

Committee of University Teachers for Renewable Energies

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Abstract

A committee of university teachers for renewable energies has been founded in German-speaking countries in 2005. The main aim was to install a forum for the exchange of experiences and ideas about teaching on higher education level. The paper discusses the experiences made in the last six years, organizational issues, prerequisites for the transfer of the concept of the committee to other regions, as well as an extension of the network on a European or even global scale.

1. Introduction

The dynamic development of renewable energies focused on research and market for a long time. The educational sector lags behind, and especially the lack of academics is the bottleneck for the continued dissemination of renewable energy technologies in many countries. In the nineties, university education was limited to a few teaching modules related to renewable energy. Meanwhile, the situation has changed significantly. Extensive courses and dozens of complete bachelor and master programs are offered in the sector just in German-speaking countries [Menke et al. 2011]. Technical developments are a subject of discussion at several congresses, and there is a need for a forum for the exchange of teaching experience in the higher education sector as well.

To strengthen the networking between coordinators and professors of these new education programs, a new committee has been founded in 2005 as an association of university teachers, active in the field of renewable energies in German-speaking countries [Vajen et al. 2006]. The committee aims at to intensify the cooperation in different sectors of common interest. It has been established under the roof of the German section of ISES, the "Deutsche Gesellschaft für Sonnenenergie" (German Society for Solar Energy). Meanwhile more than 100 professors from Germany, Austria, Switzerland, Italy and even other countries are members of the forum, cf. fig. 1. The professors come together once a year for a two day meeting to discuss and share new teaching ideas, views or political statements. Furthermore, common fields of interest are the exchange of teaching modules, experiments in laboratories, teaching documents, examinations, experience with accreditations of programs as well as the cooperation in international courses.

The council is active on the political level as well. It was e.g. stated that a proper information basis is missing which could inform students about the numerous programs at different universities. Therefore, a concept of an international internet based data base with degree programs has been developed within the council. Means are applied for the realization, but not approved yet.

2. Experiences and organizational issues

Professors in the renewable energy area are usually highly engaged, not only for their research, but also for teaching. Therefore, their capacities and motivation to take over additional jobs in supra-regional organizations are normally limited. On the other hand, an exchange of experiences and ideas is necessary to further develop interesting teaching modules and to save time, e.g. for the development of examinations, lessons, practical training in laboratories etc. Thus, a supra-regional exchange, e.g. in a council, is necessary and is seen to be helpful for the daily work, but the participation should not be too time-consuming for the individual members. It will sooner or later lead to disappointment if the council aims at too ambitious goals which would require e.g. continuous work throughout the year, because these goals will probably not be reached. Good experience has been made during the last six years with the following constraints:

- An email-list should be established to be able to easily reach the members for invitations and to be able to distribute news among the target group between the meetings.
- The face to face meetings should take place on a yearly basis, if possible always in the same season. With higher frequencies, e.g. biannual, only insufficient new content can be presented, with lower frequency, e.g. biennial, the team spirit threatens to become too loose.
- Positive experience has been made if the meetings are scheduled from noon to noon. Then, usually two days have to be planned for meeting and travel, which is affordable for most of the participants. Furthermore, a dinner with intense networking opportunities can be included.
- The meetings should take place at different locations to avoid too much organizational work for individual members and to keep the (changing) locations interesting for the participants. Furthermore, the participants get an insight in the respective working conditions of their colleagues.
- A proper regional distribution of the locations is important. Experience has shown that about half of the participants accept also longer travels and come independent of the location, and another half takes part if the meeting takes place relatively close to their home universities. The overall number of participants of the meetings of the German council varied in the past between 15 and 30 with increasing tendency, but depending also on the chosen location, cf. fig. 1.
- Date and location should be agreed on well in advance, ideally at the previous meeting. Calls for contributions might be sent around about four months prior to the meetings, whereas a detailed invitation with agenda and local travel information should be sent about two months before the meeting.



Fig. 1: Locations of the yearly meetings 2005-2012 (red dots), location of participants in at least one meeting (green) and location of further members of the email list (blue).

A typical agenda for a meeting can look like follows:

- Welcome lunch (optional)
- Short introduction of the participants, formalities like minutes of last meeting etc.
- Short presentation of new(!) study programs and teaching modules (max. 10 to 15 min each)
- Common dinner
- Main discussion topic, chosen between several options agreed on one year ago, and depending on the willingness of member(s) to prepare the topic
- Current issues
- Self organization like location of and themes for next meeting, election of managing committee etc.
- Visit in laboratories of the host university
- Farewell lunch (optional)

The members are asked for contributions, usually about four months before the meetings. Experience has shown that meanwhile there are more offers for contributions than time slots available during the meetings. The discussions at the meetings are usually lively, and it needs some talent to lead the group through the agenda.

3. Prerequisites for transferring the concept and extension on a European scale

Prerequisites for transferring the described concept of a council of university teachers to other regions and/or countries are in our experience especially:

- A critical mass of members of the target group. The meetings should have at least about fifteen participants, which requires about forty potential participants in the email-list.
- The home universities of the (potential) participants should, if possible, not be too distant. The willingness to travel decreases evidently, if the travel to the meetings is too long.
- The constraints in the daily work of the participants regarding teaching traditions, examination rules etc. may differ slightly, that makes an exchange even more interesting, but the cultures should also not be too different to allow a reasonable transferability and to avoid to spend plenty of time with the explanation of divergent rules and traditions. Experience has shown that there are already significant differences between the various constraints of universities in German-speaking countries.

The authors can strongly recommend to start initiatives to found a council if the above mentioned requirements are fulfilled. The participants give a very good feedback and report that the exchange has significant positive impact on their work, especially if the meetings are prepared well.

But what about a council on European or even global level? The authors are not finally certain yet. The organization of bilateral exchange of students is an additional topic of common interest here, but the exchange of modules etc. might be more difficult because the particular constraints tend to drift apart. Thus, the individual motivation of the participants will probably be too low to accept long travels including flights just for a 24 h meeting. One idea may be to organize meetings around major conferences where a lot of professors and other teachers at universities are present anyway. But these conferences last usually three to five days, plenty of other meetings are meanwhile scheduled beside it and probably only a minority would like to spend another day for an intense meeting about renewable energy teaching. For the time being the authors recommend to organize short meetings of about two hours in evenings during major conferences as planned during the Solar World Congress in Kassel (DE) 2011. This aims at to initiate and support at least some networking.

New media like telephone or video conferences might help to overcome the problem of travel efforts, but can, from our experience, work properly only as second or third steps after several face to face meetings. An international internet platform might be helpful, but it has to be implemented and maintained adequately. It is questionable whether this will work on a long term voluntary basis without sufficient funding. Perhaps it can be realized in conjunction with the data base for degree programs mentioned above. As a first step, an email-list (RE-edu@lists.uni-kassel.de) has been established, similar to the German list, where internationally interested teachers could get in touch with colleagues and share important dates, ideas and information. University teachers may register for the list under <http://lists.hrz.uni-kassel.de/mailman/listinfo/re-edu>.

The authors are open to give all possible support to colleagues who want to found similar councils in their home country or region.

References

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