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**Gender relations and renewable energy: a Northern perspective**

Draft background paper for REC2004

In the past, little or no data and research results have been available on gender issues in relation to renewable energy in industrialised countries. It is only recently that some research institutes and gender experts have started looking at this field. Even so, it is still difficult to convince funding institutes of the relevance of gender issues in energy policy, planning and production. This is why this section focuses less on reliable data and more on the ideas and trends that have come to light in expert surveys.

**1. Women's involvement in the renewable energy sector**

As in all other technology-focused employment, when it comes to renewable energy the key gender issue is the extremely low degree of women's involvement. Looked at in terms of gender relations, technological know-how assumes a male identity: "To be male means to be technologically skilled (...). Being female means having little or nothing to do with technology." (Cockburn/Omrod 1997:29, quoted after Döge 2003: 12 et seq). Large-scale and risk technologies are synonymous with masculinity. More simplified environmental technologies – say solar collectors for water heating – detract somewhat from the masculine image (Easlea 1986). This statement is confirmed by the fact that in the early days of renewable energy technology, the sector employed relatively large numbers of women. But women disappeared from the scene as alternative energy became more established and was professionalised, the trend switched towards larger systems and more complicated technologies. Despite all efforts to promote women, energy production remains one of the last male bastions – one in which the few women involved find it extremely difficult to establish a foothold.

*a) Involvement in decisionmaking*

Renewable energy is thus an area of employment that is equally as male dominated as the conventional energy production industry. In contrast to the conventional energy market, no gender differentiated data are available for the renewable energy sector. It can be assumed that as regards gender relations the differences between the various types of energy production are not really that great: in most industrialised countries, the proportion of women in the energy sector amounts to about 20% of the workforce – although the number of women in management positions is less than 5%. In Germany, for example, not one top management position in the utilities industry is held by a woman. And there are only two women managers (0.2%) among the country's 950 city services departments. But even without the help of hard data, a low presence of women in specialist circles is evident: at conferences, at trade exhibitions and among the authors of articles in specialist journals, the names are almost exclusively male. Women play a marginal, more decorative role. Women are also seriously under-represented in (renewable) energy policy, the associated boards in environmental organisations and in the participative process at municipal level (Local Agenda 21):

*b) Involvement in the renewables jobs market*

The renewables jobs market has a high proportion of technical, trades and crafts occupations which, although there may be differences between countries and regions, in the end involve few women worldwide. Although in some western countries the proportion of women taking up technical studies is on the increase, academic courses that involve energy technology and production are way down the list in most places. One exception is the relatively recent study of environmental technology. This highlights the fact that it is not the technology as such that frightens off women but its problematic application in which the ecological and social impacts involved are often ignored. Renewable energy was long seen as the ideal workplace for women because it brings together ecological, peace-promoting and feminist inter-

ests (Rübsamen 1994b). In the early days, when the goal was to establish renewable energy as a serious alternative, the proportion of women involved was exceptionally high. But those women failed to operate strategically and to secure their existing or even better paid positions. As a result, the further establishment of renewables saw a reduction in the number of women involved so that today, decisionmaking positions are, once again, largely in the hands of men. In the main, it is men who benefit from the great growth in job creation that is repeatedly forecast for this sector.

## **2. The renewables industry: a more gender equitable structure?**

### *a) Partnership structures in the renewables industry.*

Although unsupported by reliable data, the theory that the field of renewable energy represents a partnership of gender relations makes immediate sense (1). The renewables industry thus sets itself apart from the conventional energy sector. Fossil fuel energy leans, it is said, towards more centralised structures on account of the technology involved: the bigger the system, the lower the cost. In Europe, the liberalisation of the electricity market has increased industry concentration. In contrast, an energy industry based on renewables has different structural requirements and can enable a more equitable gender ratio. Resources are decentralised and more equitably distributed. This leads to diversified and decentralised structure in energy production: one region has more sun, another has more wind, while yet another has greater opportunities for biomass production (2). Additionally, there is no push towards large-scale technologies because increased size results in only marginal cost reductions. This makes for better and broader renewables-related participation in general, and for women in particular.

This rather idealised look at the gender ratio potential in renewables nevertheless leaves a number of questions unanswered. 1. How can the theory of the more manageable, small-sized renewables sector be reconciled with the reality of offshore wind energy, for example? 2. How can it be that, despite the ideal structures, women's involvement in renewable energy remains low in reality? 3. Taking this a step further: does this mean that women are themselves at fault if their interests are not represented or is it a result of male-focused working structures which ignore women's reality?

### *b) Renewables reality: women few and far between..*

Although in the early days of renewable energy women showed great interest in its expansion and application, that interest has waned over time as the low presence of women in the sector signals. Whether this has to do with the fact that in the beginning, extremely simple, error-free technologies were undergoing further development and thus becoming more complex, or with the fact that what was thought of as 'feminine' system decentralisation increasingly became associated with 'masculine' large-scale high-tech projects (Weller:60) is a matter of pure speculation. No research has been done to date on either these developments or the process of women's exclusion. Such research could provide clarity on gender relations in renewable energy and answer the question as to whether women are excluded because they have not yet recognised that the sector's structures are ideal for their needs or do not realise that they could make their mark relatively quickly in this new field of employment and break through male-dominated working structures that (consciously or sub-consciously) exclude women,.

## **3) Awareness of and attitudes towards renewable energy**

### *a) Health and risk awareness: renewable energy versus nuclear energy*

In relation to other aspects of the energy sector, attitudes among the general public towards civil use of nuclear energy has been relatively well studied. The key outcome of all such research, whether in Germany, Scandinavia or the USA, is that women reject nuclear fission

more vehemently than men (Longstreth et al., 1989, Federal Environment Agency (UBA) 2002, Puranen 2000). At the heart of such rejection lies greater risk awareness and health prevention aspirations for current and future generations. The logical conclusion that women have a greater preference for renewable energy cannot however be confirmed. The few and relatively old studies on this subject (Farhar et al., 1980, Longstreth et al., 1989) show no significant difference between women and men as regards their attitudes to renewables in general or to individual technologies like solar energy, wind or water power.

*b) Green electricity: preferred by women?*

From their rejection of nuclear energy, we could also conclude that women make more use than men of the new opportunities – at least in EU countries – to choose their own energy suppliers and thus avoid buying electricity produced from nuclear energy. In other words, women switch to suppliers who provide and promote the expansion of renewable energy-produced electricity. But we do not really know whether this is actually the case. Once again, studies and gender-disaggregated data are lacking. It can be assumed, however, that due to their lower earnings, women tend for financial reasons to use more environmentally damaging electricity. It is thus important to provide financial incentives like the tax breaks offered in the Netherlands.

#### **4) Funding**

*a) Investment models for energy farms (wind and solar) in Denmark, Germany and Spain*

Financial investment in wind farms or large photovoltaic systems, as offered in industrialised countries, provides a further opportunity to support the expansion of the renewables sector. Whether and to what extent this opportunity is taken up by women cannot be determined due to the lack of data. Statements by the operating companies fluctuate between a 10% to 20% share of women investors. This estimate is based on the number of women investors, not on the amount invested (Weller 2003). It can be assumed that due to the difference in earnings between women and men – on average women in EU countries earn 80% of what men earn – women have considerably less choice available to them. Thus, socially prescribed gender relations result in the fact that the contribution by women and men to a sustainable and renewable energy supply is different and cannot mirror the respective attitudes to energy provision.

*b) Promotion of women/gender-related energy projects*

Project funding programmes provide an opportunity for women to become more interested in the subject of renewable energy. However, calls for tender and funding criteria are not usually designed to attract women and gender-focused applications. It is not surprising, then, that in the 2000 tender period for the EU's ALTERNER II programme on the promotion of renewable energy, only one application out of a total of 400 was to do with women's issues. That project targeted women architects to provide them training on renewable energy in the construction sector, it informed women with no technical education about the practical application of renewable energy and it took up gender issues with both groups (EDEM 2003). But the problem with this and similar projects on vocational and further training for women in the energy sector is that they are completed in 18 months (or perhaps 24 or 30 months). Experience cannot be passed on and the next project starts up in much the same way as the previous one.

#### **5) What needs to be addressed?**

- Gender relations must be kept in sight in all policy measures and instruments that promote renewable energy. This means, for example, that funding instruments must take account of the fact that women have less money available to them and that all measures

should promote greater participation by women in renewables. An obligatory Gender Impact Assessment would appear appropriate in the planning of measures and instruments.

- There is still a need to improve the proportion of women in technical professions and occupations. It is not enough to conduct isolated projects that introduce women to technology. Overall, structures in trades and technology-based vocational training and in higher technical education must be assessed to identify whether they give preference to or promote a particular sex.
- The creation/increase of jobs in the renewables sector is not gender neutral. Up to now, men have been the main beneficiaries. Women should be afforded the same. This could lead to greater acceptance of renewable energy among women in the medium term.

## 6) Recommendations/Requirements

Apart from the above mentioned issues, our recommendations focus first and foremost on improving the availability of gender disaggregated data and research results on gender relations in the renewables sector. This calls for targeted gender research that focuses on gender relations in the energy sector and which contributes to providing evidence and data to either support or disprove the postulated differences and similarities between the sexes.

### *a) Appropriate research projects*

- In what way and to what extent are women involved in the supply of electricity produced from renewable energy? Research results are needed that provide evidence on the numbers of and the amounts invested by women and men who invest in the production of renewable energy and on the use of green electricity and its prerequisites or obstacles (see Weller 2003).
- Which processes and structures have led to women becoming under-represented in the renewables sector despite the initial positive start? How can structures be changed, what needs to be done so that equitable participation is possible?
- A study of the impacts on gender relations of financial management instruments such as energy/eco-tax or grants for solar systems could, for example, show that instruments perceived as gender neutral often have a hidden discriminatory effect and are thus unlikely to fully achieve their intended goal – namely the expansion of renewable energy.

### *b) Data collection*

- In principle, all research projects involving the collection of personal data should evaluate that data according to gender and make the results available. With relatively little effort, this could improve the catastrophically poor availability of data in the medium term.
- Additionally, jobs market figures such as the distribution of jobs in the renewables sector should be divided according to gender, and the energy supplier associations that exist in most industrialised countries should categorise their data on employees in the energy industry according to sector and gender.
- Finally, associations that promote renewables and the renewable energy industry could easily categorise their data on member structures according to gender and thus contribute to solving the problem of the availability of data.

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**Remarks**

(1) Rosa Hemmers, Deputy Chairman Eurosolar Germany, at the podium discussion 'Förderung des Anteils von Frauen bei erneuerbaren Energien' (Promoting Women in Renewable Energy) prior to the award of the UNIFEM Prize for Women and Sustainable Energy on 12.11.2003 in Bonn (report on the event in progress).

(2) Ibid.

**Literature**

Easlea, B. (1986) : Väter der Vernichtung. Männlichkeit, Naturwissenschaftler und der nukleare Rüstungswettlauf. Rheinbek bei Hamburg. Englische Originalausgabe: *Fathering the Unthinkable*. Pluto Press Limited London

EDEM 2003: [www.edem-net.gr](http://www.edem-net.gr), → EU Programmes → Women and RES

Farhar, B., C. Unseld, R. Vories and R. Crews (1980), Public Opinion About Energy, *Ann. Rev. Energy*. 5:141-172.

Döge, P.: Jenseits des 'Scientific Warriors'? Das Verhältnis von Technik, Wissenschaft und Männlichkeit im Wandel. In: *Sozial Technik*, Heft 4-2003. Graz, Österreich

ISOE (2002): Analyse der Folgen des Geschlechtsrollenwandels für Umweltbewusstsein und Umweltverhalten. Ed: UNESCO Liaison Office at the Federal Environment Agency (UBA).

Longstreth, M., J. Turner, M. Topliff, and D. Iams (1989), Support for Soft and Hard Path American Energy Policies: Does Gender Play a Role?, *Women's Studies International Forum*. Vol. 12:213-226, No. 2.

Puranen B. (2000), Young Women and Men: Increasingly Alike? <http://www.bikupan.se/young/>

Rübsamen, R. (1994b): Alternativenenergie wird erwachsen - Waren Frauen nur für die Kinderstube gut? In: Buchen, J., K. Buchholz, E. Hoffmann, S. Hofmeister, R. Kutzner, R. Olbrich, P. van Rüh (Eds.): *Das Umweltproblem ist nicht geschlechtsneutral - Feministische Perspektiven*. Bielefeld.

Weller, I. (Project Manager): Gender Impact Assessment der angewandten Umweltforschung Bremen. Unveröffentlichter Abschlussbericht zum Forschungsvorhaben. University of Bremen, October 2003