (GAINS)**, an internet-based research and training environment driven by a worldwide network. The site

hosts a good selection of resources for organisations and individuals engaged in gender-focused research, training, advocacy, policy-making and implementation, which include a selection of special resources and a searchable database of over 2000 titles. Information on the GAINS network and its worldwide membership is available on the web site at: www.un-instraw.org

ENPOWER is a project that has put together a toolkit to facilitate the provision of better energy services to poor communities. The toolkit has been developed and field tested in several locations in South Africa, India and Namibia. It will ensure that men and women in poor communities have their voices heard and are central to energy investment decisions for the community. Background information on the project and the toolkit can be found on the Energy Voices web site at: www.etsu.com/energy_voices/html/empowerDownloadPage.html

A Gender Profile of Solar Stove Buyers and Users: Findings from the Second Phase of the GTZ/DME Solar Cooker Field Test Programme

Marlett Wentzel

The DME/GTZ Solar Cooker Pilot Programme (see box) moved into its second implementation phase during 1999.

This second phase set out to begin the local manufacture of selected solar stove models in South Africa, distribute them through existing sales and distribution channels, and sell them in a limited geographical area (the Northern Cape, North-West, and Limpopo Provinces of South Africa) to a specific target group. The target group was identified as low-to-medium income households experiencing energy shortages for cooking and often dependent on fuelwood as the main cooking energy source. A secondary target group was identified as outdoor enthusiasts, campers, or environmentally focused households. The second phase also included a component of end-user

monitoring in order to establish, amongst other issues, the profile of solar stove buyers and users, their motivation for the purchase and use of solar stoves, the socioeconomic impact of solar stoves, and their views on the products as feedback for the designers and manufacturers. This article highlights the findings pertaining to gender differences in the user and buyer profiles, as well as the impacts of the solar cookers.

The Solar Cooker Field Test, a joint project by Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) and the Department of Minerals and Energy in South Africa, was initiated in 1996 with a baseline study and a field test. The field test involved a 12-month comparative study of 7 different types of solar cookers placed with 66 families and 14 institutions in the arid North West and Western Cape regions of South Africa. The analysis of the data revealed that families used solar cookers as often as the other major fuel source – wood, resulting in the reduction of the consumption of wood, paraffin, and other fuels. The health and safety benefits were significant.



A woman of Pniel, Northern Cape, boiling water in her solar cooker to make maize porridge. (Photo: Courtesy of GTZ Solar Cooker Field Test, South Africa)

Methodology

To successfully monitor end-users during the second phase of the Pilot Programme, some things had to change from the first phase. Firstly, a system had to be created through which the contact details of a solar stove purchaser could be obtained following purchase. For this, a warranty card was designed and included with every solar stove. The warranty card, in the form of a postcard, served as a guarantee for the product as well as a method for obtaining contact details of buyers so that they could be included in the end-user database and contacted for the end-user monitoring. The postcard system had some inherent and almost inevitable shortcomings. The most obvious shortcoming is that not all purchasers of solar stoves return the postcards. Based on sales figures up to the end of October 2001 only 24% of postcards were returned. Marketing specialists, however, maintain that this is an exceptionally high percentage. Nevertheless, we asked retailers to keep records of those who bought solar stoves, so that we could contact them even if they did not return the postcards.

The second shortcoming of the postcard system was that some postcards were not adequately completed or that the information became obsolete – people moved, phone numbers changed, etc. Just under 10% of database entries were found to be faulty or obsolete. Lastly, two separate monitoring groups had to be established since the returned postcards (making up the database) contained only information from what was considered the secondary target group for solar stoves (middle to high income, electricity users, urban, environmental enthusiasts, typically from LSM¹ groups 5 - 8). The primary target group for solar stoves was seen as rural households with low to extremely low household income, wood fuel dependent and/or multiple fuel users, also referred to as LSM groups 2-4. A small monitoring group was established in Huhudi (a township outside Vryburg) to represent the primary target group, while the postcard respondents were considered to be representative of the secondary target group. Below are highlights of the findings from both primary and secondary target groups. The primary target group sample consisted of 15 households and the secondary target group of 50 households.

Respondent Profile – the Primary Target Group

In the primary target group, more women than men bought stoves, and all the men who did buy stoves bought them for someone else. The majority of the solar stove buyers (men and women) were unemployed. In terms of income, the average income was less than R1500² per month. The respondent earning the most in the group was male, and he earned slightly more than R3000 per month. The primary target group had a low level of formal education (secondary school) and all the women who were employed were domestic workers.

The average household size of the primary target group was seven people, and their choice of solar stove model was primarily determined by ease of handling, and secondly by aesthetics. The primary target group bought their solar stoves directly from an “agent”, a community member selling solar stoves in the area and providing terms in the form of a lay-by system (payments are made until the stove is paid for and then it can be taken home). Members of the primary target group first encountered solar stoves when they saw one being used by friends or family members, or at a demonstration, confirming the importance of demonstrations as a means of marketing solar stoves – seeing is believing. The majority of households were motivated to purchase a solar stove by potential savings (both in time and energy) and by good cooking results (the stove cooks well, food does not burn, and food becomes tender). More than two-thirds of the households representing the primary target group reported using their solar stoves. The most important factors that promoted the use

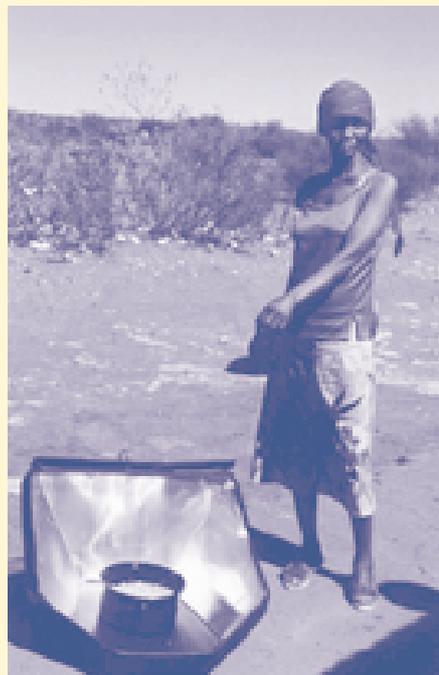
of solar cooking were the weather, the non-availability of other fuels, and having someone (e.g. child, grandparent) to keep an eye on the stove. Although solar cooking does not require the constant attention of a cook, the primary target group did not feel comfortable leaving the solar stove unattended. Monetary and fuel savings were seen as synonymous and savings of between R20 and R100 per month, or an average of R45 were reported. Fuels saved, in order of prominence, were paraffin, gas, wood, and electricity. Time saving was more difficult to quantify, but the primary target group estimated an average of 40 hours saved per month through the use of solar stoves.

Respondent Profile – the Secondary Target Group

The secondary target group is typically representative of LSM 5-8. They have a higher household income and more disposable income. In the secondary target group, the buyer profile was different from that of the primary target group:

- more men than women bought solar stoves
- men were more likely than women to buy solar stoves for someone else
- men were motivated to buy a solar stove out of curiosity/interest/fascination
- women were motivated by savings

Men who purchased solar stoves earned more on average than the women who bought stoves. The majority of men earned more than R10,000 per month. Women who bought solar stoves earned between R1000 and R5000 per month. The majority of both men and women who bought solar stoves had a tertiary education.



A resident of Onseepkans, Northern Cape, cooking samp (crushed maize) on her solar cooker. (Photo: Courtesy of GTZ Solar Cooker Field Test, South Africa)

The average household size of the secondary group was four people. People in this group chose their solar stove on the basis of price and performance, and then handling and capacity of the stove. The secondary target group was primarily introduced to solar stoves through the printed media – they either read an article about them or saw an advertisement. The second source of exposure to solar cooking was through friends, when they saw a stove in use or were told about it. Some respondents also indicated that they heard radio advertisements, read

about them on the Internet, saw the solar stoves displayed in a shop, or saw a solar cooking demonstration being conducted. Savings motivated the majority of the secondary target group, although a significant number of respondents also reported that they were motivated to buy a solar stove because they considered themselves environmentalists or solar enthusiasts. The third motivation for purchasing a solar stove reported was curiosity. Other motivational factors that were reported were the following:

- Time saving
- Extra cooking capacity

- Health and safety reasons
- Conducive weather
- Food does not burn

From the secondary target group, 70% of respondents reported that they are using their solar stoves and that they are experiencing savings and health and safety benefits. For the secondary target group, the largest health benefit is the reduction in smoke that hurts eyes and lungs. Monetary savings by the secondary target group ranged between R20 and R200 per month, with an average of R110 reportedly saved on fuel expenses. Further, a monthly time saving of 26 hours was reported, although it was noted that the saving of time is influenced by the type of fuel normally used, the type of food cooked, and how many meals are cooked per month.

In terms of gender issues regarding buyers of solar stoves, the following conclusions were drawn from the respondents from the primary and secondary target groups:

- Men buy solar stoves for different reasons than women – men buy them out of curiosity and interest to see if they will work, while women buy them for the potential savings (money, fuel, or time);
- Men buying solar stoves have higher incomes than women buying solar stoves;
- Although men who buy solar stoves earn more than women they have similar education levels;
- Men are more likely than women to buy solar stoves for someone else, such as a family member or a friend. Women purchasers are therefore more likely to be users than male ones;
- In the primary target group, the majority of buyers and users are women;
- Savings and cooking results motivate the primary target group.

Use of Findings

The information collected during the study will be used in formulating a marketing campaign for solar stoves. Unsurprisingly,

men and women have different motivations for their purchases of solar stoves and also use the solar stoves differently.

The second phase of the solar cooker project focuses on establishing the commercial viability of the product and so qualitative research has been limited during this phase, with most resources being utilised for developing a business investment plan. However, the valuable information gained from the early phases has not been ignored and is being incorporated into the business plan. ■



◆ Marlett Wentzel worked at the Department of Minerals and Energy (DME) from 1991 to 1996 and left to become an independent consultant in the energy sector. She joined Palmer Development Consulting (PDC) in January 2000 and is a partner and director of the energy division. This research and consulting company is dedicated to improving the quality of life of South Africans by providing specialised knowledge and skills, specifically in the education and domestic energy field. She holds a B.Com (Hon) degree in Energy Studies, plus B.A. (Hon) and M.A. degrees in Development Studies. She is a member of the Sustainable Energy Society of Southern Africa (SESSA) and served as chairperson of the organisation in 2001 and 2002. She was a winner in the Women in Energy category of the Eskom Energy Efficiency (eta) Awards of 2002.

◆ For more information, please contact: **Marlett Wentzel, PDC, P.O. Box 11906, Pretoria 0121, South Africa;**
E-mail: marlett@pdc1.co.za

1 Refers to the Living Standard Means Test. The population is divided into LSM groups with specific characteristics. At the time of the research the highest LSM group was LSM 8.

2 8 Rand (R) = 1US\$

THE ASHDEN AWARDS 2004

The Ashden Awards for Sustainable Energy reward outstanding and innovative renewable energy projects. Schemes that aim to alleviate poverty and/or improve people's quality of life while protecting the environment are given special recognition. Four awards are offered each year – three for projects in the developing world under the categories food security, enterprise and community welfare, and one for a project in UK. The application procedure for the 2004 awards for developing countries includes a preliminary phase during which interested applicants submit a 2-page concept note before 14 November 2003. Selected entries will be invited to submit a full application. ◆ More information can be obtained from info@ashden.org or at the web site www.ashdenawards.org/about.html

The three developing country awards in 2003 were given to:

Food security: The Energy and Research Training Centre in Eritrea for its work with local women in producing and distributing

smokeless, fuel efficient clay stoves, which reduce firewood collecting time while creating cleaner and healthier living and working environments.

Enterprise category: West Bengal Renewable Energy Development Agency WBREDA for initiating a system of village electrification using nine solar mini-grid systems to provide grid quality power to more than 1000 villagers for 5-6 hours a day on the island of Sagar in the Gangetic delta of West Bengal.

Community Welfare category: The Barefoot College in India for providing lighting using solar panels to Himalayan communities in over 136 remote and virtually inaccessible villages. The college has demonstrated that poor communities can manage their own solar power without any technical help from the outside; 90 men and 19 women, many of whom are illiterate, have been trained as barefoot engineers to install and maintain the fixed units and solar lanterns provided.

◆ Read more about the winners at: www.ashdenawards.org/winners_03.html

TRICKLE UP

Trickle Up is an international non-profit organisation based in the US. It helps the world's poorest people take their first step out of poverty by providing conditional seed capital grants and business training essential for setting up a micro-enterprise. Trickle Up works in partnership with approximately 250 community-based development organisations throughout the world. The programme has a strong focus on the empowerment of women. According to the data of 2002, more than half of the start-up entrepreneurs were women: 49% in Asia, 67% in Africa and 59% in Latin America.

◆ For more information and a list of the partner organisations visit the web site at: www.trickleup.org

DME Spearheads Energy Projects with a Focus on Women

*Noluthando Poswa
Olga Svoboda
Kosi Lisa*

products (petrol, paraffin, gas, energy efficient appliances etc.) and disseminate energy information in rural communities. Two centres, one in Kwazulu-Natal and one in the Northern Cape, are already operational. The intention is to establish twenty such centres over a period of two years. These centres are currently sponsored by the private sector, and are expected to become self-sufficient entities in the future.

The challenge is to co-ordinate such centres with other developmental initiatives through Integrated Development Planning (IDP), and to ensure that the centres go beyond the supply of energy services and contribute to poverty alleviation, job creation, and capacity building. Since women form the largest and poorest group in rural areas, it is intended that they should benefit substantially from this programme.

The sections below introduce some of the work being undertaken by the Department of Minerals and Energy (DME) in South Africa to address women's energy and empowerment needs.

INTEGRATED ENERGY CENTRES

The lack of energy resources in rural areas is a key concern as energy is a prerequisite for any sustainable development. We cannot overlook the fact that rural development transitions are made more difficult by uncertainties with regard to energy provision. Low productivity, indoor air pollution, fire hazards, and poisoning are consequences of the unsustainable energy services currently on offer to many low-income communities, and women bear the brunt of these. Therefore, efforts are needed that relate energy strategies to the basic needs of rural women and men, and that also strengthen broad-based community participation in local movements.

The Integrated Approach

Our main strategy for increasing the ability of rural communities to improve energy supplies is through the implementation of the Integrated Sustainable Rural Development Programme (ISRDP), which aims at:

- raising community awareness on development issues and empowering a cadre of rural community activists;
- establishing Integrated Energy Centres; and
- assisting local authorities to incorporate energy planning into the mandatory Integrated Development Planning (IDP) process.

The provision of energy alone is not sufficient to sustain development. Energy has to be linked with other services such as water, sanitation, health, education, and income generation. These services are interdependent in improving the daily lives of men and especially women. For example, firewood is needed to cook vegetables from a food-garden project and boil water, which in turn might come from a borehole or dam and requires a diesel generator to pump the water. Maybe the water also irrigates the vegetable plots in the food-gardens run by women, and these in turn might provide incomes when the produce is sold at markets. The government's Integrated Sustainable Rural Development Project addresses this interdependency and aims to provide a bucket of services, out of which people can use what they need.

The Integrated Energy Centre Programme fits into this integrated approach. The Department has recently established three pilot regional offices in Limpopo, Kwazulu-Natal, and Eastern Cape provinces with the task of establishing Integrated Energy Centres in each area. These centres will be established as co-operatives of the local community. Each centre will provide a sales outlet for energy

The Energy Shop

In the short term, the most important activity of the Energy Centres is to purchase bulk supplies of household fuels such as paraffin and gas for local distribution at prices lower than those at retail stores located some distance away in nearby towns. Thus women (who are usually the managers of household fuels) will not only save money on the purchase of fuel, but also save on the time and energy spent travelling to collect it. The energy shops, as local distributors, will enter into agreements with the suppliers of paraffin and gas and, through the discounts gained, will be able to sell the products at affordable rates. The suppliers are expected to install storage tanks for the paraffin and train the staff so that they can carry out installation, maintenance, servicing etc. Apart from paraffin and gas, the energy shop could also sell safe and energy efficient appliances such as solar cookers, efficient lights, and fridges; pre-paid cards for electricity, cellular phones, and landline airtime; and windmills and PV systems for water pumping and battery charging.

Hub of Information and Education

Apart from being a sales point, the Energy Centres are expected to become hubs of information and education. They should have displays and demonstrations on solar cookers, solar water heaters, PV systems etc. Energy education packages for households, schools, and clinics should be made available by the centres in order to involve people in campaigns for paraffin safety, energy efficiency etc. Contacts for service providers, development organisations in the region, and government offices should be part of the information provided. This information is to be made available through posters, brochures, and audio-visual presentations for use by rural people. Additional services envisaged are post boxes, telephones and, where possible, computers with multimedia, Internet and e-mail capability to enhance the scope for communication and information dissemination. Skills development in the use of such communication technologies is considered an added benefit.

Ideally, the Energy Centres should become the hubs of village life and offer entrepreneurial opportunities and support to the community. Space could be made available for women who want to sell crafts, home-made food, locally-grown fruit and vegetables from food-gardens, and other products that people otherwise would have to travel to town to buy or sell. It is intended that income generating,

or group projects such as fence-making, juice-making, and sewing can be carried out at the centre where the necessary power sources will be available. ■



◆ For more information please contact: **Noluthando Poswa, Department of Minerals and Energy, South Africa (contact details on page 5)**

EMPOWERMENT OF WOMEN IN MINING AND ENERGY

In July and August 2003, the Minerals and Energy Education and Training Institute (MEETI) organised two three-day seminars for emerging entrepreneurs who would like to become active in either the energy or the minerals sector. The aim of the seminars was to acquaint entrepreneurs and owners of small businesses, especially women, with the energy and minerals industries, and with potential business opportunities in these two sectors.

The courses were organised as part of the government's drive to create an enabling environment for increasing the participation of women in the minerals and energy industries. The courses were sponsored by the Department of Minerals and Energy, and organised in cooperation with SAWIMA (South African Women in Mining) and WOESA (Women in Oil and Energy South Africa), two recently established women's associations.

The two courses were very practical. They included presentations on South African minerals and energy industries and policies, and practical sessions on doing business in partnership with large established companies. Other sessions discussed complying with legal requirements, creating a winning business plan, and how to obtain funding for business ventures.

WOESA

Workshop

Women in Oil and Energy South Africa will be conducting a one-day workshop for women in the Witbank area, who are interested in gaining knowledge of the Oil and Energy Sector in South Africa.

Details are as follows:

Venue: Economic Building University of the Western Cape, Bellville.

Date: Saturday, 4 September 2003

Time: 08:30 - 14:30

Presenters: Training, Valued Training Institute

Opportunities in the Oil Industry will be provided by MESA. The Department of Minerals and Energy will outline the facilitating role played by the Department (government) to ensure the meaningful participation of women in the wider Oil & Energy sector.

All interested should register with WOESA.

Tel: (021) 448 8411

Fax: (021) 448 8419

Registration closes 4 September 2003

Registration fee: R30 for WOESA members R50 for Non-members

Advertisement which appeared in the Cape Times newspaper on 29 August 2003.

The courses were very popular. More than 50 participants attended each course, a vast majority (90%) of whom were businesswomen. The participants expressed a high level of satisfaction with the applied nature of the programme and indicated that the courses had given them new directions for their business endeavours. ■



◆ For further information contact: **Dr Olga Svoboda, Director: MEETI, P.O. Box 599, Randburg 2125, South Africa; Tel +27(0)11.7094686, Fax +27.(0)11.7094657, E-mail: olga.svoboda@meeti.org.za, Web site: www.meeti.org.za**

HIV/AIDS AWARENESS IN THE ENERGY SECTOR

The DME has been proactive in establishing an HIV/Aids awareness programme. Women and children are especially vulnerable to HIV/Aids. In South Africa, 250 babies are born with HIV every day. The mothers are already infected with HIV/AIDS and may not be well enough to care for their babies. Without treatment such as anti-retrovirals, good food, and clean water, the chances of a long life for the mother and child are slim. In addition to being managers of food and fuel, women take on further responsibility as carers to those with HIV/AIDS. Evidence is that older women are bearing the brunt of this: in rural areas, they are now having to fetch wood and find food for children and grandchildren, instead of enjoying an easier life in their old age. In urban areas the free 50 kWh of electricity per month may assist some households, but it is not enough to fully relieve the burdens, which have been increased by deaths in the family.

Given that many of the infected population will die within the next ten years, no energy planning should be done without taking into account the social and economic impacts of the pandemic. Apart from the devastating social impact, the high mortality rate will lead to problems in the energy industry and markets. It is likely to increase the costs of medical care, increase absenteeism, create a scarcity and thereby increase the costs of skilled labour, and lead to higher training costs and lower productivity.

HIV/AIDS policies are necessary in the workplace to reduce the associated stigma, and to reduce and manage the impact of the disease. There is a need for ongoing education, counselling, and home-based care.

The DME is committed to promoting renewable energy services in rural areas and clean energy technologies, in order to promote efficient combustion and limit pollution which otherwise may further weaken already compromised immune systems. The Department is utilising the Integrated Energy Centres as platforms for information dissemination and awareness creation, in an attempt to prevent the spread of HIV/AIDS. ■



◆ Kosi Lisa recently assumed the portfolio of Director for Community Development: Energy, in the Department of Minerals and Energy, South Africa. She is responsible for developing programmes to raise awareness of, and provide technical know-how on, the HIV/AIDS pandemic, within and outside the DME.

◆ Her contact details are: **Kosi Lisa, Director for Community Development: Energy, Department of Minerals and Energy, Private Bag X9, Pretoria 0001, South Africa; Tel: +27.(0)12.3179203, E-mail: Lisa@mepta.pwv.gov.za**

Rural Energy Guides launched

Summarised by Bill Cowan

The Rural Energy Guides developed by Rural SEED are mainly intended to support rural activists and development workers in communities, local government, NGOs, companies etc. whose work involves them in energy issues.

They are based on South African experiences, but could be useful for people with similar concerns in other countries. They will be especially useful for people who are uncertain about how electricity, batteries, or photovoltaic systems work. The explanations are wonderfully clear and easy to follow.

Three of the main themes are:

- how to raise energy awareness and knowledge in rural communities;
- how to achieve better communication between rural communities and energy suppliers, planners, and policymakers;
- how to help local organisations take action to solve their energy and development needs – often in partnership with energy suppliers, planners, and policymakers.



Each guide has a section devoted to gender issues. The books were developed as part of a project called Rural SEED (“Sustainable Energy, Environment and Development”). This project, which started in 1998, enabled trained facilitators from the Energy and Development Research Centre, University of Cape Town, to work over a number of years with community organisations and householders in rural districts of Eastern Cape and Limpopo provinces. The facilitators helped local people identify and analyse their energy-related needs and plan solution paths.

The first guide, *An introduction to energy issues in rural areas of South Africa*, is based on community workshops and other local activities. It documents the concerns and priorities expressed in these communities, and how these might be addressed in an integrated sustainable rural development framework. The content is useful for community facilitators and trainers, and for other people wanting to understand the relationships between energy and rural development – for example, teachers, students, and government, NGO, and energy company staff.

The second, *Taking action to solve local energy problems*, provides guidelines for establishing local energy committees, forming energy/development co-operatives, and setting up community-managed Energy Centres. These guidelines are based on the experiences of the community groups with whom Rural SEED collaborated. The local developments attracted interest from government, politicians, and energy companies, providing an unusually supportive context (compared with some other countries and with other times in South Africa’s history). Even so, the challenge of setting up and managing effective village-based organisations in areas that are so short of material resources requires great commitment and vision. The books pay tribute to this commitment and vision among local people. At the same time, it emphasises that the experiences reported are only *examples* of possible approaches – there might be various other ways of seeking solutions in different circumstances.

The third guide, *Understanding electricity and rural electrification in South Africa*, is perhaps the one most specific to South Africa. Unlike most African countries, South Africa has a real chance to achieve its policy goal of extending electricity to almost everyone in the country. This will probably require a combination of grid electrification and the use of off-grid electricity (currently mainly solar). Both routes are highly subsidised in order to improve access by the poor. Even so, grid electricity has remained too costly for poor families to use in quantity, especially for cooking; and electricity from Solar Home Systems is only sufficient for low-power applications such as lights, radio, and TV. Thus the beneficial impacts of this electrification have so far not solved some of the most pressing and burdensome energy problems faced by poor rural communities, especially women and children, such as the toil of collecting cooking fuels and the severe health hazards arising from smoke and fires.

Rural electrification and the choice between grid and off-grid electrification are politicised issues in South Africa. This Rural Energy Guide is intended to provide information about grid and off-grid rural electrification practices in the country – costs, subsidies, rationales, planning procedures, and limitations – to help people in rural communities and rural municipalities to judge which options are best suited to them.

The Rural SEED project was sponsored by Danish Co-operation for Environment and Development, and conducted in collaboration with South African and Danish NGOs. Further contributions to the production of the Rural Energy Guide materials came from the Department of Minerals and Energy, and Sasol (a coal to petroleum manufacturing company). The books are not available from commercial outlets but interested persons could contact SEED or EDRC at the addresses below. ■

◆ For further information, please contact:
SEED, seed@energetic.uct.ac.za, www.seedlinks.org.za,
Fax +27.(0)21.6502830 or Gamedia Gierdien, EDRC,
University of Cape Town, Rondebosch 7701, South Africa;
Tel: +27.(0)21.6503230

The Bulletin Board

CD-ROM

CD-ROM of the EnPoGen Programme

The CD-ROM enclosed with this issue of **ENERGIA News** contains material from the Energy, Poverty and Gender (EnPoGen) Initiative of the World Bank's Asia Alternative Energy Programme (ASTAE). This programme carried out studies that examined the linkages between energy, poverty, and gender in three Asian countries - China, Sri Lanka, and Indonesia. Included on the CD-ROM are the background reports, country study reports, summary reports, and the special issue of **ENERGIA News** from November 2002. Also on the CD-ROM is the framework and methodology for the design, monitoring, and evaluation of poverty and gender impacts of rural electrification projects that was developed as part of the EnPoGen initiative.

◆ Additional copies of the CD-ROM can be obtained by contacting: **World Bank – ASTAE, MSN MC 9-916, 1818 H Street, N.W. Washington DC 20433 USA.**

DATABASE ON-LINE

ENERGIA contacts database online

The database of contacts and experts in gender and energy is now on-line at **ENERGIA's** web site:

www.energia.org/procor/contacts_databases.html. It contains contact details of individuals and organisations with an affinity for gender and energy, and expert profiles are provided where available. The database is searchable by country, region, area of work, and type of organisation. The edit function allows individuals and organisations to update existing records using their respective username and password. If you have forgotten your password and username, or have not yet received these details, or wish to include your details in the database, please contact the **ENERGIA** secretariat at: energia@etcnl.nl

PUBLICATIONS

Energy for Sustainable Development, Vol VII No 3, September 2003. Special issue on gender and energy

This issue of the journal carries several insightful articles on gender and energy, a majority of which are authored by **ENERGIA** members:

- Energy for women and women for energy by *Srilatha Batiwala and Amulya Reddy*
- Gender and Energy: is there a Northern perspective? by *Joy Clancy and Ulrike Roehr*

- Gender and health issues in the biomass energy cycle: impediments to sustainable development by *Anoja Wickramasinghe*
 - The road to Johannesburg and beyond: networking for gender and energy by *Gail Karlsson and Sheila Oparaocha*
- Among the short articles are:
- Case Study: battery-operated lamps produced by rural women in Bangladesh by *Hasna J. Khan*
 - Rural women as agents of improved woodstove dissemination: a case study in Huluvangala village, Karnataka, India by *Svati Bhogle*
 - Linking women and energy at the local level to global goals and targets by *Ines Havet*
- ◆ Subscriptions to the journal can be obtained by writing to the Executive Editor at: ieiblr@vsnl.com or contacting: **the Publishing and Editorial Office, 25/5 Borebank Road, Benson Town, Bangalore –560 046, India.**
- ◆ The articles can be read on-line at: www.ieiglobal.org/vol7_issue3.html

SPARKNET Briefing Papers on Gender

Two papers on gender and energy are now available on the SPARKNET web site.

The Gender-Energy-Poverty Nexus: Finding the energy to address gender concerns in development

J. Clancy and M. Skutsch (Technology and Development Group, University of Twente, the Netherlands), and S. Batchelor (Gamos Ltd, UK)

This paper explores current thinking on the gender-energy-poverty nexus, reviews the key issues, and highlights areas that need to be addressed. The authors suggest actions and further studies needed in order to “find the energy to address gender concerns”. It is hoped that this analysis, and the recommendations drawn from it, will be valuable to professionals working in the fields of gender and social development, in donor organisations, other national institutions, NGOs, and academic circles.

◆ The paper can be downloaded at: www.sparknet.info/goto.php/view/21/file.htm

Gender and Household Energy – the International Context

J. Clancy (Technology and Development Group, University of Twente, the Netherlands)

This paper focuses on gender and household energy issues in a global context. The first section looks at the gender-energy-poverty nexus in general, and how household energy

can contribute to reducing vulnerability and empowering women. The section finishes with a review of how international development agencies address gender and household energy issues. The second section discusses in more detail a subject that is emerging high on development agencies' agendas related to household energy: gender and health. Two issues within the energy sector that are driven at the international level are the privatisation of the energy sector and the impacts of fossil fuel combustion. Both of these issues are examined in relation to gender and household energy.

◆ Read the paper at:

www.sparknet.info/goto.php/view/7/theme.htm

CONFERENCE INFORMATION

World Renewable Energy Congress VIII, 28 August - 3 September 2004, Denver, Colorado, USA

The eighth World Renewable Energy Congress will be organised under the leadership of the World Renewable Energy Network (WREN) supported by the National Renewable Energy Laboratory (NREL). Gender and Energy is one of the conference topics, and abstracts for papers are currently being accepted. Abstracts have to be in English and be no more than one page in length. The abstracts should be sent, preferably by e-mail, before December 5, 2003 to: **Ms. Anna Talamantez, National Renewable Energy Laboratory, 1617 Cole Boulevard, Golden, CO 80401-3393, USA.** wrec@nrel.gov

◆ Information on registration can be obtained from **Ms. Ivilina Thornton** at ivilina_thornton@nrel.gov

◆ More details and updates are available on the conference web site at: www.nrel.gov/wrec/

Gender, Development and Public Policy in an Era of Globalisation, 11-12 May 2004, Bangkok, Thailand

The Asian Institute of Technology (Gender and Development Studies) in collaboration with the Institute of Social Studies (The Netherlands) and the Centres of Development and Interdisciplinary Gender Studies at the University of Leeds (UK) is organising this conference. The aim is to bring together scholars, academics and activists to discuss public policy in various fields within the development arena, focusing on gender in each of them.

◆ More information can be found at:

www.serid.ait.ac.th/gds/asialink/

Next Issues

This issue of **ENERGIA News**, with its special focus on Gender and Energy in South Africa, is the first in the series that will appear in this third phase of the **ENERGIA** Programme. **ENERGIA NEWS 6.2** will cover Gender and Energy issues in Oceania, one of the regions in which **ENERGIA** is active. This issue will come out in January 2004.

The following issues of **ENERGIA News** are then planned:

Issue 7.1 – Gender and Energy in the water sector, Volume 7, Issue 1, April 2004

Issue 7.2 – Gender and Rural Electrification, Volume 7, Issue 2, August 2004

ENERGIA would very much welcome your contributions on gender and sustainable energy for future issues of **ENERGIA News**. The length of articles and/or case studies should be around 850 words for a one-page article or 1500 words for a two-page contribution including a photograph. Please remember to send photos and/or other illustrations to accompany your feature together with captions and credits. Guidelines for writing articles can be obtained from the **ENERGIA** Secretariat.

ENERGIA reserves the right to select those articles that are appropriate for publication in **ENERGIA News**. If an article is worthy of publication but not suitable for a particular themed issue it can be published on the **ENERGIA** web site. **ENERGIA** also reserves the right to edit, shorten, and rewrite articles. In principle, providing the publishing deadline allows it, approval will be sought from the authors for any substantial revisions made to an original article prior to publication.

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ENERGIA is an international network on Gender and Sustainable Energy, founded in 1995 by a group of women involved in gender and energy work in developing countries. **ENERGIA's** objective is to “engender” energy and “empower” rural and urban poor women, through information exchange, capacity building, research, advocacy, and action aimed at strengthening their role in sustainable energy development.

ENERGIA's approach is to seek to identify needed activities and actions through its membership, and then to encourage, and if possible assist, members and their institutions to undertake decentralised initiatives. **ENERGIA News** is the principle vehicle for this approach. The focus is on practice, with a conscious effort to interpret and learn from this practice.

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