Summary of main results

International Feed-in Cooperation (FIC)

Second workshop in Berlin 15-16 December, 2005

The Second International Workshop of the International Feed-In Cooperation took place in Berlin on 15 and 16 December 2005. About 50 representatives of the European Commission and the European Parliament, of governments, authorities and associations from 11 EU Member States and Accession Countries exchanged their views and experience and presented their respective feed-in tariff systems for electricity from renewable energies.

Opening

The governments of Spain and Germany expressed their strong interest in maintaining and further developing the implemented feed-in systems as well as in actively supporting international collaborations between EU Member States in order to improve national feed-in tariff (FIT) systems. The European Commission presented the main outcomes of the recently published Communication on RES-E support schemes applied in Europe, showing that feed-in tariffs represent an effective as well as economically efficient measure to support renewables in the electricity sector. Furthermore the Commission representative emphasised the fact that the Feed-In Cooperation fits in very well with the EU recommendation for stronger coordination of support systems in Europe. In this respect the EU gave a clear impetus for additional European countries to join the Feed-In Cooperation and to participate in the cooperation between feed-in systems in Europe.

Round Table

After Spain and Germany presented the experience with their feed-in systems, a roundtable gave the opportunity to present experience with different policies in Europe. In particular the following countries presented the characteristics of their feed-in systems: **Czech Republic, Slovenia, Hungary, France,** and the **Netherlands**. Also **Finland** and **Ireland** presented their present and planned systems. This roundtable gave a concise and informative overview of different feed-in systems in Europe.

The act on the promotion of the use of RES, which was implemented in the **Czech Republic** in August 2005 offers the choice between a fixed-tariff and a premium tariff system for RES-E producers. It involves the obligation for the grid operator to transmit and purchase electricity from RES. The level of tariffs is guaranteed for a period of 15 years for the fixed tariff option. In the case of the premium tariff, no such guarantee with re-

spect to the future tariff exists. The premium tariff has to be exclusively applied in case of co-firing and auto-consumption of RES.

In **France** renewable energy has been generally supported by a technology-specific FIT since 2001. At the same time, plants larger than 12 MW had to apply for tenders. Consequently, most of the projects were smaller than 12 MW in order to apply for the FIT. Moreover, RES-producers in France had to face high existing administrative barriers (i.e. high number of authorities involved in the process, lack of coordination between them, long lead time, insufficient consideration of RES to spatial planning). The determination of the tariffs in France is based on profitability calculations. In 2005 the French law was modified, leading to the suppression of the tender option for wind energy. In this law the FIT is determined based on the avoided investment- and exploitation costs as well as a bonus for environmental and other benefits. However, these tariff components still have to be quantified.

Until the end of 2004, an ecological tax exemption for RES-E producers was applied in the **Netherlands**, but domestic investments were suppressed because the exemption induced significant imports of green electricity from other EU countries. In 2003 the Dutch government introduced a FIT-system including technology-specific tariffs. The tariffs are calculated annually (based on costs and benefits) and are guaranteed for 10 years. With respect to the burden sharing, the government bears 50% of the additional costs, the other half is allocated to the consumers. However, the burden sharing is calculated per grid connection, and not proportional to the electricity consumption like in most other European countries.

An overview on the **Hungarian** RES market was given by private industry operating in the wind energy sector by presenting a document that was agreed with the Hungarian Ministry for Economy. It was pointed out, that the Hungarian framework for the support of renewable energy was modified in 2005 leading, amongst other things, to a simplification of the former difficult and lengthy permitting procedures. Another comment was that biomass tended to be seen as the most important renewable energy source in Hungary, whereas other renewable energies like wind energy were not supported adequately.

The FIT-system applied in **Slovenia** offers the choice between a fixed-tariff and a premium tariff system for RES-E producers. A further element of the Slovenian support system is the obligation for the grid operator to purchase renewable electricity whereas the network operator is obliged to sign a contract with qualified RES producers on purchasing RES-E for a period of up to ten years. Thereby, a tariff reduction over the duration of support is implemented, amounting up to 5% for the fifth to tenth year of installa-

tion and 10% after ten years. The additional costs arising from the support are covered by those consumers using the public grid.

To summarize the described FIT-systems, it can be observed, that there exists a wide variety of design characteristics and implementation details of feed-in tariffs in Europe. Different success factors can be identified, whereas stable planning conditions and a guarantied purchase obligation for RES electricity seem to be of particular importance.

Thematic Sessions

In the second part of the workshop four different sessions offered the opportunity to present key characteristics of the feed-in systems in Spain and Germany. In particular the following aspects were discussed:

1) The procedure to determine the level of tariffs
2) Ways to handle the integration of RE-power (in particular wind-power) into the grid
3) Prediction of wind power and reducing uncertainty for the grid operator
4) How to accommodate the costs for electricity intensive industry

During the **first session** the procedure to determine the level of tariffs in Spain and Germany was discussed intensively. As was shown for a range of different technologies, the level of feed-in tariffs (FIT) is generally based on the economic assessment of the existing potentials for renewable electricity. Both in Spain as well as in Germany the tariff level is set on the basis of detailed scientific investigations and studies assessing the cost components such as investments, operation and maintenance and biomass fuel prices. The tariff takes the form of either a total price for RES-E production, or an additional premium on top of the electricity market price paid to RES-E producers as implemented in the Spanish system. It has been emphasised that FITs allow technology-specific promotion as well as an acknowledgement of future cost-reductions by implementing decreasing tariffs. Furthermore different cost bands of a particular technology can be supported in a band-specific manner by applying a graduated feed-in tariff design.

Among other topics the question was raised as to how the tariffs for biomass electricity can be adjusted if cheaper primary biomass is imported compared to the more expensive domestic biomass (based on which the level of tariffs is defined). The suggestion was made to define differentiated prices for biomass electricity depending on the fuel

input used in the plants. Furthermore the need for an active involvement of all kinds of market actors during the process of tariff determination was mentioned. The key characteristics of the fixed-price option versus the market option in the Spanish system were presented and the motivation for RES producers to participate in one or the other system was discussed.

In the **second session,** the additional requirements placed on the electricity system due to the decentralised and partially intermittent nature of the electricity produced by renewable energies was debated. Different aspects were raised in this respect, among them grid connection and management as well as system operation. Furthermore the issue of the influence of prediction accuracy on the system stability was discussed. Grid requirement standards in Spain and Germany were compared showing a high degree of similarity. It was shown that system stability can be improved significantly if decentralised flexible loads and small scale generation units (partially based on CHP) can be used for balancing fluctuating generation.

The progress made in terms of wind energy prediction was presented in the **third section**. It has generally been found that over short time frames, and with good data about the historic wind regime at a site, it is possible to predict wind farm output using a correlation with forecasted meteorological data. Such forecasts are derived from sophisticated meteorological measurements and weather modelling. Although these tools are still in a relatively early stage of development, it is now possible to provide vital forecasting information. This information can then be used by the system operator in balancing the generation with demand in their system, and significantly reduces the level of uncertainty which is generally attributed to wind energy.

The link between predictions on different time horizons, system stability and the option of intraday trading was discussed. Furthermore the level of prediction accuracy in Germany and Spain was compared, showing that due to different topographic conditions, predictions in Spain are typically more difficult than in Germany, and hence not as accurate.

Since most RES-E technologies are currently not competitive with conventional power, a reasonable burden sharing of the additional costs caused by RES-E generation is necessary. Different consumer groups are affected differently by the increased power price due to the RES-E generation. Especially for the electricity intensive industry the

international competitiveness might be influenced by the corresponding cost premium. Therefore the design of feed-in system needs to be carefully adjusted to the premium on the power price that can be borne by the energy intensive industry in order to maintain their competitiveness. The **fourth session** elaborated this issue in detail. The rules for setting privileged tariffs for the industry in Spain and Germany were presented. Furthermore the need to harmonise the extra costs for industry in Europe in order to ensure competitiveness on a national level was discussed.

Next Steps of the Feed-In Cooperation and Conclusions

The representatives of the individual European Member States confirmed the political will to continue to operate the national feed-in systems under EU legislation in the future, and expressed their interest in continuing and intensifying the existing cooperation. Spain announced it would host the next workshop of the Feed-In Cooperation in 2006.

The Feed-In Cooperation will intensify the dialogue between European counties in the future development of feed-in systems and will assist the identification of best practices in order to specify success criteria of different national schemes. Furthermore the Feed-In Cooperation will increasingly serve in contributing useful knowledge to international fora in particular for the process of political debate in the European Union. The website will be used as a medium to disseminate information i.e. on the Feed-In Cooperation, its work and papers. Expanding the cooperation to include further countries is the explicit wish of Spain and Germany as well as the European Commission.

More information can be obtained from the presentations hold at the second workshop of the Feed-in Cooperation available at *http://www.feed-in-cooperation.org* and from the paper “Feed-in systems in Spain and Germany a comparison" available at: *http://www.feed-in-cooperation.org/images/pdf/langfassung_einspeisesysteme_en.pdf*.