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Annual Report 2012



AIB

association of issuing bodies



NEWSLETTER 19

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SYNOPSIS OF ARTICLES

Switzerland's strategy towards a renewable future

The third General Meeting of the AIB this year was held in Geneva, this gave the Swiss the opportunity to present some information on the Swiss Energy Strategy 2050 which Switzerland is about to implement. 'Visit' Switzerland succeeded in having almost 100% of the Swiss electricity production registered in the Swissgrid database. Learn how Switzerland has implemented almost all recommendations proposed by the EU-supported RE-DISS project.

AIB Internals – Working Group External Affairs

Keep updated on the AIB teamwork: the second in a series of interviews with the chairs of the AIB Working Groups that are an essential part of a well-functioning Association.

RE-DISS II

The RE-DISS II project started in April 2013 and terminates in October 2015. The project aims to provide many important results for all competent authorities in charge of disclosure or guarantees of origin.

One core objective of the project is to support and spur exchanges of views between competent authorities on what are the best practices

for a sound implementation of disclosure and guarantees of origin. To this end, on the 26 September, the RE-DISS II project organised its first "Domain Workshop", which is in fact the 7th of the kind as 6 workshops were held under RE-DISS I. Find out more about new laws or regulations on disclosure or GOs in several countries and discussions on residual mixes calculated within RE-DISS.

GPM-conference

The Conference on Green Power Markets took place in Geneva on 10/11 October 2013, co-located to the AIB GM. AIB was one of the co-operation partners and added a different perspective to the field of RES, policies and markets. This issue also contains an interview on the conference with the GPM-conference program managers.

Value added to the Guarantees of Origin, TÜV SÜD generation EE

Each EECS certificate identifies the Independent Criteria Schemes (ICS) under which it qualifies. These schemes are operated by organisations that are independent of AIB, and identify energy that complies with a specific set of criteria. The column dedicated to these organisations gives TÜV Süd the opportunity to present their labels.

Statistics

The latest activity statistics, showing continued growth in the market.

Newsflash

Latest news on activities within AIB and its members: get an overview on activities to recruit new members and read in brief about the AIB Hub-upgrade to accept only transfers of certificates which have data in the fields that are defined as mandatory in EECS: **transfers containing any certificates without mandatory data will be rejected!**

Italy's new EECS registry goes live! Starting from June 2013 Italian operators are able to have both GOs and RECS issued according to the EECS standard. Read more on page 8

Switzerland's strategy towards a renewable future

On October 8th and 9th 2013 the AIB General Meeting was held in Geneva, Switzerland, followed by the 8th Conference on Green Power Markets.

SWISSGRID

Swissgrid is the Transmission System Operator (TSO) and the sole competent Issuing Body for Guarantees of Origin in Switzerland. Swissgrid has been accredited for this task by the Swiss Accreditation Service SAS. The Swiss Federal Office of Energy is the official authority for the supervision of issuing Guarantees of Origin for electricity as well as for the supervision of electricity disclosure in Switzerland. The legal basis is given by article 5a of the Federal Law on Energy as well as the Ordinance on Energy and the Ordinance on Guarantees of Origin. In addition Swissgrid operates the ICS RECS scheme for Switzerland. Switzerland has been a member of the AIB since 2002. As an active member Swissgrid is represented within the AIB by Lukas Groebke, Treasurer and Member of the Board and Milada Mehinovic, Member of the Working Group External Affairs.

Swiss Energy Strategy

While still negotiating with the European Union on an energy agreement, Switzerland is about to implement the energy strategy 2050, which was announced in 2011 after the Fukushima disaster. According to this strategy, Switzerland will shut down all its nuclear power plants by 2035 and replace the missing production with electricity from renewable energy sources by 2050. Two important elements of this strategy are the Swiss feed in tariff system, which will be extended and



Wind Power Plant 'Griess': Europe's highest wind turbine – 2,465 meters above sea level.

the Guarantee of Origin system bringing awareness and transparency to the electricity consumers.

News regarding the national issuing body

As of 2013 plant operators are legally obliged to register the whole electricity production from plants with an installed capacity higher than 30kW

(all technologies) in the Swiss Guarantee of Origin system. Therefore almost 100% of the Swiss electricity production is registered in the Swissgrid database. On the supply side, suppliers must use all available national and international Guarantees of Origin for disclosure purposes, in order to bring a maximum of transparency to the end consumers.

In addition all supplier mixes have to be published on a common website once a year (www.stromkennzeichnung.ch). With this regulation, Switzerland has implemented almost all recommendations proposed by the EU-supported RE-DISS project (Reliable disclosure system for Europe).

AIB Internals – Working Group External Affairs

The following text is the second in a series of interviews with all AIB-Working Groups, each dedicated to a different Working Group that forms basis of a well-functioning Association.

Claudia, could you tell me more about you and the Working Group External Affairs (WGEA) that you are chairing?

Yes, of course I would like to give an introduction. My name is Claudia Delmirani and I am the chairperson of this Working Group which covers all issues on 'public relation', with the support from Andrea Effinger (assistant to Secretary General of AIB) who is the deputy chairperson. At GSE I am mainly organizing international events, seminars and meetings which involve GSE as its central role is in developing renewable energies in Italy.

My major skills are based on the experiences gained from the International Activities Unit as External Relation expert and the Events Organization both from the supervising and the contents' side.



Gestore dei Servizi Energetici Spa – GSE is the state-owned company which promotes and supports renewable energy sources (RES) in Italy. In particular, GSE fosters sustainable development by providing support to renewable electricity (RES-E) generation and by taking actions to build awareness of environmentally-efficient energy uses.

Andrea's skills are organizing and communication, she is responsible for visible documentation, e.g. the AIB Annual Report and minutes of meetings. With Andrea we have someone in the group who is always on track with 'what to do, by whom and when'. Two other members are active in WGEA since this year, and also Phil Moody as Secretary General is a major and reliable support to this group. The team meets four times a year in connection with the General Meetings; and we also talk together on the phone depending on the workload, often teleconferences are held monthly. The main task of WGEA is to make sure that the AIB is visible in the public. Website, Annual Report and the AIB-newsletters keep us busy. Main and important task is also to recruit new EECS-members to keep AIB growing. Often we are involved in optimizing the processes, e.g. improve documents for 'How to join the AIB?' or the communication between governments and market parties.

What are the highlights of 2012 and 2013 and how do AIB-members benefit from this work?

Focus of the WGEA in 2012 was to conclude the process of defining a new image for the AIB by completing the task of redrafting the website. The new designed website has a much more modern layout and the structure for the members' section is still very comprehensive but better organized.

2012 was the 10 year anniversary of the AIB, and the workgroup – assisted by Grexel – organised a celebratory event in Helsinki. Further work items included updating the Joiners' Brochure, and a project called "Greening the AIB", which involved such issues as carbon offsetting for travel and energy use, and the continued use of environmentally-friendly printing of the Annual Report. "Greening the AIB" is still an ongoing process in 2013, all flights to the GMs got a carbon offset and the website as one main communication tool is electrically green (see newsletter issue 18, issue 1 of 2013).

To give an example on how WGEA is related to the work of other Working Groups of the AIB: WGIA redrafted the criteria for the acceptance of Independent Criteria Schemes (ICS) used for adding labels such as TÜV Süd, EKOEnergy, OK Power or Naturemade, on a regular guarantee of origin. Now you can see on the AIB website a section where these ICS introduce themselves (http://www.aib-net.org/ICS_Certificates).

It is not only AIB-members who benefit from the work of WGEA; as a team for public relation we aim to support potential members and Hub-users too.

What are the most important tasks to be done in the near future?

AIB (mainly WGIA) did a great job by implementing new EECS-rules with comprehensive enhancements. Now it is WGEA's turn to develop a survey with the purpose of gaining better understanding of possible problems which members may encounter in connection with EECS. From the beginning WGEA was headed at the best by Diane Lescot from Obser'ER, at the moment the group is facing the fact of its tiny number of members. We aim to increase the impact and visibility of the AIB as the Association provides a knowledge centre for energy certificate authorities across Europe, providing and sharing advice and guidance.

Working Group External Affairs would like to take the opportunity of this article to publicly express all its gratitude to Diane Lescot for her outstanding work, our goal is to continue on her track.

In case you are interested in joining the WGEA (as AIB-member); please feel free to contact [Claudia Delmirani](#) or [Andrea Effinger](#).

Andrea and Claudia had a fruitful discussion on these three questions and look forward to the next months of co-operation and advancement of WGEA.

RE-DISS II 7th Domain Workshop

The RE-DISS project, on which this newsletter regularly gives an update (cf newsletter 17, issue 2 of 2012), continues with a phase II. RE-DISS II has started in April 2013 and will terminate in October 2015. In the meantime, the project aims to provide many important results for all competent authorities in charge of disclosure or guarantees of origin (cf RE-DISS II first newsletter (<http://www.reliable-disclosure.org/documents/>)). The project team has already released the figures for the national residual mixes of the EU28 member states and NO and CH (downloadable from the same webpage).

One core objective of the project is to support and spur exchanges of views between competent authorities on what are the best practices for a sound implementation of disclosure and guarantees of origin. To this end, on the 26th of September, the RE-DISS II project organised its first “Domain Workshop”, which is in fact the 7th of the kind (6 such meetings were organised in the first phase of RE-DISS).

The meeting gathered representatives from 18 Competent Authorities, coming from 14 different Domains. It is to be noted that the 28th European Member State, Croatia, was represented to the meeting. From the Croatian Energy Regulatory Agency, Zlatko Zmijarević declared that “Until recently, apart from our feed-in system, there was neither tracking nor disclosure practice in Croatia. We can start with a clean slate and there is an opportunity to create a sound system”.

From the tour de table enabling participants to be updated on the changes in terms of GOs and Disclosure since the last workshop (June 2012), it came out that several Domains had new laws or regulations on disclosure or GOs:

- Slovenia has had new disclosure rules since 14th September, which will apply to the disclosure of the 2013 consumption mix. They foresee that the national residual mix will be calculated using the RE-DISS European Attribute Mix figures.
- Switzerland has introduced mandatory issuing of GOs, which have priority for disclosure: only when a supplier has made use of all its GOs other tracking instruments can be used.
- Finland amended its act on disclosure, which now stipulates that RES can only be disclosed through GOs.
- Germany also introduced mandatory use of GOs for disclosure of non-supported RES.

The competent authorities were informed that one of the objectives of the RE-DISS II project is to achieve the conditions for a continuation of the project's actions: finding one or more organisations that would take over, at the end of the project, the calculation of national residual mixes and the maintenance of the corpus of Best Practices that are agreed on by the Competent Authorities which participate in the Domain Workshops.

The project team presented its suggestion for a new and more detailed breakdown of energy sources to be used for the provision of information



on the residual mixes calculated within RE-DISS. Most Competent Authorities welcomed this initiative, although also the argument has been brought forward that simplicity should be maintained. Some further methodological points on the calculation of residual mixes were also presented, but not decided upon yet, so the current method will be used for next calculations and suggestions for changes will be proposed at the next workshop. This particularly relates to the question of whether the production period of a GO should relate to the disclosure period (usually on a calendar year basis), and whether lifetime of GO can and shall be limited until end of March of the following year, in order to facilitate sound accounting of attributes.

The issue of mutual recognition of GOs by Member States was introduced as a new topic for these Domain Workshops. It appeared that more than half of the represented Competent Authorities already have a procedure for deciding whether to accept foreign GOs, which are based on some pre-defined criteria. RE-DISS will work on recommendations on common criteria and procedures. The existing document called “The RE-DISS Best Practice Recommendations” will integrate the results of the discussions held in the 7th workshop and of further exchanges and a new version will be drafted in April 2014 for comments in the next Domain Workshop planned for June 2014.

Follow RE-DISS on [Twitter!](#)

Co-operation of AIB and GPM conference in 2013

Co-located with the AIB General Meeting, the Conference on Green Power Markets was held in Geneva on 10/11 October 2013. Around 80 participants, mainly from Switzerland, Germany and Norway got a good chance for further discussions and networking in the field of renewables.

Twelve years ago the first GPM conference was held, and the topic was 'From niche to mass market'. Nowadays we are in the 'age of renewable energies' and are further developing the grid and market integration, as everyone now realises the tremendous growth of RES. However, this happened during the last decade, when Feed-in-Tariffs started to be implemented in one way or another in 71 countries world-wide. Analysis of the costs, and the experiences gained in Feed-In-Tariff schemes has led to a change in governmental regulations/subsidies to FIT. The conference speakers presented their analysis, experiences and ideas for how to improve political strategies and long-term perspectives for market investment.

For the first time, AIB was one of the co-operation partners and took an active role to shape this conference: Phil Moody gave a

presentation on 'Why have standards?' and added a different perspective to the field of RES, policies and markets, as AIB is the developer and enabler of a standard which supports international disclosure of the source of electricity. In this, AIB has an apolitical stance, seeking only to facilitate the intentions of governments in implementing guarantee of origin schemes. It has no preference for one type of support system over another, and is entirely independent of the market.

From AIB's perspective, it was very interesting to see the results of a European research project called 'RE-SHAPING', which was coordinated by Mario Ragwitz of Fraunhofer ISI in Germany. He concluded in his speech that the European Commission should take an active role in coordination of member state methodologies for tariff-setting/support-level determination, both for FIT/FIP and a banded quota system.

While spending almost a whole week in beautiful and interesting Geneva, the Swiss city situated directly on the great lake Geneva (Lac Léman), where many international organisations have their offices, AIB took the opportunity to interview the conference organizer, Stefan Assmann, Director of Energy at Vereon AG; and Bernd Kiefer,

Managing Director from Fichtner Management Consulting AG Switzerland.

1 What would you say has been the biggest challenge and benefit of this Green Power Markets Conference, when viewing it from a wider perspective of the recent situation in Europe?

The two biggest challenges we see are the collapse of investments from the big players because of the regulatory changes the support schemes are facing and the second one is the transition of the RES from a supported regime into the market. This transition is inevitably afflicted with economic and political conflicts.

2 What are the most important drivers for the continuing growth of the market for energy from renewable sources? And which biggest challenges for integration into grids and markets did you identify?

The most important drivers for a continuing growth of the market share are stability of the regulatory environment and support adequate to the technology and market needs. On a European level >>



8th EUROPEAN CONFERENCE 2013 GREEN POWER @ MARKETS

>> we still need the further competition between support schemes and different models for market integration. From these experiences we will be able to derive a best practice. Therefore we see a unified support practice in the European Union at this point sceptical because the learning effect would hardly be given any more.

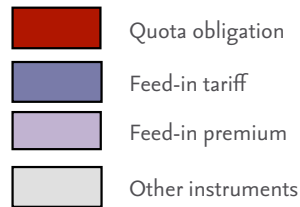
Concerning the grid integration we need to clearly distinguish between transmission and distribution grids. That the transmission grid has to be extended is simply a fact. In the long-term a pan-European overlay grid would be worthwhile independently of RES to achieve a common and liquid European power market.

The future of distribution grids is less obvious. The technology is undergoing a heavy transition due to ICT (keyword: Smart Grids). At the same time decentralized storage solutions seem to penetrate the market. Many of the requirements for the distribution grid coming from the integration of decentralized production can be met with ordinary replacement investments. Everything going beyond these investments is subject to great uncertainty because of the transition of grid technology and production market as mentioned before.

3 After this successful conference: What are the new activities and burning issues of GPM for the near future?

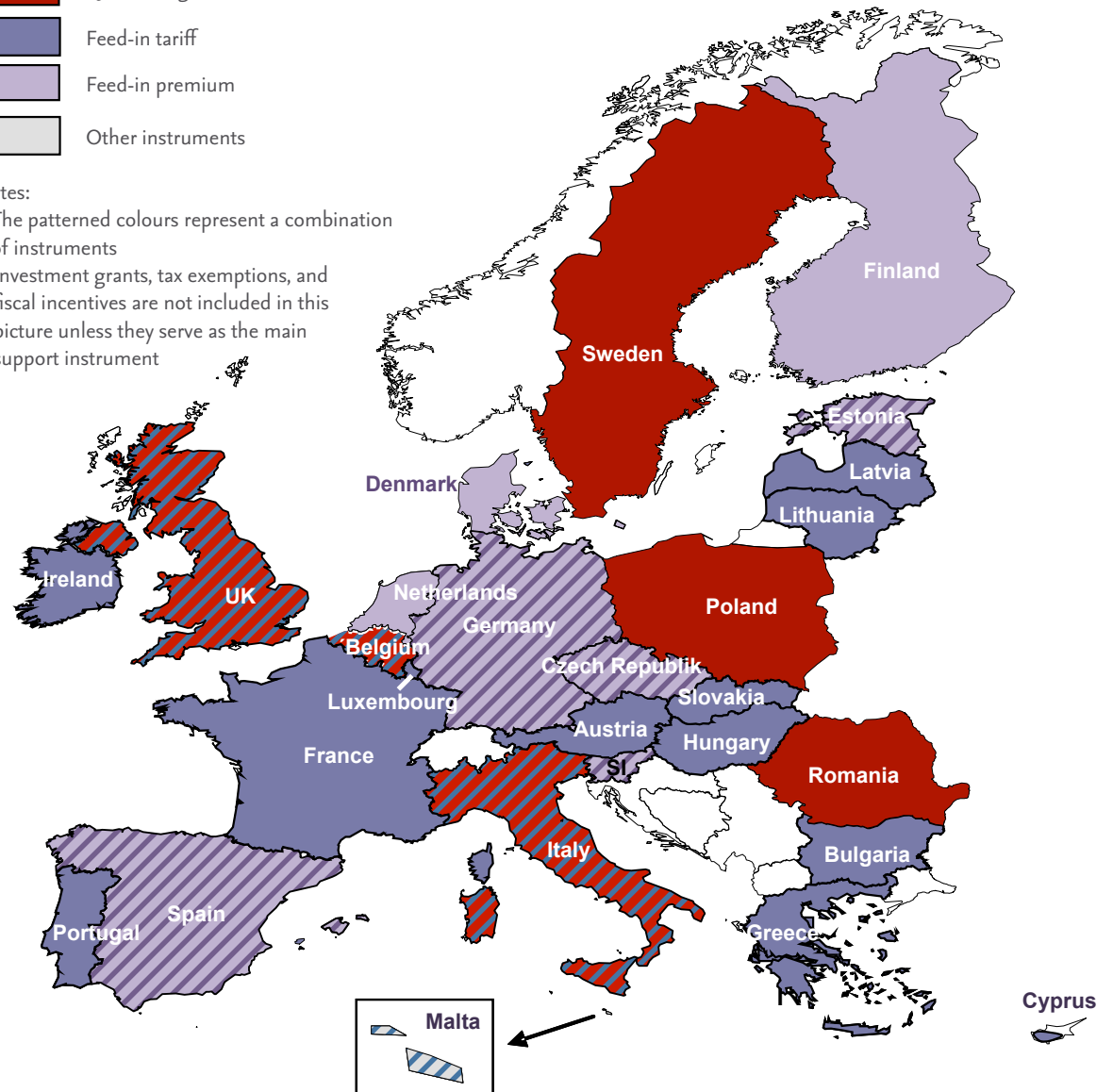
We are going to follow very closely the further discussions around market integration. Besides that the developments connected to decentralised storage solutions as well as customer generation and self consumption (prosumers) promise to be exciting.

AIB would like to thank GPM for the opportunity to be partner of this conference and to Stefan Assmann and Bernd Kiefer for this interesting interview.



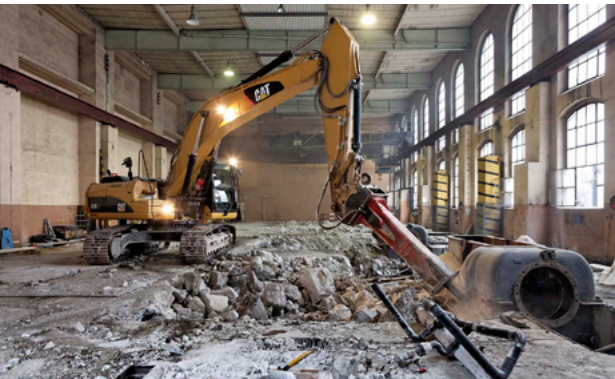
Notes:

- 1) The patterned colours represent a combination of instruments
- 2) Investment grants, tax exemptions, and fiscal incentives are not included in this picture unless they serve as the main support instrument



Value added to the Guarantees of Origin, TÜV SÜD generation EE

The AIB identifies on each EECS certificate the independent criteria schemes (ICS) which can use that specific certificate. These schemes are operated by organisations that are independent of AIB, and identify energy that complies with a specific set of criteria (such as the age of the plant, and certain qualities of the source of the energy etc.). The following article is the second in a series of articles, each describing an individual scheme.



The power plant Navizence of the company Forces Motrices de la Gougra SA during the refurbishment. (Source: Alpiq AG)

TÜV SÜD is a global technical services provider with long-standing international experience in the field of energy certification. TÜV SÜD provides certification services for traditional ecopower and ecogas products, generation of tradable certificates from renewable sources, for sustainability of biofuels and even for green hydrogen. The energy certification team of TÜV SÜD consists of around 20 people, well familiar with the different local

specialties of the electricity market. The head quarter is located in Munich, but our auditors are based in different European countries.

The “TÜV SÜD Generation EE” label certifies electricity produced from renewable resources to which the generation of the electricity can be attributed to a clearly identifiable source. The certification of the generation of electricity can be used as a private-sector proof of origin in electricity trading and provides additional quality to the EU-conforming Guarantees of Origin (GoO).

The “TÜV SÜD Generation EE” standard comprises requirements not only concerning the organization to be certified, i.e. company policy, but also strict assessing of net generation; and the standard even offers ‘optional requirements’. Optional requirements are defined for electrical work and power guarantees (“Generation EE+” module) and for furnishing acceptance as new plants (“Generation EEnew” module).



In general, the certification of the “Generation EE+” module (work and power guarantees) can only be provided for a pool of plants. The certified pool of power plants enables the organization to be certified to guarantee the power purchaser that the pool of plants is able to produce the requested load profile at any time. Compliance with the “Generation EE+” module is particularly suitable for green power products certified in accordance

with the TÜV SÜD standard “product EEo2” (certification of electricity products from renewable sources with simultaneous supply).



The certification of the “Generation EEnew” module (requirement for new hydropower potential) is possible if:

- the power plant to be certified utilizes new hydropower potential; or
- comprehensive rehabilitation or refurbishment of the plant has taken place or an existing plant was replaced; or
- capacity has been increased and annual production has been raised.

Certification in accordance with the “Generation EEnew” module is particularly suitable for supply of green electricity products certified in accordance with the TÜV SÜD standard “product EEo1” but also for other standards, which require the supply from new power plants.

We are happy to announce the successful certification of the first refurbished hydropower plant according to the module option “Generation EEnew” in Switzerland. The new certification allows the owner of the power plant in a clear and traceable way to demonstrate to its customers the extensive refurbishment of the power plant. The electricity injected into the grid, after the refurbishment, can then be considered as electricity generated from a new hydropower source. Taking into consideration the decreasing

availability of new power plants in the market this option could be an advantage.

The TÜV SÜD standards are continuously reviewed and revised in order to adapt regulatory requirements or changes to the market.

The latest revision was approved in August 2013, to give electricity providers the possibility to demonstrate their contribution to the transition of the electricity market, which includes more and more renewable energies and regional aspects, too.

For more information, please visit our webpage www.tuevsued.com/renewables and see our standard [Generation EE](#) or contact [Klaus Nürnberger](#).



Latest News

AIB's progress in recruitment of new EECS-members

At its summer General Meeting at Reykjavik, AIB welcomed the new member PowerNext, the competent body responsible for issuing guarantees of origin in France; and concluded an agreement enabling UBA (competent body for Germany) to use the Hub as a non-member.

AIB is also in discussion with a number of other such competent bodies about membership:

- OTE (Czech Republic) is testing its registry software against the AIB Hub in preparation for going live, and is well on the way to gaining approval of its domain protocol
- TSO-CY (Cyprus) awaits changes to its legislation
- LAGIE (Greece) and HROTE (Croatia) are preparing to tender for registry software, and HROTE is working on how to implement new legislation. Both intend to join AIB
- Elering (Estonia) is developing its registry software, and intends to join AIB
- SEM-O (Ireland) is considering its options about membership.

AIB is actively pursuing discussion on the subject of membership with all European non-member countries.

New Italian EECS registry

The new Italian EECS registry goes live! Starting from June 2013 Italian operators are able to have both GOs and RECS issued according to the EECS standard.

At the end of October 2013 the Italian registry was finally connected to the AIB HUB, thus allowing Italian market parties to compete in the international EECS certificates market.

Within the Italian domain, GOs can be traded through the Bilateral Contract Platform and the GO Exchange Platform, both managed by GME - Gestore dei Mercati Energetici - a subsidiary of GSE.

Most of the GOs held by GSE have received support and are put on the market through 5 auction sessions per year.

AIB completed the transition from the PRO to EECS

To conclude the transition from the old Principles and Rules of Operations of the European Energy Certificate System – “the PRO” to the newer EECS Rules, the AIB Hub was upgraded on 1st October 2013 to accept only transfers of certificates which have data in the fields that are defined as mandatory in EECS: **transfers containing any certificates without mandatory data will be rejected!** The full implementation of EECS was postponed over summer season to give members more time to align their registries.

Each domain/region has its own Domain Protocol showing how EECS works locally.
Please click on the EECS-logo to take a look at the Domain Protocols and all information/documents on EECS.



Statistics

Methodology

Frequency of reporting

Statistical data is collected and reported quarterly. Where available, data has been collected for all months since 2000, as this permits a high level of reconciliation between individual and total figures.

Data items recorded

Data is collected for each domain and month, and relates to single energy sources or groups of energy sources. For each domain / month / source the following is recorded:

- a. **By production date:** issued, expired and cancelled - this lets the market know how many certificates of each vintage are available for trade, so informing price setting.
- b. **By transaction date:** transferred within domain, imported, exported, expired and cancelled - this helps in judging the level of market activity, and making certificate expiry dates visible further informs pricing and trading strategy; and also enables AIB to calculate its membership fees.

Energy source codes

The list of codes has been prepared by reference to the codes used by all registries, and member preferences. EECS Rules Fact Sheet 5 provides the definitive list of energy source codes, aggregating reported codes into higher-level codes where codes: are **inactive** (e.g. hydro and wave power will be aggregated until such time as wave power becomes more widely used); are **unknown** (e.g. sold renewable fuel may be used where conversion between codes has resulted in the original code becoming unknown); are **not demanded** by the market (e.g. orimulsion is simply reported as “Fossil”).

Analysis

Where possible, the statistical reports will provide a disclaimer explaining shortcomings in the data. This might include domains that do not provide certain items of data, and those that have not contributed to the latest report. The value of publishing data which contains such shortcomings is felt to outweigh the absence of such data.

Some items may solely be useful at a pan-European level (e.g. domains will not know if certificates they issued and exported have been cancelled). Hence it will be possible to know the length of the market across Europe, but not necessarily for certificates issued in a specific country).

Certificates withdrawn by the issuer (perhaps those issued in the wrong quantities or for the wrong technology) are statistically insignificant, and have therefore been ignored.

Country	Collection date	Source
Austria	24 Oct 2013	website
Belgium		
Brussels	07 Oct 2013	spreadsheet provided by issuing body.
Flanders	01 Oct 2013	spreadsheet provided by issuing body.
Wallonia	16 Oct 2013	spreadsheet provided by issuing body
Denmark	15 Oct 2013	website
Finland	11 Oct 2013	website
France	21 Oct 2013	– Observ’ER: spreadsheet provided by issuing body. – Powernext: spreadsheet provided by issuing body. Powernext has replaced Observ’ER as AIB member.
Germany	18 Oct 2013	– Oeko-Institut: website - Oeko-Institut reports GOs issued under Directive 2001/77/EC, and leaves AIB on 31 December 2013. – UBA: spreadsheet provided by issuing body. UBA started reporting GOs issued under Directive 2009/28/EC in June 2013.
Iceland	10 Oct 2013	website
Italy	08 Oct 2013	spreadsheet provided by issuing body
Luxembourg	10 Oct 2013	website
Netherlands	21 Oct 2013	spreadsheet provided by issuing body
Norway	16 Oct 2013	website
Portugal	24 Oct 2013	website
Slovenia	10 Jan 2012	Only one market party currently, so publication of data would expose their trading position. Data will be published when other market parties commence trading.
Spain	24 Oct 2013	website
Sweden	16 Oct 2013	website
Switzerland	24 Oct 2013	website

General

All certificates are 1MWh. As metering data is the basis for issuing certificates, there is always some delay in gaining accurate statistics for the corresponding data for a specific month, so the most recent quarter’s issuing activity will always be understated and consequently this information should be treated with caution.

Statistics for certificates issued in a specific month are not presented, as the value of this data is not clear. In general, “issued by transaction date” will be similar to, but slightly later than, “issued by production date”, due to the inevitable delays in processing meter data. Currently, close to 100% of the certificates for energy produced in a month will be issued within the following 6 months.

Explanatory notes to statistics

Date of collection of data

These statistics were completed on 11th June 2013 and based on statistics gathered either from statistics published AIB member websites, or where such data is not available, from data provided to the AIB by individual members. The data itself was provided on the following days:

Aggregation of data

In some cases detailed data has been aggregated. For instance “manure” also refers to “pig manure”, and “fossil” also contains “unknown source”. Further, unspecified renewable energy contains that which originates from technology codes T05000000 (combustion) and T07000000 (known).

Completeness of data

The Grexel registries (DE [Oeko-Institut], DK, FI, IS, LU, NO and SE) provide all required information, and have done for a number of months. However, information from these domains relating to periods prior to the adoption of this version of the registry is not always available. For instance, the previous registries did not record the quantity of cancellations by production date that had taken place during the life of these registries.

The LogActiv registries (ES and PT) do not currently provide facilities for the expiry of certificates.

The Atos registries (AT and CH) and the “on demand” registries (BEF, FR, IT and NL) do not currently provide expiry data.

The difference between total exports and imports is the result of absences in the information gathered, and due to exports to Belgium needing to be accepted by the importer, introducing delay registering the transaction (and which is potentially treated differently by different registries).

Change to pie-charts

The basis of the pie charts has changed since the last statistics report: in the past, issued certificate referred to those certificates issued for electricity produced in a year, but cancellation referred to certificates cancelled in a year, regardless of when the associated electricity was produced. Now, both refer to the date of production of the associated electricity.

Further, to clarify the charts, only contributions of 1% or greater are shown.

Statistical report

During 2013, market activity continued to increase, and in particular the use of certificates for disclosure purposes. Switzerland and Austria now report all certificates issued, including those used domestically.

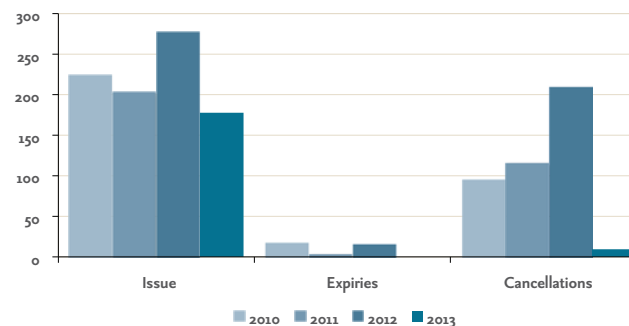
As certificates are expired, so those that would have sat unused on registry accounts are increasingly removed from the market, and hence expired certificates are now shown separately on the following graphs.

These graphs illustrate activity in two ways:

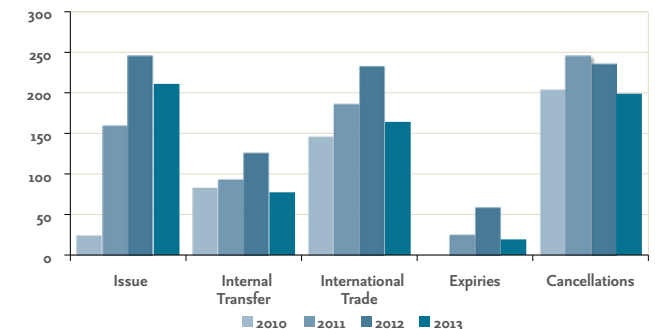
1. Activity by production date shows the quantity of certificates issued, expired and cancelled which relate to **electricity produced in a given year**; and indicates those which either remain on the market or are otherwise unaccounted for.
2. Activity by transaction date shows the quantity of certificates **actually** issued, transferred within that country or region, transferred internationally, expired and cancelled in a given year.

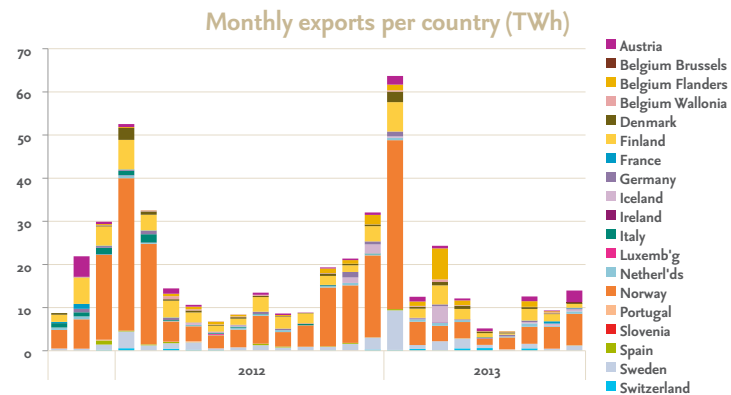
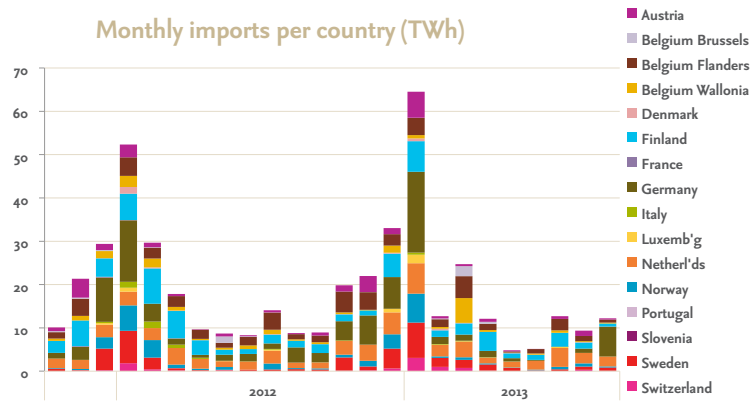
Transfers and cancellations continue to increase, and further growth is expected now that UBA (Germany) and Powernext (France) are connected to the Hub. We hope to see further growth in 2014, as Italy and perhaps Portugal commence to transfer GOs through the Hub; membership applications are being processed for Croatia, Cyprus, Estonia and the Czech Republic. Furthermore, contact has now been established with interested parties in Poland, Hungary and Ireland.

Annual EECS transactions by production date (TWh)



Annual EECS transactions by transaction date (TWh)





The monthly discrepancy between exports and imports is due to not all transfers being instantaneous, and hence trades which commence in one month can complete the following month.

Norway, Sweden, Finland, Belgium and Austria continue to be the major exporters; while Belgium, Finland, Sweden, Netherlands and Germany are the main importers. Some countries figure in both exports and imports, suggesting trading activity.

Limited trade still exists in the form of the cancellation of certificates in one country for use in another: the EECS Rules only permit this where transfer is technically impossible.

These charts show the large role that the Nordic region has in this market, and the interest in renewable products elsewhere in Europe. Notable changes include the application of the EECS Rules to all Swiss production, and not solely to international transfers, and significant growth in cancellation of German certificates.

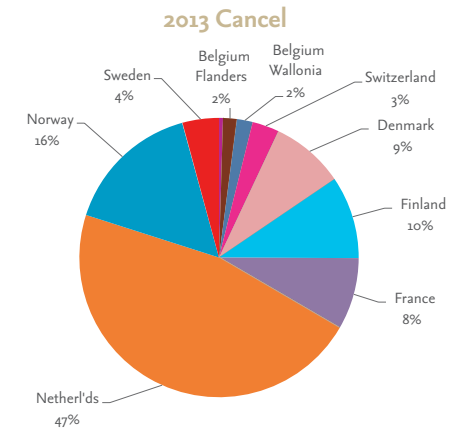
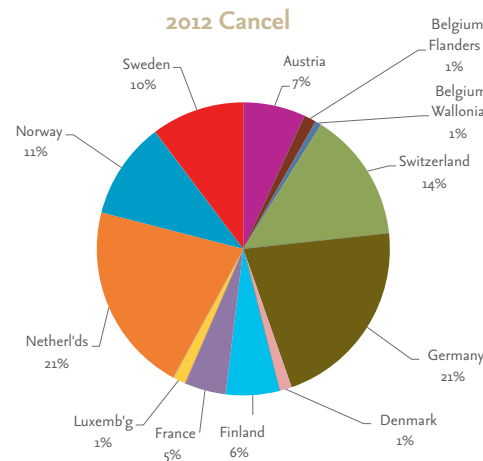
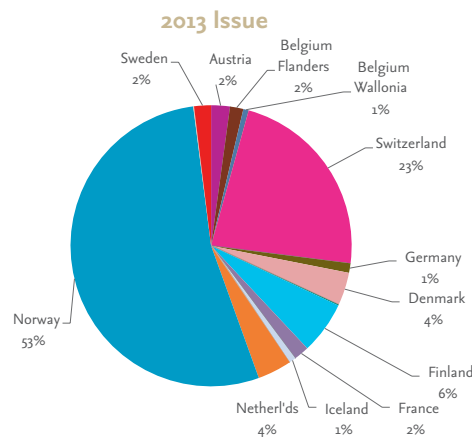
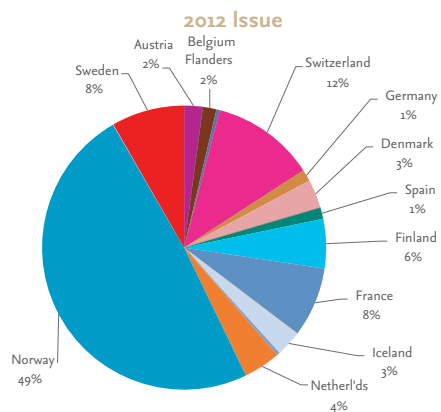
This picture will doubtless change due to three major events:

1. UBA is taking over from Oeko-Institut as administrator of German EECS certificates, the handover concluding at the end of 2013. Note that AIB has agreed commercial terms with UBA, such that UBA can use the AIB Hub as a non-member
2. France has now replaced the old RECS system with a system based on GOs, and Powernext is now fully operational

3. Italy is currently preparing to issue GOs under EECS, and this will be operational by the end of the year.

Issuing activity seems similar to 2012, although Switzerland has become a major player in the market, now that it issues certificates for all electricity, regardless of source.

However, due to the change in the base data for these graphs, cancellation now shows the proportion of certificates issued for specific “vintages” of certificate (i.e. associated with electricity produced in a particular year).



The contribution of the various fuel sources remains similar to last year: for renewables, hydropower remains by far the prevalent renewable energy source, followed by wind and biomass.

Note that certificates for nuclear are issued during the following year.

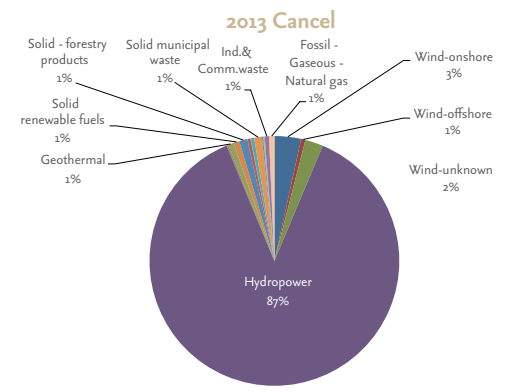
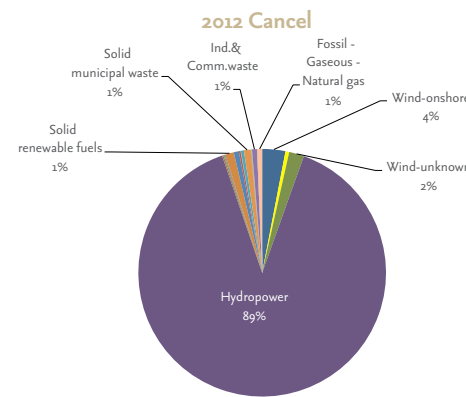
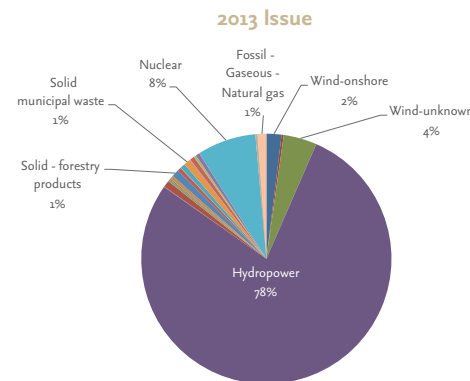
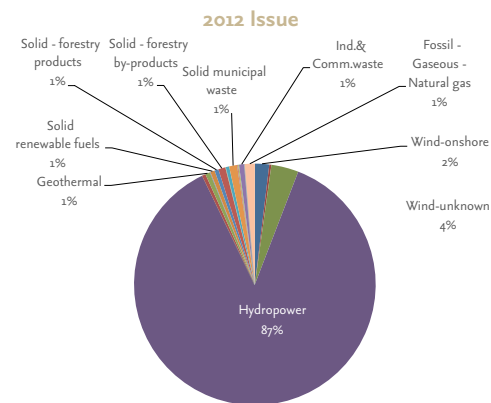
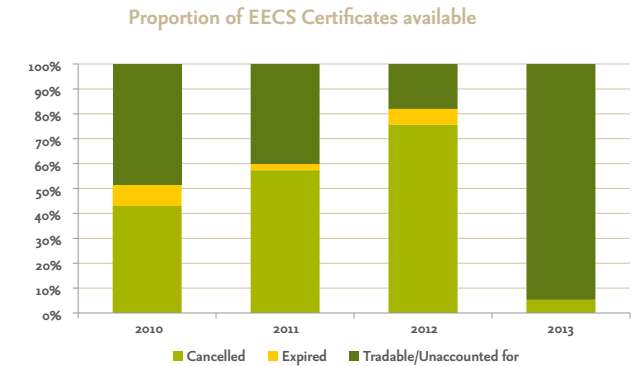
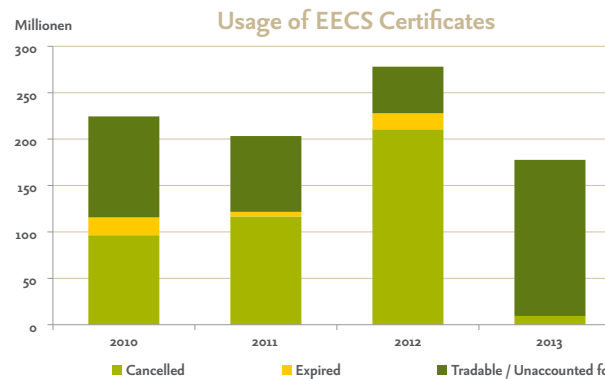
Certificates for fossil are increasingly being issued, as countries increasingly certify all sources of energy, and not just renewable energy. So far, natural gas predominates.

Comparing the status of different vintages of EECS certificate, we can see what has happened to the certificates that were issued for energy produced in the last four years - that is, whether the certificates have:

- been cancelled as evidence of supply;
- expired due to it being more than one year since the associated energy was produced (as required by Directive 2009/28/EC); or
- whether their whereabouts is unknown. This may mean that they remain available for trade, but it could also be that they have been transferred to a registry that does not currently report expiry and cancellation by the date of production.

Two graphs are shown. In the first, actual numbers of certificate are given; while the second illustrates the proportion of certificates in each category.

The picture is somewhat muddled by those registries which do not yet support expiry. AIB members are currently working to provide such information from their registries, but it may be a while before this is available.



The following tables display the raw data by domain at a yearly level. Aggregated totals are given for the period since records began (2000); and for the period from January 2012 until the date of collection of the data (during October 2013 – but note that not all registries can provide the required information upon request – see also “Explanatory notes to statistics” in this statistical report).

ISSUING, TRADE & REDEMPTION FOR ALL TECHNOLOGIES

	TOTAL : 2001 TO 2013									2011 TO 2013								
	PRODUCTION			TRANSACTION						PRODUCTION			TRANSACTION					
	ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL	ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL
Austria	26.404.892	0	30.805.965	29.343.114	54.943.928	38.200.812	80.457.200	0	63.266.205	11.616.226	0	23.785.452	20.336.837	40.002.084	25.231.681	36.564.191	0	34.922.010
Belgium Brussels	10.794	0	0	0	7.364	14.800	10.889.986	0	12.004.066	5.700	0	0	0	6.483	14.800	7.743.654	0	8.936.146
Belgium Flanders	18.428.315	965.830	9.661.641	14.508.298	23.695.869	35.761.585	153.172.207	3.244.419	112.989.175	9.691.671	860.654	5.357.415	10.269.585	14.640.243	24.707.647	77.133.574	3.131.242	53.535.025
Belg & Lux RECS	113.390	0	0	0	0	0	2.031.496	0	2.048.355	0	0	0	0	0	0	0	0	0
Belgium Wallonia	6.161.087	0	1.560.431	0	13.667.706	8.059.784	53.741.261	360.262	39.492.135	3.351.858	0	1.560.431	0	8.738.723	4.385.220	28.228.025	360.262	19.264.493
Belgium	24.713.586	965.830	11.222.072	14.508.298	37.370.939	43.836.169	219.834.950	3.604.681	166.533.731	13.049.229	860.654	6.917.846	10.269.585	23.385.449	29.107.667	113.105.253	3.491.504	81.735.664
Switzerland	76.943.128	0	30.617.594	78.419.608	102.015	9.700.387	18.717.598	0	54.872.261	73.664.742	0	30.617.594	78.419.608	0	5.897.665	12.405.316	0	50.951.908
Germany	7.412.036	0	128.122.825	7.342.784	55.957.231	14.296.886	189.124.139	0	161.563.206	7.342.784	0	83.586.867	7.342.784	36.829.561	10.164.151	118.219.825	0	108.932.247
Denmark	36.186.471	3.357.822	8.025.148	25.575.100	9.721.360	24.977.367	8.131.426	3.357.777	9.789.194	22.801.498	905.455	6.016.190	22.493.924	8.162.995	17.929.525	5.099.664	3.357.777	7.701.856
Spain	13.345.554	0	0	2.094.565	0	5.179.307	20.003	0	6.543.588	6.632.160	0	0	2.094.565	0	3.749.491	20.002	0	2.025.192
Finland	113.643.800	0	46.493.114	52.109.540	36.687.829	150.496.910	130.437.428	0	62.045.324	37.826.966	0	27.891.956	39.842.038	27.666.372	90.294.487	97.731.227	0	40.829.913
France	51.893.726	10.779.985	14.024.812	29.206.391	9.280.324	3.234.869	18.145.231	14.685.268	61.163.386	31.119.374	10.779.985	14.024.812	29.206.391	3.163.549	3.069.704	1.756.751	14.685.268	34.156.314
Ireland	162.414	0	0	0	0	10.001	0	0	0	0	0	0	0	0	0	0	0	0
Iceland	10.662.311	938.820	252.745	10.662.311	0	9.636.309	300.011	938.820	252.745	10.662.311	938.820	252.745	10.662.311	0	9.636.309	300.011	938.820	252.745
Italy	56.021.497	0	39.749	0	21.402.670	10.688.435	10.661.708	0	53.264.676	25.016.612	0	39.749	0	13.968.514	10.688.435	9.050.766	0	34.324.868
Luxembourg	2.034	0	4.457.629	2.034	2.213.018	599.132	5.621.638	0	4.457.629	2.034	0	3.755.179	2.034	2.213.018	579.216	5.407.931	0	4.270.770
Netherlands	82.759.301	1.424.148	50.329.867	0	57.639.382	14.070.505	176.898.797	1.424.153	224.868.141	29.997.165	1.408.761	50.329.867	0	27.734.104	11.419.704	85.330.063	1.424.153	97.354.400
Norway	804.865.528	55.691.686	46.833.831	326.623.492	239.408.033	543.267.965	56.200.717	55.664.109	184.047.579	345.386.025	5.169.841	45.720.123	326.623.492	110.592.172	311.342.624	42.427.135	55.664.109	78.246.295
Portugal	1.243.598	0	29.941	265.462	0	1.052.256	58.702	0	94.517	434.978	0	29.941	265.462	0	1.027.255	58.695	0	74.467
Sweden	333.478.329	26.274.773	98.653.638	70.045.538	13.698.544	120.224.388	97.472.452	26.274.773	275.526.937	43.368.140	2.333.908	43.476.212	70.045.538	4.856.763	49.197.566	56.821.040	26.274.773	105.259.626
Slovenia	4.002.666	0	0	0	0	668.004	117.018	0	1.927.200	0	0	0	0	0	100.001	100.002	0	0
UK	90.158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1.643.831.029	99.433.064	469.908.930	646.198.237	538.425.273	990.139.702	1.012.199.018	105.949.581	1.330.216.319	658.920.244	22.397.424	336.444.533	617.604.569	298.574.581	579.435.481	584.397.872	105.836.404	681.038.275

ISSUING, TRADE & REDEMPTION FOR ALL TECHNOLOGIES

	2013									2012								
	PRODUCTION			TRANSACTION						PRODUCTION			TRANSACTION					
	ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL	ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL
Austria	3.837.361	0	42.886	9.318.852	9.128.184	10.852.307	11.273.644	0	15.592.139	5.880.462	0	14.494.288	2.666.803	18.737.673	4.474.979	13.420.158	0	9.433.964
Belgium Brussels	0	0	0	0	6.483	14.800	3.027.602	0	4.565.928	0	0	0	0	0	0	1.770.052	0	1.418.518
Belgium Flanders	2.722.058	0	149.639	3.465.683	3.267.507	12.497.946	18.072.987	2.015.619	6.375.443	4.337.573	606.269	2.830.177	4.390.270	7.750.520	6.779.771	32.734.529	959.708	22.625.136
Belg & Lux RECS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belgium Wallonia	1.105.725	0	172.212	0	3.999.870	1.638.323	8.646.031	88.496	6.538.143	1.017.991	0	1.388.219	0	3.111.407	1.880.861	10.983.778	271.766	10.434.100
Belgium	3.827.783	0	321.851	3.465.683	7.273.860	14.151.069	29.746.620	2.104.115	17.479.514	5.355.564	606.269	4.218.396	4.390.270	10.861.927	8.660.632	45.488.359	1.231.474	34.477.754
Switzerland	40.304.890	0	290.865	44.205.337	0	2.724.813	5.509.598	0	30.429.637	32.808.623	0	30.326.729	34.214.271	0	2.005.000	3.723.944	0	18.843.014
Germany	1.943.125	0	0	2.949.260	7.489.448	2.922.165	32.125.136	0	36.081.978	3.734.772	0	44.952.383	4.393.524	20.873.500	5.033.901	48.902.384	0	43.050.359
Denmark	6.727.782	0	799.806	7.169.255	3.130.016	5.950.922	1.404.095	585.813	3.130.707	9.135.745	546.045	2.856.483	9.198.116	3.086.416	6.713.625	2.383.487	351.892	2.760.388
Spain	205.770	0	0	1.307.711	0	396.840	20.000	0	0	3.537.412	0	0	786.854	0	1.715.138	0	0	916.599
Finland	10.694.862	0	896.370	13.438.022	12.156.789	22.664.821	25.162.993	0	15.963.508	15.629.204	0	12.482.599	15.735.729	10.173.919	35.090.816	39.930.264	0	14.704.892
France	3.156.421	0	782.993	9.350.900	976.287	1.197.371	130.390	10.779.985	8.261.794	22.104.651	10.779.985	9.578.611	19.855.491	113.429	205.126	168.000	3.905.283	18.807.187
Ireland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iceland	1.369.127	0	0	5.293.110	0	5.289.413	0	938.820	252.745	8.217.203	910.816	252.745	5.369.201	0	4.346.896	300.011	0	0
Italy	0	0	0	0	420.176	217.775	864.827	0	2.918.054	1.058.335	0	39.749	0	5.718.098	4.388.067	4.320.814	0	12.815.302
Luxembourg	1.301	0	0	1.307	1.811.387	274.426	2.408.305	0	2.820.272	358	0	2.808.423	393	395.604	277.960	2.065.924	0	936.133
Netherlands	6.979.632	0	4.364.997	0	7.633.218	4.309.170	27.036.979	981.615	28.955.584	11.631.473	636.845	44.331.906	0	10.845.165	3.817.412	32.774.471	442.538	34.920.702
Norway	95.038.233	0	1.484.679	101.951.531	25.600.903	77.358.558	9.891.190	3.280.242	20.197.342	135.695.995	3.270.485	22.545.725	131.350.441	43.874.425	134.539.492	18.765.310	52.383.867	22.373.385
Portugal	150.955	0	3.056	179.030	0	95.000	0	0	26.091	137.417	0	26.885	86.432	0	412.865	55.607	0	23.888
Sweden	3.452.957	0	395.178	12.511.987	1.704.946	18.344.563	18.660.050	631.282	16.795.456	23.067.550	586.169	21.609.737	18.083.155	2.384.567	17.274.307	21.131.818	1.702.626	22.380.228
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	177.690.199	0	9.382.681	211.141.985	77.325.214	166.749.213	164.233.827	19.301.872	198.904.821	277.994.764	17.336.614	210.524.659	246.130.680	127.064.723	228.956.216	233.430.551	60.017.680	236.443.795

Similar to the “by country” data above, the following tables display the raw data by technology at a yearly level.

See also the AIB website at [Statistics](#) for Excel spreadsheets in both Excel 2003 and Excel 2010 formats, containing the detailed data since records began, summarised by year; and also by month.

ISSUING, TRADE & REDEMPTION FOR ALL COUNTRIES																			
	TOTAL : 2001 TO 2013									TOTAL : 2011 TO 2013									
	PRODUCTION			TRANSACTION						PRODUCTION			TRANSACTION						
	ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL	ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL	
Wind	Wind - onshore	57.599.347	377.308	9.995.425	2.327.573	27.690.115	20.821.980	33.844.006	793.822	52.412.778	15.872.303	337.748	8.716.949	1.661.995	14.680.832	7.944.422	19.679.062	790.338	24.020.018
	Wind - offshore	4.648.367	175.290	1.343.140		2.311.979	1.284.841	3.091.971	246.614	4.690.692	2.111.058	175.290	1.343.140		1.497.308	1.158.329	3.030.116	246.614	3.149.268
	Wind - unknown	28.620.229	3.871.253	9.254.522	28.074.272	10.030.551	27.065.060	13.373.332	4.032.523	9.393.650	25.415.895	887.957	8.206.418	24.958.062	10.030.551	27.065.060	13.373.332	4.032.523	9.333.650
		90.867.943	4.423.851	20.593.087	30.401.845	40.032.645	49.171.881	50.309.309	5.072.959	66.497.120	43.399.256	1.400.995	18.266.507	26.620.057	26.208.691	36.167.811	36.082.510	5.069.475	36.502.936
Hydro/marine																			
	1.330.051.980	77.653.128	406.170.290	541.201.500	437.486.797	905.558.695	913.329.861	82.493.272	1.097.411.154	550.206.275	19.526.947	301.938.810	520.936.684	236.114.711	522.474.703	517.016.827	82.392.949	579.430.382	
	Unspecified mechanical/other	2.501		166.843	2.330	2.509		5.892.624		5.814.212	2.501			2.330	1.628		2.946.000		2.946.000
	Unspecified renewable energy	116.614	11	110.740	116.614	212.338	292.859	8.104.077	11	223.961	116.614	11	110.740	116.614	212.338	292.859	8.104.077	11	223.961
	Unspecified heat																		
	Solar	3.343.737	630.533	554.014	3.174.569	363.779	40.950	32.728	1.061.693	575.714	3.150.635	600.699	45.8076	3.071.751	321.080	40.914	32.718	1.061.583	512.488
	Geothermal	8.196.095	19.204	510.350	2.425.352	227.633	2.944.192	2.944.192	19.204	6.900.622	5.998.792	19.204	510.350	2.425.352	15.131	2.944.192	2.944.192	19.204	6.011.303
Other		11.658.947	649.748	1.341.947	5.718.865	806.259	3.278.001	16.973.621	1.080.908	13.514.509	9.268.542	619.914	1.079.166	5.616.047	550.177	3.277.965	14.026.987	1.080.798	9.693.752
	Solid - agricultural biomass (inc. energy crops)	2.616.827	5.066	278.563	372.261	1.143.028	925.476	890.196	5.063	1.557.374	857.400	4.720	276.267	81.429	632.706	886.880	859.373	5.063	1.036.144
	Solid - agricultural products	342.997	8.866	134.431	91.188	29.442	126.957	146.536	13.620	88.032	342.997	6.891	117.339	91.188	29.442	125.687	137.493	13.620	79.966
	Solid - renewable fuels (inc. For&Ag bp & w)	51.385.767	111.406	5.304.681	6.277.285	24.073.463	17.551.808	17.410.251	166.412	46.120.659	4.511.371	32.428	3.201.173	3.998.156	10.474.329	4.062.510	4.171.375	165.186	9.827.463
	Solid - forestry products	3.614.266	35.226	2.348.238	1.547.474	3.049.608	2.239.045	1.908.145	82.967	3.217.385	3.614.266	35.226	2.348.161	1.547.474	3.049.608	2.239.045	1.908.145	82.967	3.217.385
	Solid - forestry by-products & waste	6.656.666	107.072	658.612	1.709.103	2.562.104	2.199.456	1.806.920	170.833	2.617.315	6.568.057	54.504	657.832	1.709.103	2.562.104	2.199.456	1.806.920	170.833	2.617.315
	Gas - landfill	3.577.761	33.477	448.525	251.223	2.277.979	210.085	285.385	49.189	2.435.476	648.989	26.696	328.304	126.459	615.373	182.787	208.064	46.707	836.739
	Gas - sewage	123.702		17.042	84.350		4.340	4.340		39.232	87.434		17.042	84.350		947	947		3.655
	Gas - other biogas	5.379.472	270.258	1.730.496	1.784.734	2.469.956	760.108	735.117	290.048	3.557.597	3.085.085	212.228	1.315.902	1.335.612	1.374.856	731.040	708.261	284.597	2.202.475
	Solid - municipal biogenic waste	16.747.406	608.274	3.056.115	2.011.684	5.955.670	3.857.819	3.840.941	666.840	12.456.588	7.344.810	369.334	2.703.191	1.627.823	3.226.262	3.296.241	3.354.416	666.739	6.170.153
	Liquid - renewable fuels (inc. Mun.waste)	158.089	6.019	110.561	40.446	237.018	211.050	943.262	333.333	690.121	158.089	6.002	64.422	40.446	237.018	211.050	943.262	333.333	690.121
	Liquid - black liquor	1.785.746		179.361	1.785.541	711.845	744.031	225.808	209.379	1.785.746	1.785.746		179.361	1.785.541	711.845	744.031	225.808		209.379
	Solid - unspecified wood	912.549	1.576	280.064	911.686	284.340	337.333	336.780	1.576	309.196	912.549	1.576	280.064	911.686	284.340	337.333	336.780	1.576	309.196
	Solid - industrial & commercial waste	15.212.558	110.822	3.528.506	4.683.799	10.058.085	1.903.080	1.966.544	111.444	12.210.951	4.627.634	88.355	2.215.204	3.767.261	5.256.085	1.437.460	1.524.704	111.444	4.493.301
	Biomass	108.513.806	1.298.062	18.075.195	21.550.774	52.852.538	31.070.589	30.500.225	1.891.325	85.509.305	34.544.427	837.960	13.704.262	17.106.528	28.453.968	16.454.467	16.185.548	1.882.065	31.693.292
RENEWABLE		1.541.092.676	84.024.789	446.180.519	598.872.984	531.178.239	989.079.165	1.011.113.016	90.538.464	1.262.932.088	637.418.500	22.385.816	334.988.745	570.279.316	291.327.547	578.374.946	583.311.872	90.425.287	657.320.362
NUCLEAR		94.750.179	15.396.667	22.273.121	39.560.546		2	2	15.396.667	65.835.301	13.517.210		498	39.560.546				15.396.667	22.272.623
	Unknown	236.871		31.848	8.299	2.325	187.964	33.430		25.488	233.231		31.848	8.299	2.325	187.964	33.430		21.848
	Solid - Unknown																		
	Solid - Hard coal																		
	Solid - Brown coal																		
	Solid - Peat																		
	Solid - Municipal solid waste	263.867			263.868						263.867			263.868					
	Solid - Industrial and commercial waste	86.759	11.608	4.174	84.752		12.720	12.720	11.608	4.174	86.759	11.608	4.174	84.752		12.720	12.720	11.608	4.174
	Liquid - Unknown	1.853			1.853						1.853			1.853					
	Liquid - Crude oil																		
	Liquid - Natural gas																		
	Liquid - Petroleum products	40.668			40.772						40.668			40.772					
	Gaseous - Unknown	11.066		167	18.074				2.842	167	11.066		167	18.074				2.842	167
	Gaseous - Natural gas	7.347.090		1.419.101	7.347.089	7.244.709	859.851	1.039.850		1.419.101	7.347.090		1.419.101	7.347.089	7.244.709	859.851	1.039.850		1.419.101
	Gaseous - Coal-derived gas																		
	Gaseous - Petroleum products																		
	Gaseous - Municipal gas plant																		
	Gaseous - Process gas																		
	Heat - unknown																		
	Heat - Process heat																		
FOSSIL		7.988.174	11.608	1.455.290	7.764.707	7.247.034	1.060.535	1.086.000	14.450	1.448.930	7.984.534	11.608	1.455.290	7.764.707	7.247.034	1.060.535	1.086.000	14.450	1.445.290
TOTAL		1.643.831.029	99.433.064	469.908.930	646.198.237	538.425.273	990.139.702	1.012.199.018	105.949.581	1.330.216.319	658.920.244	22.397.424	336.444.533	617.604.569	298.574.581	579.435.481	584.397.872	105.836.404	681.038.272

		ISSUING, TRADE & REDEMPTION FOR ALL COUNTRIES																	
		2013								2012									
		PRODUCTION			TRANSACTION					PRODUCTION			TRANSACTION						
ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL	ISSUE	EXPIRE	CANCEL	ISSUE	TRANSFER	EXPORT	IMPORT	EXPIRE	CANCEL		
Wind	Wind - onshore	3.466.740		826.004	574.655	4.703.864	1.444.450	4.532.195	266.782	6.834.194	5.308.793	102.047	6.362.561	704.463	4.306.258	1.572.444	4.787.607	504.618	8.747.408
	Wind - offshore	489.279		217.918		431.144	750.345	1.830.407	180.475	1.124.564	789.254	70.969	1.035.604		571.626	357.305	1.109.318	66.139	1.308.053
	Wind - unknown	7.668.244		814.842	8.032.489	4.153.822	8.955.206	4.863.359	664.437	4.624.416	10.155.120	600.172	4.112.952	10.007.994	4.009.693	11.052.115	6.721.810	1.770.436	2.741.906
		11.624.263		1.858.764	8.607.144	9.288.830	11.150.001	11.225.961	1.111.694	12.583.174	16.253.167	773.188	11.511.117	10.712.457	8.887.577	12.981.864	12.618.735	2.341.193	12.797.367
Hydro/marine																			
	138.955.295		5.505.006	175.229.566	57.554.970	146.942.586	136.663.082	16.543.675	173.990.860	241.742.470	15.668.342	187.958.833	222.611.336	102.163.416	209.198.732	214.019.430	56.742.515	208.309.165	
	Unspecified mechanical/other	2.501			2.330	1.628													
	Unspecified renewable energy	116.614			116.614	128.261	284.671	7.857.055		102.905			110.297		84.077	8.188	247.022	11	121.056
	Unspecified heat																		
	Solar	1.512.087		34.037	1.531.003	28.218	797	1.050	938.403	211.199	1.345.092	505.417	240.602	1.317.022	108.851	865	826	94.034	168.195
	Geothermal	544.838		121.974	1.962.403		2.671.192	2.671.192	19.204	1.290.718	1.693.287	19.153	388.376	462.949	15.131	273.000	273.000		3.139.066
Other		2.176.040		156.011	3.612.350	158.107	2.956.660	10.529.297	957.607	1.604.822	3.038.379	524.570	739.275	1.779.971	208.059	282.053	520.848	94.045	3.428.317
	Solid - agricultural biomass (inc. energy crops)	205.914		92.167	34.069	11.498	88.715	51.134	573	170.748	154.472	316	181.852	47.360	99.564	135.413	123.927	4.490	380.265
	Solid - agricultural products	57.816		6.289	81.491	2.453	34.771	32.744	6.891	15.077	127.705	6.400	21.892	9.128	24.244	23.950	36.364	6.729	64.282
	Solid - renewable fuels (inc. For&Ag bp & w)	741.127		79.235	912.014	1.702.402	311.298	339.298	2.112	1.518.291	1.627.940	2.048	2.329.429	1.404.548	3.277.268	1.021.097	1.025.043	74.851	3.312.338
	Solid - forestry products	1.696.794		880.124	622.231	1.926.503	972.809	704.682	55.740	2.087.176	1.479.256	2.351	1.410.738	851.972	1.123.105	1.147.195	1.118.069	27.227	1.125.209
	Solid - forestry by-products & waste	834.570		136.195	697.819	609.917	759.926	797.980	59.050	825.497	2.623.036	35.176	472.049	696.472	1.835.219	1.054.852	793.294	111.783	1.791.818
	Gas - landfill	79.958		2.611	26.748	145.389	33.596	34.801	17.620	70.521	134.166	14.541	73.246	44.379	186.374	51.827	81.547	26.585	273.426
	Gas - sewage	31.482			31.489		292	292		2.443	55.357		16.938	52.861		655	655		1.104
	Gas - other biogas	1.096.158		250.792	621.613	464.690	388.020	408.622	154.398	871.835	1.255.333	122.710	836.722	498.570	505.145	245.692	198.867	79.325	572.304
	Solid - municipal biogenic waste	1.623.211		214.617	536.999	1.430.648	1.559.134	1.553.082	335.129	1.965.754	2.944.351	162.429	1.800.147	703.091	1.033.579	1.030.069	1.118.322	106.424	2.407.621
	Liquid - renewable fuels (inc. Mun.waste)	67.193		3.910	14.946	64.782	97.862	353.033	17.743	315.113	88.201	1.030	49.234	25.500	172.236	113.188	590.229	315.590	375.008
	Liquid - black liquor	1.014.050		45.249	1.141.228	37.996	178.227	174.808		114.984	277.687		134.086	644.313	673.849	565.804	51.000		94.395
	Solid - unspecified wood	550.488		57.825	787.741	283.712	327.333	326.780	1.576	299.196	362.061	1.576	222.239	123.945	628	10.000	10.000		10.000
	Solid - industrial & commercial waste	919.139		57.938	1.321.853	1.087.938	357.575	451.894	23.614	1.102.690	2.011.027	10.329	1.363.022	1.505.543	2.182.805	623.698	624.558	86.923	1.422.526
	Biomass	8.917.900		1.826.952	6.830.241	7.767.928	5.109.558	5.229.150	674.446	9.359.325	13.140.592	358.906	8,911.594	6.607.682	11.114.016	6.023.440	5.771.875	839.927	11.830.296
RENEWABLE		161.673.498		9.346.733	194.279.301	74.769.835	166.158.805	163.647.490	19.287.422	197.538.181	274.174.608	17.325.006	209.120.819	241.711.446	122.373.068	228.486.089	232.930.888	60.017.680	236.365.145
NUCLEAR					13.517.210														
	Unknown	227.203		358	3.175	2.325	177.964	3.893		21.848	6.028		31.490	5.124		10.000	29.537		
	Solid - Unknown																		
	Solid - Hard coal																		
	Solid - Brown coal																		
	Solid - Peat																		
	Solid - Municipal solid waste	221.556			244.358						42.311			19.510					
	Solid - Industrial and commercial waste	62.044			83.686		12.720	12.720	11.608	4.174	24.715	11.608	4.174	1.066					
	Liquid - Unknown	1.853			1.853														
	Liquid - Crude oil																		
	Liquid - Natural gas																		
	Liquid - Petroleum products	19.054			40.772						21.614								
	Gaseous - Unknown	11.066		167	18.074				2.842	167									
	Gaseous - Natural gas	1.956.715		35.423	2.953.555	2.553.054	399.724	569.724		1.340.451	3.725.488		1.367.678	4.393.534	4.691.655	460.127	470.126		78.650
	Gaseous - Coal-derived gas																		
	Gaseous - Petroleum products																		
	Gaseous - Municipal gas plant																		
	Gaseous - Process gas																		
	Heat - unknown																		
	Heat - Process heat																		
FOSSIL		2.499.491		35.948	3.345.473	2.555.379	590.408	586.337	14.450	1.366.640	2.499.491		35.948	3.345.473	2.555.379	590.408	586.337	14.450	1.366.640
TOTAL		177.690.199	0	9.382.681	211.141.985	77.325.214	166.749.213	164.233.827	19.301.872	198.904.821	177.690.199	0	9.382.681	211.141.985	77.325.214	166.749.213	164.233.827	19.301.872	198.904.821



Forthcoming events

2013

27-28 November

Bad Nauheim, Germany

AIB General Meeting

2014

12-13 March

Luxembourg

AIB General Meeting

18-19 March

Düsseldorf, Germany

RECS Market Meeting 2014