



SUMMARY

of the First International Workshop of the REALISE-Forum Project

"Three Years of Green Certificates: Are They out of the Infancy Phase?"

held at the CESI Auditorium in Milan on 15th-16th December 2005

Claudio Andrea Casale, CESI S.p.A.

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1. Background

The European project REALISE-Forum (Renewable Energy and Liberalisation in Selected Electricity Markets – Forum), funded by the Commission within the framework of the Intelligent Energy - Europe Programme, has been surveying the schemes in force in participating countries for supporting electricity produced from renewable energy sources (RES-E). The project's aim is to assess the effectiveness of the various kinds of mechanism and possibly outline some recommendations for future co-ordination of mechanisms in the European Union.

To complement the surveys carried out by each project partner among RES-E stakeholders of his own country under Work Package 3 of the project, Work Package 4 provides for two mid-term international workshops in order to involve additional experts, even from countries not participating in the project, in wider exchanges of views on some key topics.

The first of these international workshops was organised and hosted by CESI (Italian partner in the project) in its own Auditorium, located at the CESI Headquarters, Via Rubattino 54, 20134 Milan, Italy. The event took place on 15th and 16th December 2005 and was entitled "Three Years of Green Certificates: Are They out of the Infancy Phase?".

Bearing in mind the aim of mid-term workshops, the Milan event was focused on the topic of Tradable Green Certificates (TGC), with a view to making out an overview and comparison of the experience so far gained in the countries where this RES-E support tool has been adopted, and also getting some insights of the future role TGC can play in Europe together with other RES-E support systems (e.g. feed-in tariffs). As to the latter aspect, the workshop also aimed at raising discussion on the feasibility of some co-ordination or harmonisation of national support mechanisms throughout the European Union as was also envisaged by Directive 2001/77/EC.

The Milan workshop was intentionally organised in a country like Italy where, in the last decade, the electricity market has been evolving from the monopoly of a state utility towards full liberalisation. At the same time, the major RES-E support system has been shifting from a scheme with feed-in tariffs to a new scheme based on a minimum RES-E quota obligation and Tradable Green Certificates, namely to a scheme having prospects of being more compatible with the principles of a free electricity market.

It was felt that the Italian audience could certainly benefit from a wider international picture of various schemes and experiences, and people from other countries could, in turn, draw some interesting insights from the experience recently gained in Italy with the implementation of TGC in a market already well ahead in liberalisation. This double aim shaped the very structure of the workshop, as the first day (Thursday 15th December) was designed to bring in and compare the views and experiences of several experts from various countries and international organisations, whilst the second day (morning of 16th December) was fully devoted to going deeper into the specific case of Italy.

2. Participants

A flyer containing the workshop programme, the invitation and the registration form was prepared and diffused mostly by e-mail among RES-E stakeholders in Italy and abroad. Among others, the invitation was sent also to international organisations such as OME (Observatoire Méditerranéen de l'Energie) and ISES (International Solar Energy Society) as well as to the main sector associations of the renewable energy field.

Some late changes in the programme of the second day had to be made as a consequence of the unavailability of speakers from Italian Ministries due to other conflicting engagements. Nevertheless, all the planned subjects of their presentations could be covered adequately by other speakers from CESI and the International Energy Agency (IEA). The final version of the flyer, with the actual programme as it turned out in the end, is attached to this Summary.

A total of 51 people from 7 countries registered for the Milan workshop. Their full list is also available.

3. Presentations

The first session "General Framework", held in the morning of Thursday 15th December, was aimed at providing an overview of the situation with regard to the current and prospective role of RES-E world-wide and the RES-E support policies now under way, with special reference to the countries that are within the scope of the REALISE-Forum project.

This session was chaired by Romano Ambrogi, a CESI R&D manager, who welcomed the participants on behalf of the company and gave a short presentation about CESI and its role especially on renewable energy and related European projects.

Lutz Mez of the Free University of Berlin, as Co-ordinator of the REALISE-Forum project, also welcomed the audience and then presented an introductory overview of the aims, scope, expected results and organisation of the project. The peculiar work methodology was also described, stressing on the close involvement of all RES-E stakeholder in each participating country through the setting-up of national consultation desks.

Roberto Vigotti, Chairman of the Renewable Energy Working Party of the IEA (International Energy Agency), presented the current views of this authoritative organisation about renewable energy, as set forth in the 2004 and 2005 editions of its World Energy Outlook. It was remarked that, in addition to the customary business-as-usual scenario based on a mere continuation of the current policies and trends, the IEA has recently been considering also alternative scenarios where a more significant role of renewable energy sources is envisaged as a necessary contribution to the world's growing energy demand.

Maria Rosaria Di Nucci of the Free University of Berlin (REALISE-Forum Project Manager) and Maarten Arentsen of the CSTM of the University of Twente shared the subsequent presentation, which sketched a first picture of viewpoints and expectations of RES-E stakeholders as had turned out up to that time from the enquiries carried out through questionnaires, interviews and hearings in the European countries that are within the scope of REALISE-Forum (Germany, Italy, the Netherlands, Norway, Denmark, Sweden, Finland and Slovenia). The rationale underlying the national consultations was described, as well as the widely differing situations of RES-E support schemes in the various countries. The degree of cohesion of stakeholders' attitudes as regards their national schemes and the possible harmonisation of schemes in the European Union were stressed as the main focus of the study.

The second session "Green Certificates", held in the early afternoon of Thursday 15th December, went straight into the core of the workshop, which was aimed at discussing the instrument of Tradable Green Certificates. For this purpose, four speakers from as many countries where instruments of this type have been in force for some time, were invited to describe the experience so far gained and any lessons that could be learnt. The session chairman was Hans-Joachim Ziesing of DIW, the German Institute for Economics Research.

Fiona Santokie of Natsource Europe Ltd reported on the three-year experience gained in the United Kingdom with the instrument of ROC's, the Renewable Obligation Certificates in force since 2002. A RES-E quota obligation has been laid on energy suppliers, who have to submit certificates bought from RES-E producers or, as an alternative, pay a penalty. The system has proved pretty effective in

setting up new RES-E capacity at the best economic sites, albeit for the more mature technologies, but wants some improvements to increase investors' confidence.

Hans Randen of NordPool ASA (the Nordic Power Exchange) summarised the situation in the four Scandinavian countries (Denmark, Finland, Norway and Sweden) that go to make up the common electricity market run by his institution, which is owned by the respective Transmission System Operators. TGC schemes (Elcertificates) have been operating in Sweden and Norway and have been fairly effective in the setting up of new capacity, especially from biomass, even though some adjustments are needed to facilitate TGC trade between the two countries. The remaining countries rely on different schemes, mainly based on feed-in tariffs (Denmark) or tax relief with investment incentives (Finland).

Aviel Verbruggen of the University of Antwerp reported on the experience gained in Flanders, where a quota obligation has been laid upon electricity suppliers, who have to submit TGC to demonstrate their fulfilment (the Belgian government has set minimum prices for RES-E, but Flanders and Wallonia have been running their own quota/TGC systems). The Flemish scheme has so far been somewhat effective, but has also brought about windfall profits especially ensuing from imported waste being burnt together with conventional fuel in old thermal power stations. Some adjustments should therefore be made.

Natascia Falcucci of GRTN, the Italian body in charge of managing the whole RES-E support system, described the current situation of Italy, where the main RES-E support scheme has been shifting from the former feed-in tariff mechanism to the current quota/TGC scheme. Unlike the UK and Flanders, in Italy the RES-E quota obligation is laid upon producers and importers and TGC are granted to RES-E producers over the first 8 years of plant operation only. The scheme has been effective mostly for the deployment of more mature technologies, whilst feed-in tariffs have recently been set up to support PV. At present, the TGC market price is biased by the fixed price of TGC sold by GRTN itself. The Italian TGC should be defined as a "mixed type" scheme, where the TGC price is not fully left to the interplay between offer and demand, but is actually controlled to give more guarantees to investors.

The third session "An Outlook on the Future", held in the late afternoon of Thursday 15th December, was aimed at discussing what further developments could be expected in RES-E support schemes of European countries on the basis of the described situation of TGC schemes and stakeholders' attitudes. The session chairman was Roberto Vigotti, Chairman of the Renewable Energy Working Party of the IEA.

Atle Midttun, of BI - Norwegian School of Management, gave a presentation comparing the two main types of RES-E support scheme currently running in European countries: the feed-in tariff mechanisms, which have been implemented by the majority of EU member states subsidising RES-E (among which are Germany, France, Spain, Denmark, the Netherlands etc.), and the quota/TGC

systems, enforced in fewer countries (mainly those already mentioned above). The presentation showed that both types of mechanism can have their own role at different phases of development of a given technology (feed-in tariffs are helpful at an earlier stage, whereas TGC fit better in a more mature market), so that they should be seen as complementary rather than competing instruments.

Hans-Joachim Ziesing of DIW, the German Institute for Economics Research, dealt with the possible interaction of TGC schemes with other mechanisms that are being implemented and could also have a bearing on the deployment of RES-E, such as Green Pricing initiatives and the Emission Trading mechanism ensuing from the Kyoto Protocol. The main outcome was that there should be no conflict between the various mechanisms. Emission Trading, in particular, could alone bring little help to RES-E growth, as conventional measures for reducing greenhouse gas emissions would always be less expensive than the setting-up of RES-E plants. Conversely, the contribution of RES-E would not be limited to reducing emissions, but would have a much wider strategic and environmental value which should be appreciated and adequately supported by dedicated mechanisms such as TGC.

The third session was closed by a round-table discussion among all speakers led by Roberto Vigotti. Many a question was put by the audience as well. It was difficult to identify a common position as people from each country tended to defend their own support scheme. With this in mind, it could be inferred that some co-ordination of national support schemes looks much more feasible at the level of the European Union than the implementation of a common harmonised support framework, at least in the short and medium term.

The fourth session "The Case of Italy", held in the morning of Friday 16th December, presented the international audience with a more exhaustive overview of RES-E deployment in a sample country where TGC are used as the current major RES-E support system. As the host country, Italy was chosen to provide presentations on the most important aspects. The session was chaired by Lutz Mez of the Free University of Berlin, Co-ordinator of the project.

Claudio Casale of CESI, R&D Division, made a presentation in which, after summarising today's framework of RES-E support mechanisms and production in Italy, reported in detail the results of the enquiry performed by CESI with the help of APER among Italian RES-E stakeholders by means of a questionnaire. The aim was to gather stakeholders' views on a number of issues, particularly regarding the effectiveness of the current quota/TGC scheme, their willingness to change it and the main reasons for changing. It turned out that most stakeholders are, in principle, somewhat satisfied with the current RES-E support system and would not change it to a very significant extent to facilitate European harmonisation. In the short term, they would rather trim it to reduce the risks to RES-E investors.

Antonio Capozza of CESI, R&D Division, and also a member of the IEA Implementing Agreement on Demand Side Management, spoke about the system of White Certificates for efficient end-use of energy and its possible implications for the development of RES-E. After a general introduction, a

description was made of the White Certificates scheme recently enforced in Italy by two decrees imposing targets of end-use energy saving on electricity and gas distribution companies, respectively. These companies should promote the savings at their customers' premises. Only the gas companies can take renewable energy among their possible measures to achieve their target, so that White Certificates are unlikely to affect TGC to a large extent.

Michele Benini of CESI, R&D Division, described the simulations of Italy's electricity market carried out by CESI to assess the impact that the Kyoto Protocol could have on the unit cost of electrical energy. A 2008 scenario was analysed by the PROMED software tool, thus obtaining estimates of the additional costs that the obligation to keep yearly greenhouse gas emissions below a given cap would cause as a consequence, e.g., of the need to shift from a cheaper fuel to a more expensive one with less carbon content. It turned out that the market price of EU Allowances should exceed 20 €/ton of CO₂ to make it convenient to reduce emissions, because the Italian generating system is already very "carbon efficient" thanks to many gas-fired combined-cycle plants. Hence it could be inferred that the Kyoto obligations are now unlikely to become a major alternative to TGC in promoting RES-E investments.

Alessandro Brusa of APER (Association of RES-E Producers) brought in the voice of Italian undertakers in the RES-E business, especially the small ones who are particularly sensitive to changes in the market and support framework. While remarking that, in spite of all, Italy is still well behind schedule in achieving the RES-E target set by Directive 2001/77/EC, he pointed out the many barriers that still hamper the deployment of RES-E plants in Italy. These barriers are both technical, ensuing from bottlenecks in the transmission grid, and legislative, stemming from the fact that the decree transposing Directive 2001/77/EC called for further implementing acts that have not, as yet, been issued. Among others, long-awaited provisions aimed at streamlining permitting and grid-connection procedures, still have to be enforced. On the contrary, small RES-E investors need a more certain framework and more certain prospects of income also in the long term.

At the end of this session Lutz Mez, as Co-ordinator of the project, thanked all those attending for coming and for contributing to a successful workshop. He also announced that the next workshop of the project will be held in Maribor (Slovenia) and will focus on feed-in tariff schemes.

4. Concluding Remarks

Even though the number of attending people could have been larger, it has to be acknowledged that the workshop benefited from a very qualified audience, which followed all presentations with great attention and interest, as was also demonstrated by many smart contributions to discussions.

As a very general outcome of the whole event, it could be stated that some TGC schemes have already shown that this kind of instrument can work pretty well for the deployment of new RES-E capacity, albeit in a way and to an extent that vary from one country to another. Nevertheless, TGC schemes are

more suitable for the renewable energy technologies that are closer to maturity, whilst less competitive technologies still need other instruments, such as feed-in tariffs, to overcome their remaining cost handicap.

It can hence be inferred that these two main kinds of support scheme, namely TGC and feed-in tariffs, are complementary rather than competing, and the optimum set-up of RES-E support instruments can therefore vary widely from one country to another depending on its peculiar electricity market and economic and social conditions.

Therefore, making an effort to achieve better co-ordination of national support schemes looks, at least for the time being, a more feasible path for the European Union than implementing a fully harmonised support framework.
