



**The European Renewable Electricity Certificate trading Project  
(RECerT)**

**Contract No. NNE5/1999/00051**

**International Conference**

**Held on 12<sup>th</sup> October 2000  
at the Radisson Hotel, Brussels**

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THE EUROPEAN COMMISSION  
Fifth Framework Programme**

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Directorate-General for Energy and Transport**

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**Produced by  
Energy for Sustainable Development Ltd (ESD)  
Corsham, Wiltshire, UK  
44 1225 812102  
44 1225 812103  
esd@esd.co.uk**

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## **1 INTRODUCTION**

An international workshop / conference was envisaged as part of the RECerT project, Work Package 1, Task 1.5, with ESD as the task leader. It was always intended that this event should be closely coordinated with the other green electricity cluster projects, and this was achieved. Feedback from attendees shows a high level of satisfaction, and the number of attendees, at 175, exceeded expectations.

## **2 OVERVIEW OF CONFERENCE**

The conference attracted 175 participants from 18 different countries. The countries which were represented included Austria, Belgium, Denmark, Estonia, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and USA. The participant list is attached at annex C.

The agenda was deliberately tight, since the objective was to transmit a large amount of up-to-date information on TGC developments in Europe in an efficient manner. This left little room for discussion or questions, which is almost inevitable with a large audience. The agenda is attached at annex B.

Speakers were gathered from a wide range of research and industrial concerns, and represented a broad spread of expertise and opinion. Speaker profiles are provided in annex E, and presentations in annex F.

Participation exceeded expectations, and a small number of attendees who registered very late paid for their own direct costs, since the available budget had been used up.

Participant satisfaction was high, as evidenced by the feedback from participants contained in this report. Dissatisfaction was expressed with the limited time available for discussion, and for aspects of the venue that made it difficult for some attendees to hear the presentations. Participant feedback is reported in annex D.

## **3 COORDINATION WITH THE GREEN ELECTRICITY CLUSTER AND THE RECS GROUP**

It was agreed between the RECerT project partners, and in collaboration with the other green electricity cluster partner projects ELGREEN and InTraCert, that the event should be made a major public event which would be coordinated between the projects. Meeting rooms at the Radisson hotel in Brussels were booked for three days and all three projects held coordination meetings, with the main public event being the conference on 12 October. The successful outcome of the conference is one of the main successes of the coordination between the three green electricity cluster projects.

It was always intended that the RECS group should have a platform at the conference, and this was achieved, with two separate presentations from the RECS group, one on the history of the group to date and the second on plans for the future. The RECS group was 'badged' equally with the green electricity cluster projects on the front sheet of the conference materials. Again, this represented a good level of cooperation between the two initiatives.

## 4 SPONSORSHIP

The organisers decided to expand the scope of the workshop in terms of quality of venue and number of invitees, beyond that which could be supported by the budget available through the three green electricity cluster projects. This decision was taken in order to expand the impact of the event, and in order to achieve this, limited additional funding was necessary. Sponsorship was sought from a number of companies, each pledging 1,500 Euros:

E-FETS – the Electronic Forest Emission Trading System

Electrabel

Enel Produzione

Hamburgische Electricitäts-Werke AG (HEW)

Natsource

OM Environment Exchange

Shell Renewables

(Greenprices) - didn't give money

Sponsor profiles are given in annex A.

# Annex A

## Sponsor profiles



E-FETS – the Electronic Forest Emission Trading System - is a commercial platform for emission trading that enables you to learn and influence the future system, by taking an active role! The aim of E-FETS is to lower the proportion of Greenhouse gas in the atmosphere.

E-FETS' goal is to actively demonstrate that a consumer oriented and broad emission trading system stimulates new green energy production, co-generation and more activities for improved energy efficiency. By introducing Forest Management certificates in E-FETS, CO<sub>2</sub> goals can be reached in a more cost efficient way.

Reduced CO<sub>2</sub>-emissions from implemented measures, shall be certified and thereafter registered and traded on E-FETS Internet based trading platform. As emission trading is something new, E-FETS is organising a simulation at the beginning of 2001. This will enable the participating companies to learn, gain experience and influence the coming emissions trading systems in Europe.



Electrabel is a Belgian energy company, part of the Suez Lyonnaise des Eaux group, whose core-business comprises :

- generation of electricity;
- trading of electricity and natural gas;
- building, management and servicing of networks used for transmission of electricity and distribution of electricity and natural gas;
- sale of electricity, natural gas and derived energy products and services that meet customer needs.

With an installed capacity of approximately 15.000 MW of which 1000 MW is based on co-generation, it is the major electricity company in Belgium.

Electrabel supports the willingness to promote the development of renewable energies in the context of its general environmental policy. In spite of the limited renewable resources and geographical condition in Belgium, Electrabel has planned to establish windmills on different locations in Belgium. The company has also been, and continues to be, active in substantial research programmes with regard to solar and biomass energy.



# HEW

The Hamburgische Electricitäts-Werke AG (HEW) is one of the large electricity companies in Germany.

HEW owns 3.7 GW electrical production capacity and 1.6 GW thermal capacity for district heating.

In 1999 it produced some 16 TWh of electricity and 3 TWh of heat. After the liberalisation of German energy markets, HEW has increased its electricity sales by more than 30% in 1999 alone. HEW is Germany's market leader when it comes to bundling chains of retail outlets.

Together with its future

majority shareholder Vattenfall AB from Sweden, HEW is about to form the "nordic powerhouse" as joint trading platform.

HEW is a pioneer in emissions trading. In the first transatlantic transaction, it has sold greenhouse-gas emission reductions to the Canadian utility TransAlta. HEW is an active member of the RECS process.



NATSOURCE-TULLETT  
Europe Ltd.

Natsource LLC is a leading international energy broker participating in power, gas and emission markets in North America, Europe, Japan and Australia. Natsource has also been instrumental in developing the international GHG market, pioneering North American, transatlantic and transpacific transactions.



OM Environment Exchange was launched in November 1998 to provide an integrated internet based market-place service for tradable environmental economic instruments (green certificates) and commodities. Market and exchange participants can see 'up to the minute' prices for each market displayed on the exchange website – [www.t2e.co.uk](http://www.t2e.co.uk) – or alternatively telephone the exchange where they can also receive impartial market-place advice.

The exchange currently trades Packaging Waste Recovery Notes (PRNs) on both 'spot' and 'forward' markets and tracks the emerging new markets for the trading of greenhouse gas emission reduction credits (carbon dioxide) and other green certificates. Participation in the RECerT project links the exchange's interest in green certificates with its ability to provide transparent trading platforms, clearing and settlement services.

Our aim is to make the purchase and sale of tradable environmental economic instruments and commodities simple, reliable, efficient and cost effective for all parties by providing a transparent price along with a complete and regulated service from the initial order through to the final settlement of the transaction.



Shell Renewables is one of five core businesses of the Shell Group. Established in 1997 to develop commercial opportunities in solar, biomass, wind and forestry, we aim to become a significant player in the sustainable energy market.

In Solar energy we are focusing on the Rural Electrification, Grid-connect, and "Stand-alone" markets. The cells are manufactured in our plants located in The Netherlands, Japan and Germany. Our fully automated cell line in Gelsenkirchen, Germany is one of the most advanced in the world.

Our first wind project is currently being constructed off the coast of the UK, at Blyth, where we are part of a consortium that will bring two turbines on stream producing 4MW. The second, in Harburg, Germany, will see two turbines; both 1.7MW, start supplying energy this year.

In Biomass we are focusing our activities in Northern Europe. We have a heating and industrial briquette plant at Kirkenær, Norway, that supplies heat to nine industrial and municipal customers. In Denmark, a wood-pellet business selling to the domestic market, and in Sweden; a joint venture with Sala-Heby Energi operates a bio-fuelled combined heat and power (CHP) plant.

Our Forestry operations consist of sustainable plantations in six countries - Argentina, Congo, Chile, Paraguay, Uruguay and New Zealand. A global marketing unit has been set up in London, to trade wood products from our operations internationally.

The sun provides us with more energy than we will ever need. Our challenge is to capture that energy and deliver it in an economically viable way, whether from growing trees, photo-voltaic technology, wind power or other renewable sources that might emerge.



Greenprices is an independent website on green energy in Europe and abroad. It gives information about suppliers of green energy, green energy products and prices. Furthermore, Greenprices pays attention to green certification and labelling issues, presents rankings of large users of green energy and



gives news on green energy policy in Europe and the individual countries represented on the website.

The address of the site is [www.greenprices.com](http://www.greenprices.com), the general portal with information on green energy in the European Union. From here you can visit the separate country sections on green energy. Currently the following country sections are online: Belgium, Germany, The Netherlands, United Kingdom and Sweden. Greenprices is an initiative of Ecofys B.V. For more information about Greenprices please contact Heddeke Heijnes, editor, P.O. Box 8408, NL-3503 RK, Utrecht, The Netherlands, tel. +31.30.2808300, fax. +31.30.2808301 or send an email to [greenprices@greenprices.com](mailto:greenprices@greenprices.com).

# Annex B - Agenda

## Morning

09:00	Registration and coffee
09:30	Chairman's overview - <i>Mr Christopher Crookall-Fallon, ESD, UK</i>
09:40	Keynote address: The Renewable Energy Directive - the provision for green certificate trade, and a view to the future - <i>Mr Luc Werring, Head of the Unit "Promotion of renewable energy sources and demand management" in the Directorate-General for Energy and Transport at the European Commission.</i>

### Session one - Progress and developments in Europe

10:00	The RECS Group - objectives, growth and success to date - <i>Mr Peter Niermeijer, RECS Group Chairman, EnergieNed, Netherlands</i>
10:20	The interaction of Tradable Green Certificates with other policy instruments, and the Green Electricity Cluster - <i>Mr Reinhard Haas, Technical University of Vienna, Austria</i>
10:40	A summary of key TGC market developments in Member States - <i>Ann Goossens, Advisor, European and Institutional Affairs, Electrabel, Belgium</i>
11:15	A summary of global developments in TGC markets - <i>Dr Gerrit Jan Schaeffer, Green Certificate Specialist, ECN Policy Studies, Netherlands.</i>
11:30	Refreshment break

### Session two - Perspectives

11:50	The market imperative - Eurelectric's view of the need for TGCs - <i>Mr Inge Pierre, Eurelectric Inter-Domain group on Renewables</i>
12:10	A utility's perspective - <i>Dr Helmuth Groscurth, Hamburgische Electricitaets-Werke AG (HEW), Germany</i>
12:30	A major energy user's and green producer's perspective - <i>Kurt Lekås, Vice-President Energy Procurement, SCA HQ, Belgium</i>
12:50	A broker's perspective on the development of trading in green certificates - <i>Garth Edward, Natsource Tullett Europe</i>
13:10	Buffet lunch

# Afternoon

## Session three - Future gazing

<b>14:00</b>	Are tradable certificates the right way to promote renewable energy in the EU? - <i>Dr Stephan Singer, Head of European Climate and Energy Policy Unit, WWF, Brussels</i>
<b>14:30</b>	The future size and value of a European-wide market in TGCs - results of research work carried out under the RECerT and REBUS projects - <i>Isabel Kühn, Economist, Centre for European Economic Research (ZEW GmbH), Germany</i>
<b>15:00</b>	Linkages between TGCs and carbon trading - provisional results of research carried out under the InTraCert project - <i>Dr Lise Nielsen, Senior Scientist, Risoe National Laboratory, System Analysis Department</i>
<b>15:30</b>	Refreshment break

## Session four - Next steps

<b>16:00</b>	The RECS trial trade - aims, objectives, timetable and opportunities to get involved - <i>Peter Niermeijer, EnergieNed, Netherlands</i>
<b>16:20</b>	The RECerT international internet trading simulation - objectives, timetable and opportunities to get involved - <i>Christopher Crookall-Fallon, ESD, and Angus Macpherson, OM Environment Exchange, UK</i>
<b>16:40</b>	Chairman's summary and workshop close

# Annex C - Participant list

## DELEGATES

NAME	ORGANISATION	COUNTRY
Ludo Deckers	3E nv	Belgium
David Fensome	ACMG	UK
Michel Ardoullie	Aeolus	Belgium
Fabio Ferrari-Bravo	Ambiente SpA (Eni Group)	Italy
John Twidell	AMSET Centre	UK
Mari Habicht	Archimedes Foundation	Estonia
Tomas Karlstrom	Arnesson Energi AB	Sweden
Hans-Erik Kristoffersen	Association of Danish Energy Companies	Denmark
Nicola Steen	Association of Electricity Producers	UK
Jan Kjellegård	Birka Energi AB	Sweden
Britt Sahlestrom	Birka Energi AB	Sweden
Heinrich Bartelt	Bundesverband Wind Energie e.V.	Germany
Phil Moody	Campbell Carr/Green Certificate Company	UK
Jos Benner	CEA/RECS Secretariat	Netherlands
Manuel Fernandes	CEEETA	Portugal
Konstantinos Lytras	Centre for Renewable Energy Sources (CRES)	Greece
Stefano Bossi	CESI	Italy
Andrew Macdonald	Concert Energy Ltd	UK
Gerald Newi	CONSULECTRA	Germany
Stefan Zisler	CONSULECTRA	Germany
Henrik Lawaetz	Danish Energy Agency	Denmark
Mike Brook	Department of Trade and Industry	UK
Willem van der Heul	Directorate General for Energy	Netherlands
Sarah van Kurckhoven	Division of Natural Resources and Energy	Belgium
Mark Draick	Division of Natural Resources and Energy	Belgium
Ole Languiss	DLR	Germany
Hayley Myles	Dulas Ltd	UK
Claudine de Zoeten	The Dutch Energy Research Foundation	Netherlands
Helmut Tiess	e & t Energie HandelsGes mbH	Austria
Donal Hession	E.Co The Electricity Company	Ireland
Mathieu Kortenoever	E. Connection Project	Netherlands
Frank Hoepner	E.ON Energie AG	Germany
Maroeska Boots	ECN Policy Studies	Netherlands
Frankl Paolo	Ecobilancio Italia srl	Italy
Emanuela Menichetti	Ecobilancio Italia srl	Italy
Erwin Mikkers	Ecofys	Netherlands
Heddeke Heijnes	Ecofys	Netherlands
Jeremy Morgan	ECOTEC	UK
Line Hagen	EFTA Secretariat	Belgium
Stefan Holm	EICertH	Sweden
Declan Flanagan	Eirtricity	Ireland
Brian Hurley	Eirtricity/Future Wind Holdings Ltd	Ireland
Sam Emmerechts	Electrabel	Belgium
Yves Foste	Electrabel	Belgium
Ulrik Stridbaek	Eltra	Denmark
Joern Mikkelsen	Eltra	Denmark

Horst Wolter	EnBW Gesellschaft für Stromhandel mbH	Germany
Jean Lagaune	ENECO NV	Netherlands
Lucien Wiegers	ENECO Shell Energy	Netherlands
Francesca Gostinelli	ENEL Produzione Energy Management	Italy
Angel Luís Vivar	UNESA	Spain
David Alcock	ENER-G Plc	UK
Laurence Hesse	Energie et Environnement Ingenieurs Conseils	Luxembourg
Robert Wilmes	Energie et Environnement Ingenieurs Conseils	Luxembourg
Manuel Pio Silva	ENERNOVA, S.A.	Portugal
Michael Payne	Enron Wind	USA
Jan de Jong	EP2 n.v.	Netherlands
Stefano Granella	ERGA SpA	Italy
Donagh Omahony	ESB	Ireland
Tim Crozier-Cole	ESD	UK
Laetitia Erbes	ESD	UK
Hannah Isaac	ESD	UK
Chris Arthers	Essent Duurzaam	Netherlands
John Traynor	Eurelectric	Belgium
Robert Flück	Euroheat and Power	
Ann Segerborg-Fick	European Commission	Belgium
Pierre Dechamps	European Commission	Belgium
Garbine Guiu	European Commission	Belgium
Lars Nielsen	European Commission	Belgium
Vicky Pollard	European Wind Energy Association	Belgium
Andreas Ballhausen	EWE NaturWatt GmbH	
Jan Jaap de Koning	EZH	Netherlands
Teresa Ponce de Leão	FEUP - Engineering Faculty of Porto University	Portugal
Martin Alder	FGW (Fordergesellschaft Windenergie e.V.)	UK
Andreas Wagner	FGW (Fordergesellschaft Windenergie e.V.)	Germany
Juha Hiekkala	FINGRID OYJ	Finland
Finn Andersen	Finn Andersen Consult	Denmark
Emma Johansson	FORATOM	Belgium
Jussi Nykänen	Fortum Corporation	Finland
Annette Piening	Free Univeristy Berlin	Germany
Ronan Conor	Futuregen Ltd	Ireland
Guido Droste	G.A.S. Energietechnik GmbH	Germany
Christian Schrage	G.A.S. Energietechnik GmbH	Germany
Frank Steenhaut	Gascogen N.V./S.A.	Belgium
Adelbert Niemeyer	Gerling Cert Umweltgutachter GmbH	Germany
Egbert Bouwhuis	GPX	Netherlands
Axel Posthumus	Green Utility Co.	Netherlands
Alexander Townend	GreenEnergy	UK
Christian Pegrum	Hyder Industrial	UK
Daniel Edmonds	Impax Capital Corporation	UK
Thomas Erge	ISE-FhG	Germany
Vassilia Argyraki	ISLENET	Belgium
John Green	IT Power Ltd	UK
Pieter Voets	K.U. Leuven Energy Institute	Belgium
Mats Rydehell	KanEnergi Sweden AB	Sweden
Virginia Bombelli	KOBA Renewable Energy Environment	Italy
Agnes Morel	KWI Project Development and Consulting	Austria
Otto Johnsen	Lyse Energi	Norway
Markus Mann	Mann Naturenergie GmbH & Co. Kg	Germany
Jörg Thielmann	Mann Naturenergie GmbH & Co. Kg	Germany
Andreas Haider	Ministry for Economic Affairs and Labour	Austria
Virginia Taboas	Ministry of Economy DGE	Portugal
Luc Peeters	Ministry of Flemish Community	Belgium

Ann Hjetland	Ministry of Petroleum and Energy	Norway	
Petteri Kuuva	Ministry of Trade and Industry	Finland	
Paivi Janka	Ministry of Trade and Industry	Finland	
Marcella Pavan	National Regulatory Authority for Electricity and Gas		Italy
Thomas Levander	National Swedish Energy Administration	Sweden	
Liv Rathe	Norsk Hydro Asa	Norway	
Svein Solhjell	Norsk Hydro Asa	Norway	
Jonny Sørensen	Norsk Miljøkraft AS	Norway	
Emil Thorkildsen	Norsk Miljøkraft AS	Norway	
Svein Kamfjord	Norwegian Electricity Association (Enfo)	Norway	
Marit Fossdal	Norwegian Electricity Association (Enfo)	Norway	
Eppe Luken	NOVEM B.V.	Netherlands	
Marjolein Quené	NUON International/Renewable Energy	Netherlands	
Bert Groeneveld	Nv EPON	Netherlands	
Ted Aldewereld	NV Nutsbedrijf Regio Eindhoven	Netherlands	
Karen Marshall	Ofgem	UK	
Brian Wharmby	Ofgem	UK	
Christof Timpe	Öko-Institut	Germany	
Luc de Baere	Organic Waste Systems	Belgium	
Karel Maliepaard	PAWEX	Netherlands	
José Escada da Costa	Permanent Representation of Portugal	Belgium	
Manfred Pfeifer	Pfeifer and Langen		
Andreas Stein	Plambeck Neue Energien AG	Germany	
Jouko Rämö	Pohjolan Voima Oy	Finland	
Kate Smallwood	Powergen UK Plc	UK	
John Martin Jacobsen	Pricewaterhouse Coopers	Norway	
Mike Anderson	Renewable Energy Systems Ltd	UK	
Michael Barry	Saorgus Energy	Ireland	
Dan Gren	SCA	Sweden	
Geoffroy Moreels	SCA, E-FETS	Sweden	
Inge Buckley	Scan Energy and Environmental Service Ltd	Ireland	
Steven Brown	Shell International Renewables	UK	
Mark Candlish	Slough Heat and Power Ltd	UK	
Patrick Biwer	Société Electrique de l'Our S.A.	Luxembourg	
Andre Schmerler	Stadtwerke Leipzig	Germany	
Uta Staude	Statkraft Energy	Germany	
Anders Ruud	Statkraft SF	Norway	
Rolf Jorgensen	Statnett SF	Norway	
Jon Lauritzen	Statnett SF	Norway	
Agnes von Gersdorff	Swedish National Energy Administration	Sweden	
Truls Borgström	SWEDPOWER AB	Sweden	
Jan Willem Langeraar	TBM TU Delft	Netherlands	
Gustav Resch	Technical University of Vienna	Austria	
Thomas Faber	Technical University of Vienna	Austria	
Claus Huber	Technical University of Vienna	Austria	
Bert Pheifer	TenneT bv	Netherlands	
Shohei Yasuda	Tomen Power (Europe)	UK	
Minoru Saito	Tomen Power (Europe)	UK	
David Newstead	Tradition Financial Services Ltd	UK	
David Jenkins	Tradition Financial Services Ltd	UK	
Harold von Reis	TÜV Energie und Umwelt GmbH (TEU)	Germany	
Thomas Grusemann	TÜV Rheinland	Belgium	
Roberta Valenziani	UNAPACE	Italy	
Giulio Cicoletti	UNAPACE	Italy	
Andreas Hoellinger	Unit Energy Stromvertrieb GmbH	Germany	
Markus Kasten	Unit Energy Stromvertrieb GmbH	Germany	
Brian Ogallachoir	University College Cork	Ireland	

Stefania Supino	Universita degli di Salerno	Italy
Maria Proto	Universita degli di Salerno	Italy
Ornella Malandrino	Universita degli di Salerno	Italy
Miguel Gual	University of Madrid	Spain
Judith Lipp	University of Oxford	UK
Josef Janssen	University of St Gall	Switzerland
Rolf Wüstenhagen	University of St Gall	Switzerland
Michael Wunnerlich	V.D.E.W. German Electricity Association	Germany
Johannes Litzelmann	V.D.E.W. German Electricity Association	Germany
Dick Bos	Vattenfall Nederland BV	Netherlands
Lody Botzen	Vattenfall Nederland BV	Netherlands
Lise-Lott Larsson	Vattenfall, E-FETS	Sweden
Torben Pederson	VE - energy	Denmark
Marianne Moscoso-Osterkorn	Verbund Österreichische Elektrizitäts-wirtschafts- Aktiengesellschaft	Austria
Christof Germann	VIW AG	Austria
Niall Martin	Windpower Monthly	Netherlands
Enno Heijndermans	World Bank	Netherlands

# Annex D - Participant feedback

Feedback on the workshop was requested in order to gauge success, and to enable the organisers to improve future events of this kind. Participants were requested by e-mail to rate the conference on several aspects on the scale from one (poor) to five (excellent), and were invited to make further comments. 41 responses were received (about 23% of the audience). Average scores are shown in the following table, and have a total average of 3.82, close to the 'very good' adjectival grading. Given the limited resources of this conference we regard this as a very satisfactory outcome.

Rating scale:

- 1 = poor
- 2 = fair
- 3 = good
- 4 = very good
- 5 = excellent

Question	Average rating across all respondents
To what extent did the agenda cover current issues in the 'green certificates' debate?	3.99
How would you rate the quality of the speakers and presentations?	3.60
Were you satisfied with the workshop material?	3.30
On what scale would you rate the venue?	3.93
How would you rate the overall organisation of the event?	4.30
<b>Average 'score' for the whole event</b>	<b>3.82</b>

Feedback was also requested in the form of comments. These are listed below:

## Full list of comments from delegates

### QUESTION 1 TO WHAT EXTENT DID THE AGENDA COVER CURRENT ISSUES IN THE 'GREEN CERTIFICATES' DEBATE?

**No information and or speakers about eastern Europe.** (Andreas Höllinger, Unite Energy)

### QUESTION 2 HOW WOULD YOU RATE THE QUALITY OF THE SPEAKERS AND PRESENTATIONS?



**Sometimes we found a little in-experienced Speakers; though it does not bother me.**  
(Minoru Saito, Tomen Power)

QUESTION 3 WERE YOU SATISFIED WITH THE WORKSHOP MATERIAL?

**The copies of the slides are sometimes not legible. 6 per page are maybe too much**  
(Andreas Höllinger)

**Could have been more complete** (Gilbert Theato, Energie et Environnement S.A.)

**Not all presentations were included. For the rest OK. An improvement (which would cost much more time) would be to also have papers from every speaker, so that real proceedings could be made.** (Gerrit Jan Schaeffer, ECN)

**always better to have all material on the day** (John Traynor)

QUESTION 3B ON WHAT SCALE WOULD YOU RATE THE VENUE?

**Good. But annoying was that there was not someone constantly available to regulate the sound and avoid mike noises.** (Gerrit Jan Schaeffer, ECN)

**noisy airconditioning (because no windows), lousy acoustics, poor sound system, no windows. These hotel rooms are plush, but often terrible venues for audiences. Good food & drink, good projection** (John Traynor, Eurelectric)

QUESTION 4 HOW WOULD YOU RATE THE OVERALL ORGANISATION OF THE EVENT?

**Very good though the hotel was quite expensive** (Andreas Höllinger)

**Very good. My compliments to the 'ESD-gang'.** (Gerrit Jan)

**Very Good (except the sound system....)** (Phil Moody)

GENERAL COMMENTS

**Although a workshop, this meeting could have had longer/more breaks in order to meet everybody.** (Bert Groeneveld)

**Could have been more time for questions/comments from floor possibly at end of morning or afternoon.** Brian Hurley)

**One of the better conferences I have been to this year.** (Christian Pegrum)

**Thank you for organising such an excellent event. It was very interesting, and it was great to hear such an impressive array of speakers.** (Alex Townend)

**I thought that the workshop was very interesting and well run** (Daniel Edmonds, Impax Capital)

**Norway nil points ESD lots** (David Newstead, TFS)

**Hard to hear some speakers when sitting towards the back of the conference room** (David Newstead, TFS)

**Yeah i think overall it was a well put together event which i know is lots**

**of hard work and very stressful .Well done !!! Two late nights in a row on top of a long long day wow rather you than me. (David Newstead, TFS)**

**Yes, I would like to know Chris' opinion about GPX in the possibilities to join the RECS test phase. (Egbert Bouwhuis, GPX)**

**To few time for discussion and get more detailed information and to few further information (like handouts ...) - but a good conference with good news! (Erwin Smole)**

**Hope Chris is feeling better. (Gerrit Jan)**

**With compliments for the work done and hoping to meet you at least one more time, (Fabio Ferrari-Bravo, Ambiente)**

**You and your colleagues managed it very well, congratulations... (Gustav Resch, Vienna Technical Uni)**

**Very useful (Hayley Myles, Dulas)**

**I would rate the event overall between 3 and 4. I have followed the debate for the last 2 years, so the presentations was not new to me personally. But I heard from others that they found them informative. So thanks for organizing the event - I hope it can be repeated in the future.**

**(Hans-Erik Kristoffersen, Danske Energiselskabers Forening)**

**The topic of this workshop was very interesting and for most of the visitors a "new" field of activity. Therefore there were a lot of questions after most of the presentations. The answers of the asked questions also contained a lot of information for the audience. But not all could be (were allowed to be) asked, because of the timetable of the workshop. I think it would have been very interesting to know about the open questions, concerns and issues of all the colleagues. Maybe it would be possible to reserve a special period of time after each of the presentations at the next workshop, to get the possibility that all questions could be asked and answered. Thank you for the excellent organisation - it was a great event! (Helmut Tiess)**

**I would like to thank you very much for the excellent organization of the RECS-ReCerT event and to congratulate to this great success. (Helmuth Groscurth)**

**It was a very good overview over the 'state of the art' in renewable energy certificate trading, thank you. (Horst Wolter)**

**good presentations, but we've had expected more details of CO2-certificate-trading. (Joerg Thielmann, Germany)**

**Well done (John Green, IT Power)**

**Good and worthwhile thanks (John Traynor, Eurelectric)**

**Thank you for arranging the meeting. (John Twidell)**

- 1. Meeting well arranged and pleasantly managed.**
- 2. Accommodation excellent. Very good food, snacks and refreshments.**
- 3. Programme relevant and interesting.**
- 4, Chair. Rather dull and listless. CHAIRPERSON & SPEAKERS SHOULD ALWAYS STAND UP AND TRY TO MAKE A 'DRAMATIC' AND LIVELY PRESENTATION. Change the chair person for each session.**
- 5. Some variation in programme would have been good. Eg act an exchange**

of green certificates by people acting the various agencies. Have at least one discussion in small groups, e.g. during the last 20 minutes of lunch and with coffee.

6. Show a video for at least 3 minutes.
7. Give a prize to those using green electricity in their homes or offices.
8. Dinner. Consider set places so people mix. Always have a short dinner speech, but only if there are some good and appropriate jokes.

We could not hear the Chairmans overview, the sound was bad and he was not very clear. (Lise-Lott Larsson)

Thank you very much for an excellent organisation of the workshop. (Maria Habicht)

Very valuable information and material. A lot of work to be done at home! Wishing you every success in your work (Mari Habicht, Archimedes Foundation)

There will be a lot of work to do, until it is possible to trade renewable energies. But, let's do it!

Thank you and many greetings from the countryside of Germany! (Markus Mann)

It is a little more highly appreciated if the workshop is allowed to take more time (Minoru Saito, Tomen Power)

I appreciate it if this kind of workshop is periodically held (say, quarterly?) Any specific report on movement in each country particularly Italy and Spain will be very much interesting. Finally, I thank you all of ESD for your very best arrangement for the workshop and hope that Chris gets

Recovered soon. (Minoru Saito, Tomen Power)

The feedback which I received from other delegates met with my own thoughts, that while this broadly addressed the topic for those that were new to it, it might have gone into more depth for those with more experience and/or knowledge. In particular, there was criticism of the more academic presentations - with many traders being concerned that this was still at the concept stage.

In particular, we should have had a slot addressing some of the more thorny issues relating to certificate trading and how it works. The usual things, like relationship with other support schemes and emissions trading, banking and borrowing plus certificate lifetime and so on.

We ought to follow this up with a further meeting, but this time in the form of streamed workshops addressing the various topics emerging during the trial. Timing is not easy, but six months into the trial we should have some sensible and clear messages to give out. (Phil Moody)

First of all I want to thank you for the perfect organisation of this workshop and the cooperation.

It was really a pleasure to cooperate with you. Reinhard Haas

It was a very good mix from the people who attended! (Reinhard Haas)

I enjoyed the conference, which is reflected in my answers I hope. (Rolf Jorgensen)

Not sufficient time for discussion (Stefano Bossi)

**In contrast to the horrendous prices asked for some workshops and conferences on international subjects this was a positive exception (although, in general terms, I don't mind to pay a certain amount to cover the cost for organising such an event).** (T Grusemann)

**I personally would have expected more details on ideas under what regulations a common trade may happen in future. What has been discussed so far in order to harmonise the different national programmes that are in operation currently or better said to make the different national programmes redundant by free trading of certificates.** (Thomas Weers, Plambeck)

**Too many presentations. Fewer presentations, with more time for discussion would have been better.** (Ulrik Stridbaek, Eltra)

**ISLENET would like to be involved in future activities** (Vicky Argyraki)

**The numbers at the conference were impressive but I got mixed vibes from the participants some of whom seemed a little confused. Also there appears to be competitive element creeping in between RECs and RECerT that I had not anticipated.** (Angus Macpherson)

**Thanks for excellent seminar.** (Baldur Petursson)

**Congratulations to a very well organised event on Thursday. You did a very good job.** (Isabel Kuehn)

**I think the workshop was a great success. Not only to me, but also to the other Swedes attending (at least that is what they said to me).** (Mats Rydehell)

**It was a great event, good people, good presentations, well organised (except that I wasn't on the participants list!!) , good food, overall it was really good conference and we are happy to have sponsored it. Too bad Chris couldn't be there.** (Nina Marenzi, Natsource)

**I found the conference very interesting and I was especially impressed by the relevance and competence of lecturers from different areas associated with the subject.** (Thomas Grusemann, TÜV Rheinland/Berlin-Brandenburg Group)

# Annex E - speaker profiles

## **Mr Christopher Crookall-Fallon**

Director and Principal Consultant  
Energy for Sustainable Development (ESD) Ltd

Christopher Crookall-Fallon BSc MBA is a Director and Principal Consultant at ESD. Since joining ESD over two years ago he has developed and managed a variety of projects in renewable energy policy and trading, international comparative studies of renewable energy industries and policy frameworks, combined heat and power policy and modelling, and renewables in development. He recently led a consortium project to design a new green certificate mechanism for the UK's Climate Change Levy and Renewable Obligation policy tools and is Project Manager for RECerT.



**In Mr Crookall-Fallon's absence from the workshop, due to illness, Gerrit Jan Schaeffer of ECN chaired the workshop.**

He speaks in several international fora on novel financing and trading mechanisms for renewables, and the future of renewables under the Kyoto flexible mechanisms. As the field develops, he is taking an increasingly important role in ESD's development of carbon management services for commercial clients.

Before joining ESD he worked as a business and marketing manager for energy consultancy services in Central and Eastern Europe at AEA Technology, and prior to that spent two years in the European Commission Energy Directorate as a National Expert, designing projects for the Commission's support programmes in Central and Eastern Europe in all areas of energy. Christopher's first degree is in engineering design and he holds a Masters degree in Business Administration.

## **Mr Luc Werring**

Directorate-General for Energy and Transport, the European Commission

Luc Werring is Head of the Unit "Promotion of renewable energy sources and demand management" in the Directorate-General for Energy and Transport at the European Commission.

**Unfortunately, Mr Werring was unable to attend, so a presentation was made by Lars Nielsen of Directorate-General for Energy and Transport, the European Commission (this will be available on the RECerT web site as soon as possible).**



**Ir Peter Niermeijer**

Renewable Energy Specialist, EnergieNed: the Federation energy companies in the Netherlands

Peter Niermeijer is the originator of a scheme known as the Green Label System, which has been operational in the Netherlands since January 1998. Based on his experience with the Green Label System, Peter went on to found and chair European RECS platform for Renewable Energy Certificate Systems. Under his direction, RECS is currently preparing the 'Test Phase' for Europe which is aiming at the first trans-boundary trade of green certificates under internationally agreed rules.



The Test phase, which is to start at the beginning of 2001, will serve to demonstrate the viability of international green certificate trading. Peter is also a member of the 'Climate Change' working group of EURELECTRIC.

**Mr Reinhard Haas**

Associate Professor, Vienna University of Technology

Reinhard Haas is an associate professor of Energy Economics at Vienna University of Technology in Austria. Since 1996 he has been the vice-head of the IEW (Institute of Energy Economics). He holds a PhD in Energy Economics. He has studied industrial economics in mechanical engineering.

He teaches classes in "Energy Economics", "Energy modelling", "Regulation and competition in the energy sector", and "Economic and ecological optimization of space heating". He supervises PhD and master theses. To date he has supervised about 30 master theses and three PhD theses.

His current research includes (i) dissemination strategies for renewables; (ii) new energy modelling approaches; (iii) sustainable energy systems; (iv) liberalisation vs regulation of energy markets. He has worked in these fields for ten years and has published various papers in reviewed international journals.

**Miss Ann Goossens**

Advisor European and Institutional Affairs, Electrabel

Between 1989 and 1994, Ann Goossens completed law studies at the Universities of Namur, Leuven (Belgium) and Göttingen (Germany). In the year 1994-1995 she took part in an exchange programme for international lawyers in Germany, organised by DAAD. This experience was followed by a year of specialisation in European law at the College of Europe in Bruges.

After having started her career in the Deringer Tessin Herrmann Sedemund law firm's office in Brussels, she joined Electrabel's Strategy Directorate, where, since April 1997, she has been active as an Advisor in the European and Institutional Affairs Department.



**Dr Gerrit Jan Schaeffer,**  
Renewable Energy Group, ECN Policy Studies

Dr. Gerrit Jan Schaeffer has an undergraduate degree in Applied Physics (1988) and Business Management (1987) from the University of Twente, the Netherlands.

He graduated in Philosophy of Science, Technology, and Society in 1993. In November 1998, he got his PhD.-degree from the Faculty of Philosophy and Social Sciences on a thesis focusing on the sociotechnical dynamics of fuel cell developments between 1950 and 1996. Since 1998 he has been working as



renewable energy expert in the business unit Policy Studies of the Netherlands Energy Research Foundation ECN.

The main focus of his work has been on European renewable energy policy in general and green certificate systems in particular. He was the project coordinator of the Altener-project "The Implications of Tradable Green Certificate Systems for the Deployment of Renewable Electricity" which was conducted together with the Science Policy Research Unit of the University of Sussex and the Oeko-Institut in Freiburg/Berlin during the year 1999. Currently he is project leader at ECN of several green certificate projects, including the RECerT and the INTRACERT projects.

### **Mr Inge Pierre**

Technical Director, Mega Energy, Vattenfall AB

Inge Pierre gained a Master of Science in Mechanical Engineering at the Royal Institute of Technology, Stockholm, Sweden in 1980. He was employed by Vattenfall in 1980 as Project Engineer with layout responsibility for five buildings during the erection phase of the nuclear power unit Forsmark 3 in Sweden.



He worked as an assistant to the Counsellor of Science and Technology at the Swedish Embassy in Washington DC, USA in the years 1985 to 1986 before

returning to Vattenfall in 1987 as Manager of the Office of Turbine Systems; a developer of power plant projects in Sweden and other countries in Europe. He was responsible for investigation and analysis of the political development within the European Community when having a position in the Business and Strategic Development department in 1995 to 1998. Since 1999 Mr Pierre has been responsible for technical issues in several of Vattenfall's outsourcing projects in Europe and since 1997 has been Vattenfall's contact man in the South American organisation CIER.

He has been active in UNIPEDE and EURELECTRIC since 1993 and has been a member in the Thergas Group within UNIPEDE and Task Force Non-EU Countries within EURELECTRIC. He is still a member of the Working Group Energy Policy.

### **Dr Helmuth Groscurth**

Hamburgische Electricitäts-Werke AG (HEW)

Dr. Helmuth M Groscurth is a physicist by training, who has more than ten years of experience in the field of energy optimisation and energy economics. Before joining the Hamburgische Electricitäts-Werke AG (HEW) in 1999, he worked for the Centre of European Economic Research (ZEW) in Mannheim, Germany, where he managed several large EU-projects on renewable energy.

Today, he is responsible for HEW's support program on renewable energy, new





energy technologies and energy efficiency. He is actively pursuing the idea of emission trading and green certificate trading as a means to promote environmental targets in liberalised energy markets and as a new business field for HEW.

**Mr Kurt Lekås**

Vice President Energy Procurement, SCA HQ, Belgium

Kurt Lekås graduated from the Swedish Academy of War in 1967 and graduated M.Sc. from the university of Göteborg in 1970. He was employed by LKAB, a Swedish mining company, from 1970 until 1981; working mainly with international energy issues (coal, oil, uranium). Kurt Lekås was a banker in the 1980s, employed first by Swedbank and later by Nordbanken; in charge of the energy sector.

As from 1988 he was President of the Swedish Energy Development Co, owned jointly by all Swedish utilities; responsible for the coordination of new technical and commercial projects, for mainly the electricity market. In 1993 Kurt Lekås joined Stockholm Energy as Director of Business Development. Stockholm Energy is a big Swedish power company

His main responsibility was to take part in the conversion of the monopolic electricity market to a deregulated electricity market. In 1997, Kurt Lekås became Vice-President Energy Procurement within SCA Raw Materials and Logistics (SCA RML). SCA is one of Europe's biggest forest industry companies, consuming 7 TWh of electricity and 8 TWh of natural gas per year.

SCA RML is a coordination and procurement centre which includes Energy/Logistics and Supply. SCA has a turnover of 60 billion SEK; 34 000 employees and 60-70% of the production is located in the centre of Europe.

**Mr Garth Edwards**

Natsource -Tullett Europe Ltd

Garth Edward is a Principal of the Natsource Energy and Environmental Markets desks where he focuses on renewable energy and emission markets. In developing environmental market operations Garth has brokered some of the earliest greenhouse gas transactions, including the first trans-atlantic and trans-pacific trades.



Prior to joining Natsource, Garth spent six years in the United Nations, focusing on multilateral agreements, including the Framework Convention on Climate Change. Garth received an M.Phil in Economics from Cambridge University and an MA in Chinese from Oxford University.

**Dr Stephan Singer**

Head of European Climate and Energy Policy Unit, WWF Policy Office, Brussels

Stephan Singer became Head of European Climate and Energy Policy Unit at WWF in Brussels in August 1999. Before this, he was Head of Climate and Energy Policy at WWF in Frankfurt. He has had close involvement in the international negotiations of the UN climate treaty and the Kyoto protocol. He is also involved in campaigns for WWF on domestic and EU-wide clean energy policy such as increased renewables, energy efficiency technologies, green electricity.

Prior to his work at WWF, Stephan was a radio and newspaper journalist and he also worked for the German ODA agency GTZ (Society for technical co-operation) at the International Crops Research Institute for the Semi-Arid Tropics (IRISAT) in Hyderabad, India.

**Ms Isabel Kühn**

Economist, Centre for European Economic Research (ZEW GmbH)

Isabel Kühn holds a Master's Degree in Economics. In 1995, she joined the Environmental Economics Department of the ZEW, a leading economic research institute in Germany.

She has managed and carried out a number of projects commissioned by national and state governments, but in particular by the European Commission (e.g. InTraCert and RECerT). Her work currently focuses on climate and environmental policies in liberalising electricity markets.

**Dr Lise Nielsen**

Senior Scientist, Risø National Laboratory

Lise Nielsen is M.Econ. and PhD. from Department of Economics, University of Copenhagen. She joined the Systems Analysis Department at Risø National Laboratory in 1995. Previous positions in the Danish Ministry of Finance and at the Department of Economics, University of Copenhagen.

Her work at Risø relates to economic regulation of energy and environment  
- including analysis of Kyoto instruments and renewable energy certificates  
- and macroeconomic modelling of energy and environment.



**Mr Angus Macpherson**

Managing Director, OM Environment Exchange

Having graduated from Oxford Angus was a management trainee at Kleinwort Benson and served in the Scots Guards for 13 years. He set up OM Environment Exchange in 1998, having first studied for his MBA at Edinburgh University.

OM Environment Exchange was launched on 25<sup>th</sup> November 1998 and is a joint venture between OM Group and Angus Macpherson. It is an internet-based trading facility for recyclable and other tradable economic instruments, forward contracts in these commodities and for the evidence of recovery and recycling.

OM Environment Exchange has grown rapidly since its inception and with the Governments' regulations considerably expanding the number of obligated companies who use of the trading facility, growth is set to increase sharply.



# Annex F - Presentations

## **The Renewable Energy Directive - the provision for green certificate trade, and a view to the future**

Lars Nielsen, European Commission - DG TREN, Directorate D (New Energies & Demand Management)

## **RECS - Renewable Energy Systems**

Peter Niermeijer, Chairman of the RECS group

## **The interaction of Tradable Green Certificates with other policy instruments, and the Green Electricity Cluster**

Reinhard Haas, Thomas Faber, Claus Huber, Institute of Energy Economics, TU Vienna

## **National regulatory systems of Tradable Green certificates in the EU**

Ann Goossens, Electrabel

## **Overview of TGC-developments in US, Australia and Asia**

Gerrit Jan Schaeffer, ECN - Policy Studies

## **The market imperative - EURELECTRIC's view of the need for TGCs**

Inge Pierre, EURELECTRIC group on Energy Policy

## **A Utility's Perspective**

Dr Helmuth-M. Groscurth, Hamburgische Electricitäts-Werke AG (HEW)

Kurt Lekas

## **Natsource Direct - Green Certificate Market**

Garth Edward, Natsource Environmental Brokerage Desk

## **Green Certificates - with or without trading - useful and economic or useless and counterproductive?**

Stephan Singer, WWF International

## **Potential volume of an EU-wide market in TGCs - results of a study carried out under the RECerT project**

Isabel Kühn, Centre for European Economic Research (ZEW)

## **Linkages between TGCs and carbon trading - Provisional results of research carried out under the InTraCert project**

Lise Nielsen, Risø National Laboratory

## **RECS - Test phase**

Peter Niermeijer, Chairman of the RECS group

## **RECerT presentation - How might the marketplace operate**

Angus Macpherson, Managing Director, OM Environment Exchange

## **RECerT - sim: an internet-enabled European TGC simulation**

Tim Crozier-Cole, RECerT deputy project manager, ESD