

Summary¹

Highlights: The major certificate issuing countries are now Norway, Finland and Sweden; with Netherlands and, to a lesser extent, Austria remaining the major redeemers. The largest exporters are Sweden and Finland; while Austria and Netherlands are major importers. Technologies have remained the same, although biomass has been overtaken by hydro, and wind is increasing.

The proportion of certificates that are redeemed has risen sharply to about 50% overall (105% this year).

Data Quality: This report has been prepared following substantial work reviewing activity reporting, and in particular identifying a number of variations between individual registration databases where current public reports were found to have significant shortcomings², the correction of which has led to the development of a much better picture of international transfers. This reveals a higher level of certificate transfers than had originally been reported (a 50% increase), and demonstrates more clearly the viability of an international market, such that of the 120 million certificates issued to date, 33 million have been transferred internationally, and 60 million have been redeemed.

Work continues to identify, analyse and correct the remaining errors, the discovery and correction of which further justifies central coordination of certificate activity, and in particular the Hub.

For this reason, information relating to international transfers to and from individual countries has been omitted from this report.

Phil Moody
General Secretary, Association of Issuing Bodies
13 March 2006

¹ Readers should note that:

1. All certificates are 1MWh.
2. As the base data for issued certificates derives from meter data, there is always an element of delay in gaining an accurate picture of certificates issued for a particular month. Thus the most recent [3] months will always be understated and the corresponding information should be treated with caution.
3. Historic import and export figures continue to be misleading due to the practice of redeeming certificates in one country and transferring the renewable benefit over national borders by means of redemption statements. This appears to be increasingly replaced by inter-CMO transfers.
4. Data has been collected for all months to date, from all parties.

² Shortcomings identified included:

1. Different methods of setting date-ranges (the 1st day to the last day of a month is correct; the 1st day of one month to the 1st day of the next is not);
2. Omission of some technologies from certain reports;
3. Different interpretations of import and export (these should relate to the domain, rather than the registry);
4. Imports on one registry not being reflected by exports on the counterpart registry due to “stalled” trades, and incorrect error handling; and
5. Timing considerations between imports and exports.

Figure 1: raw data – issuing and redemption

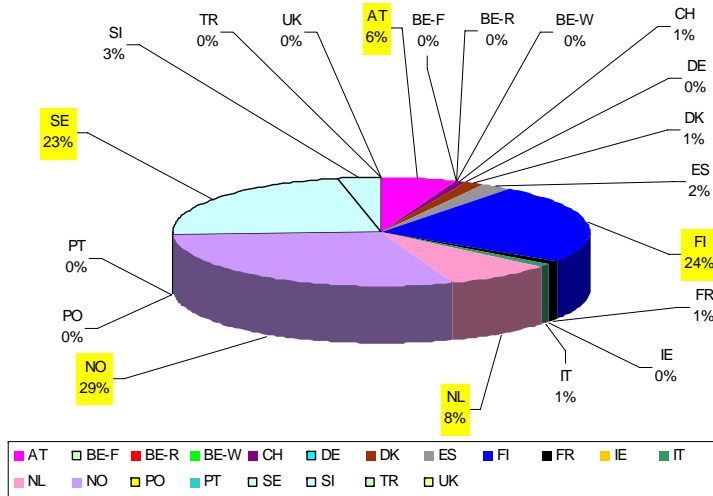
Issuing & Redemption for all technologies														
	Total		2006		2005		2004		2003		2002		2001	
	Issued	Redeemed	Issued	Redeemed	Issued	Redeemed	Issued	Redeemed	Issued	Redeemed	Issued	Redeemed	Issued	Redeemed
Austria	7,018,835	11,494,232		1,239,007	1,556,754	3,122,146	2,452,748	6,129,706	1,950,584	918,704	1,057,599	84,669	1,150	
Belgium Flanders														
Belgium and Luxembourg	113,390	507,730				450,730		50,000		7,000	59,150		54,240	
Belgium Wallonia														
Switzerland	954,881	661,395	6,600	23,188	59,782	495,653	512,442	102,924	276,837	35,530	99,220	4,100		
Germany	48,351	68,123				25,036	5,963	43,087	41,789		450		149	
Denmark	1,704,042	24,614	42,726		631,304		777,965		24,686	24,614	74,233		153,128	
Spain	2,818,594	382,851	68,486	68,486	126,319	174,334	901,135	93,400	795,287	46,631	534,378		392,989	
Finland	28,750,113	9,730,237	23,798	344,077	6,734,247	2,254,194	8,260,681	1,412,330	7,177,954	4,192,610	5,840,401	1,527,025	713,032	1
France	1,196,389	762,639			605,224	461,004	443,948	214,878	142,665	86,757	4,552			
Greece														
Ireland														
Iceland														
Italy	866,126	329,603			418,397	241,048	73,970	76,873	59,549	10,557	302,814	1,125	11,396	
Netherlands	10,244,996	24,537,957	462,968	2,316,764	6,488,421	14,569,852	2,840,019	7,542,276	250,536	107,962	203,052	1,103		
Norway	35,346,293	5,666,377	3,896,787	553,294	14,506,286	1,101,274	5,625,516	827,342	7,817,149	725,706	3,500,555	2,458,761		
Poland														
Portugal	94,596		44,395		50,201									
Sweden	27,714,140	3,564,299		184,963	16,589,875	88,602	5,832,690	59,596	2,040,632	2,106,088	3,150,720	1,125,050	100,223	
Slovenia	3,768,110	1,792,644		23,462	167,396	1,769,182	3,600,714							
Turkey														
UK	90,158										90,158			
All countries	120,729,014	59,522,701	4,545,760	4,753,241	47,934,206	24,753,055	31,327,791	16,552,412	20,577,668	8,262,159	14,917,282	5,201,833	1,426,307	1
Percentage redeemed		49%		14%		52%		53%		40%		35%		0%

Issuing & redemption for all countries														
	Report for all countries		2006		2005		2004		2003		2002		2001	
	Issue	Redeem	Issued	Redeemed	Issued	Redeemed	Issue	Redeem	Issue	Redeem	Issue	Redeem	Issue	Redeem
Onshore wind	6,252,003	3,338,369	371,721	387,989	3,246,226	1,945,381	2,133,076	804,795	309,845	153,738	166,708	46,465	24,427	1
Offshore wind	14,446	5,720			1,542	2,995	9,636	2,539	4	186	2,008		1,256	
Photovoltaic	4,331	2,999	61	99	2,613	2,895	1,644	5	13					
Thermal														
Hydropower	81,776,145	32,250,904	3,928,245	3,378,525	38,004,346	16,185,307	19,947,428	7,989,926	11,967,408	1,759,895	7,325,326	2,937,251	603,392	
Onshore tidal														
Offshore tidal														
Onshore wave														
Offshore wave														
Geothermal	261,516	102,898			35,627	36,081	53,431	55,175	6,434	10,517	166,024	1,125		
Energy crops	275,035	194,793	571	1,093	68,909	70,643	59,023	56,457	66,513	52,078	36,033	14,522	43,986	
Forestry etc	26,759,762	20,283,654	116,905	425,497	3,418,287	4,579,255	7,767,140	6,917,876	7,945,838	6,201,910	6,850,232	2,159,116	661,360	
Landfill gas	337,685	142,979	9,096	50,860	200,159	45,974	105,419	36,968	3,890	742	19,121	8,435		
Sewage gas	34,914	34,378		3,626	3,321	546	6,364	5,025	1,075	25,181	24,154			
Other biogas	36,817	26,809	2,837	8,994	24,238	16,316	9,112	1,499	630					
MSW	1,837,829	751,024		177,171	792,431	284,092	450,972	283,780	257,630	3,026	244,910	2,955	91,886	
IB&CW	3,138,531	2,388,174	116,324	319,387	2,136,507	1,583,570	784,546	398,367	18,388	54,886	82,766	31,964		
Total	120,729,014	59,522,701	4,545,760	4,753,241	47,934,206	24,753,055	31,327,791	16,552,412	20,577,668	8,262,159	14,917,282	5,201,833	1,426,307	1

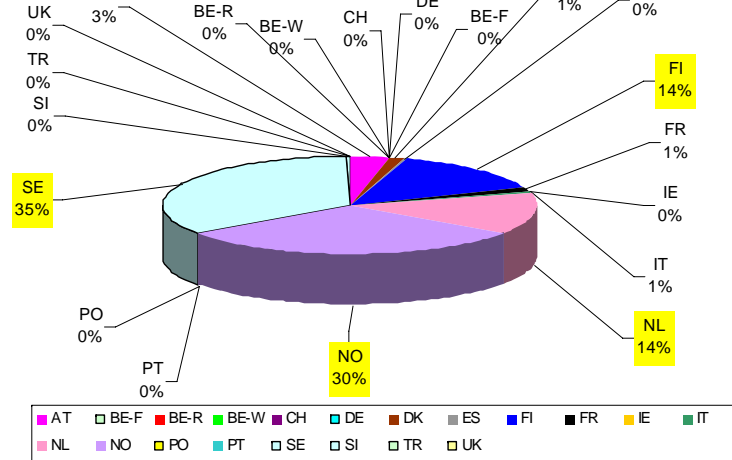
The above tables display issue and redemption statistics for each year and for 2001-6 (in total). These, and the following charts, show that volumes issued and transferred continue to increase at a slightly greater rate than last year while, since March, redemption has increased markedly.

The major certificate issuing countries remain Norway, Sweden and Finland; although it can be seen that in 2005 Netherlands is level with Finland. Regarding technology, hydro continues to increase, with wind and industrial & commercial waste gaining on forestry and agricultural waste.

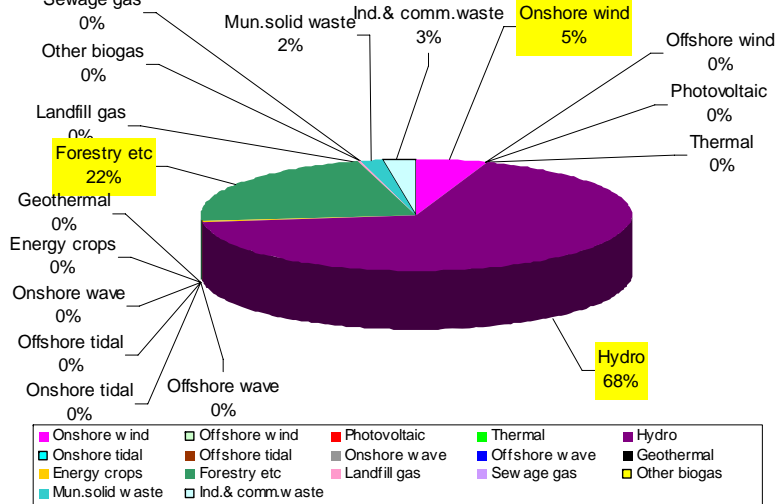
Certificates Issued Per Country (2001-5)



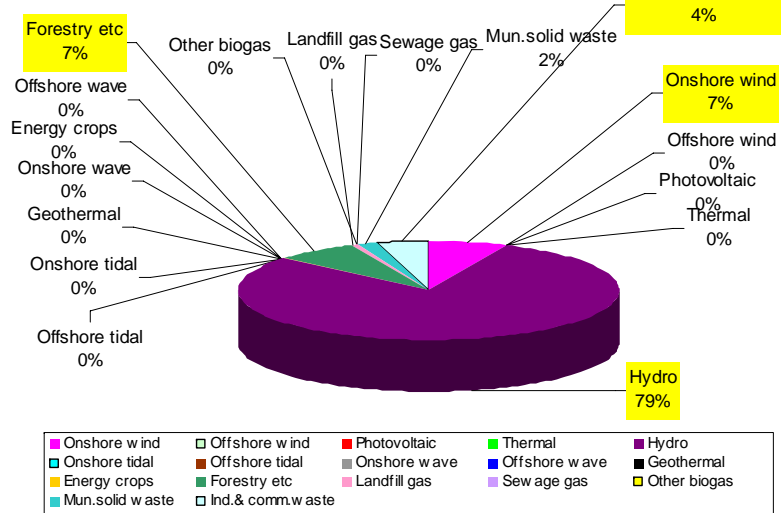
Certificates Issued Per Country (2005)



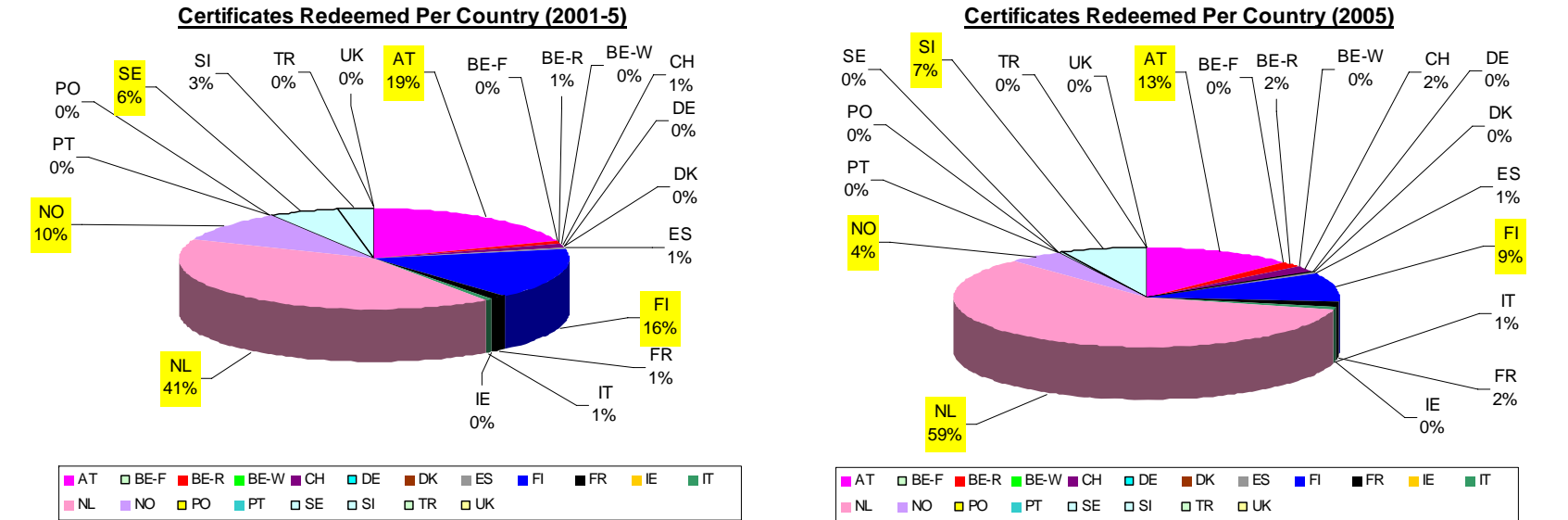
Certificates Issued Per Technology (2001-5)



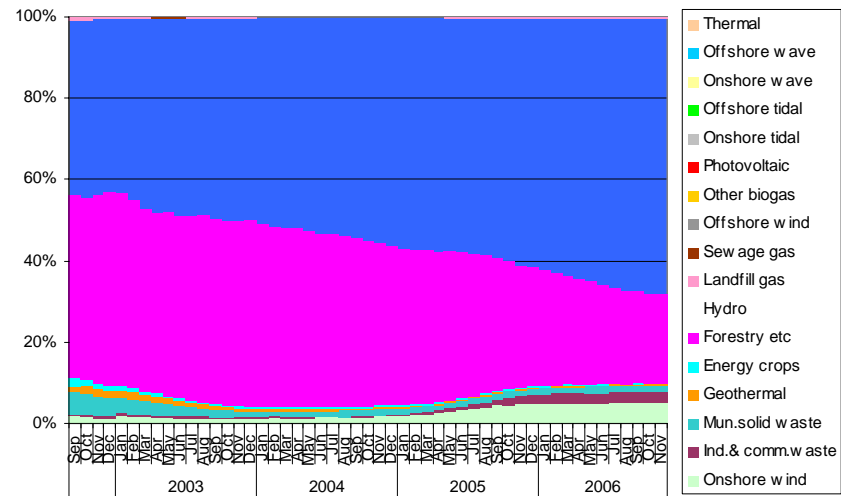
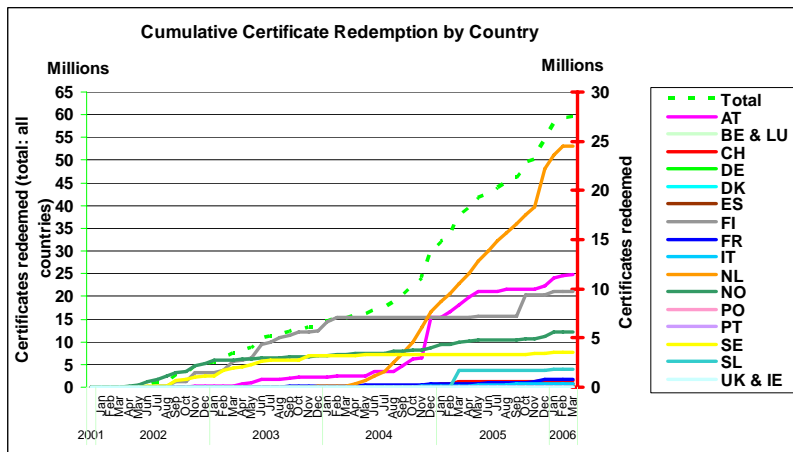
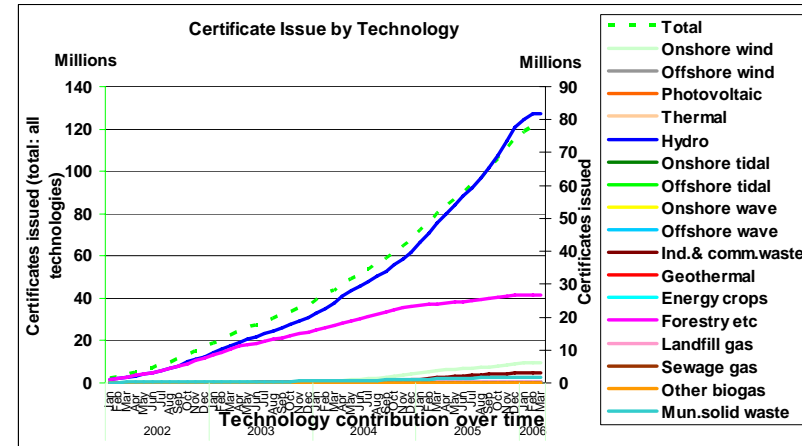
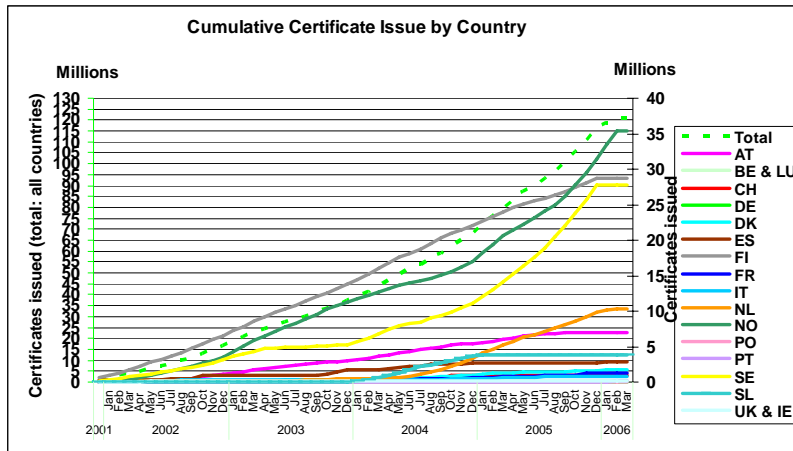
Certificates Issued Per Technology (2005)



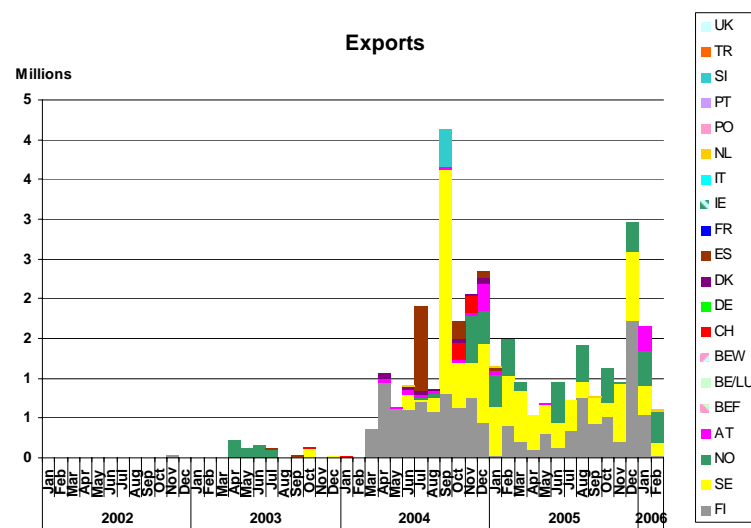
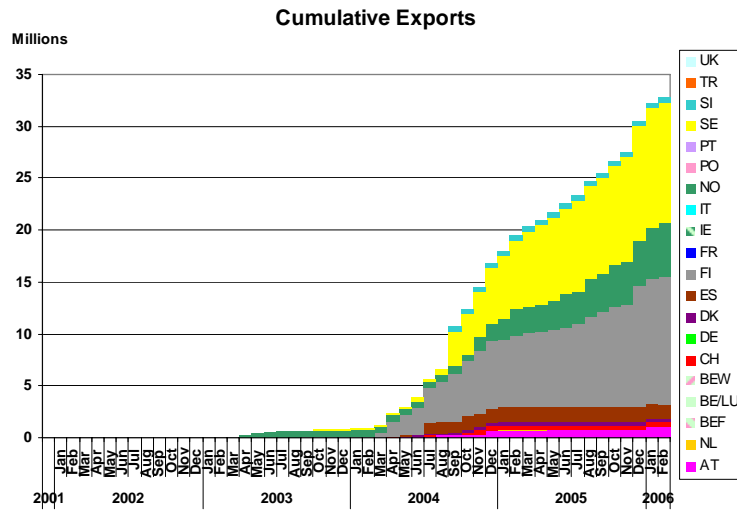
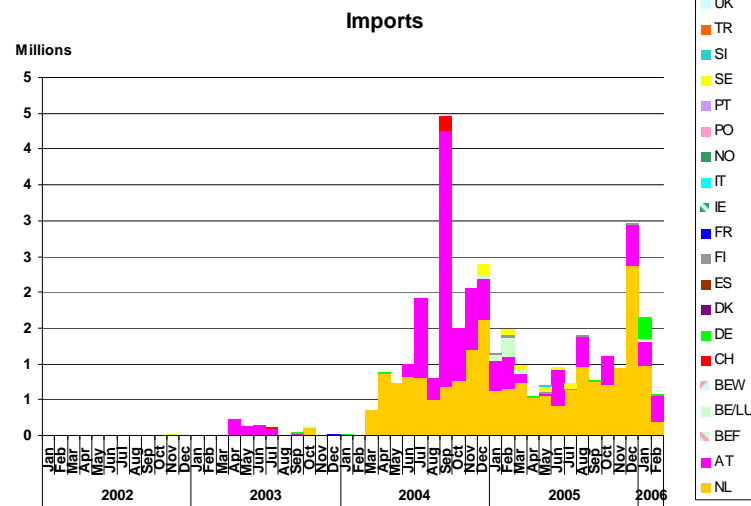
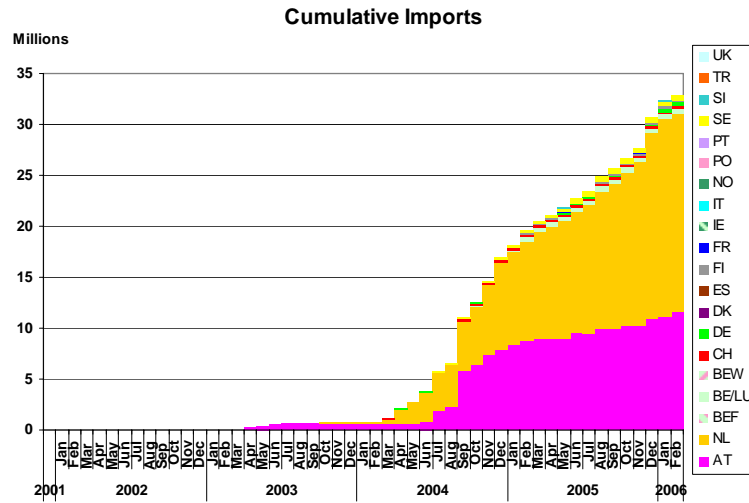
Regarding redemption, Netherlands continues to predominate, while Austria is now in second place. Some decreases in redemption are probably due to the replacement of trading in redemption statements by export using the CMO-CMO interface.



Issuing and redemption continue to increase fairly steadily, although redemption everywhere except Netherlands and Austria has been markedly low this quarter. Of further note is that the volume of hydro issued and redeemed has continued to increase substantially at the expense of forestry and agricultural waste.

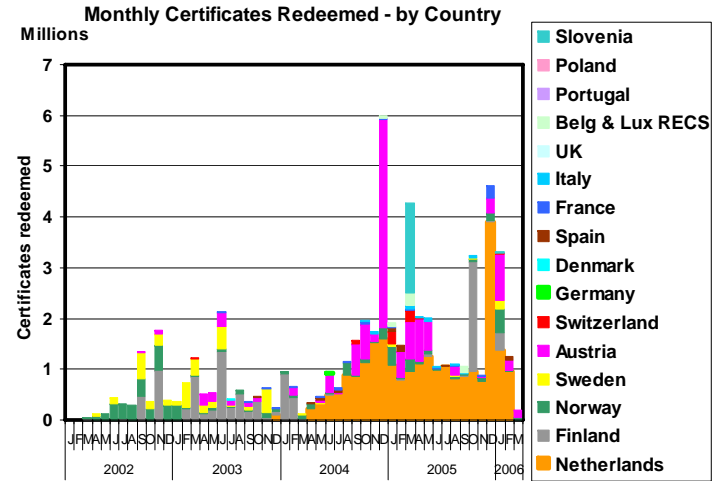
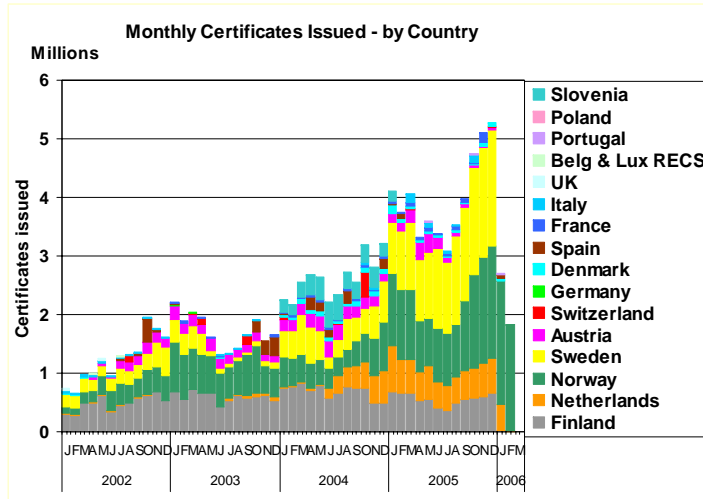


The largest exporters are Sweden, Norway and Finland; while Austria and Netherlands are the major importers.



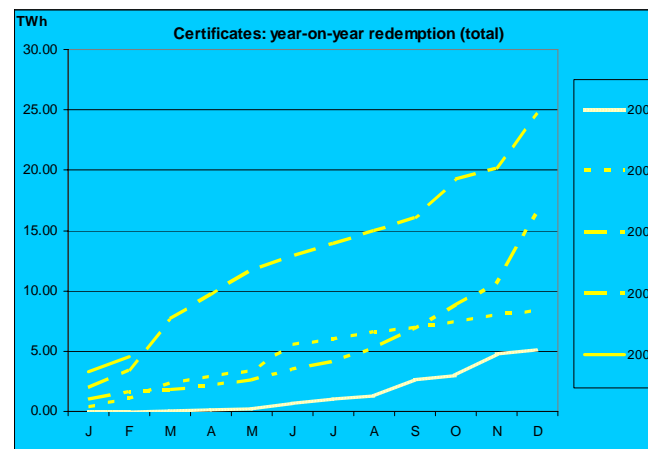
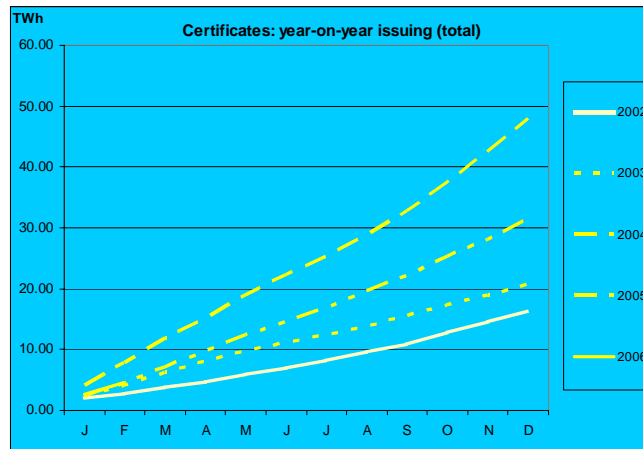
Monthly activity

The following bar charts summarise monthly activity, clearly showing the influence of the Netherlands and Austria (consumers) and of Finland, Norway, Sweden and Netherlands (suppliers) on international trade.

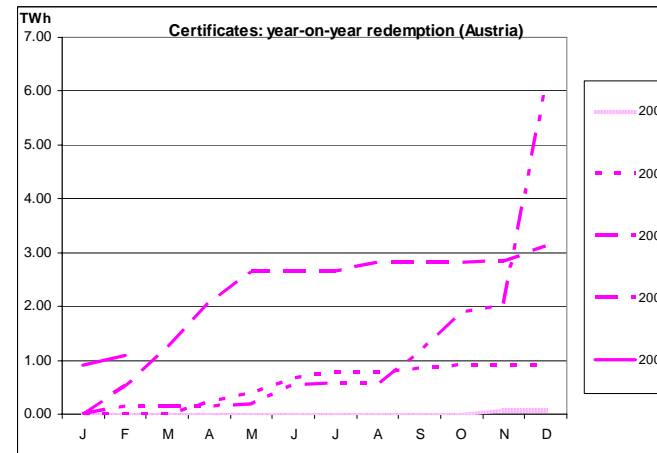
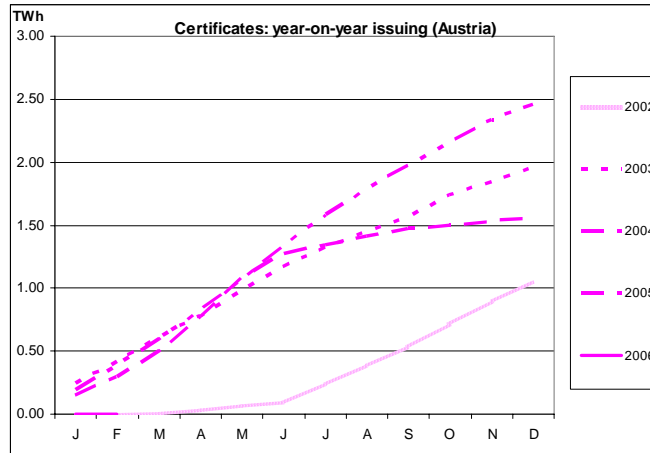


Year-on-year

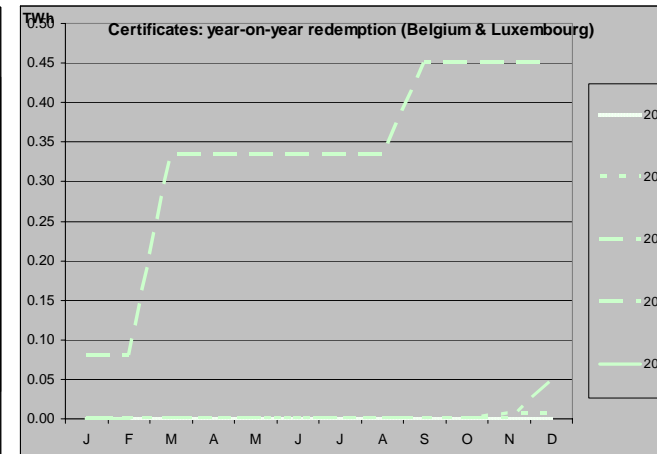
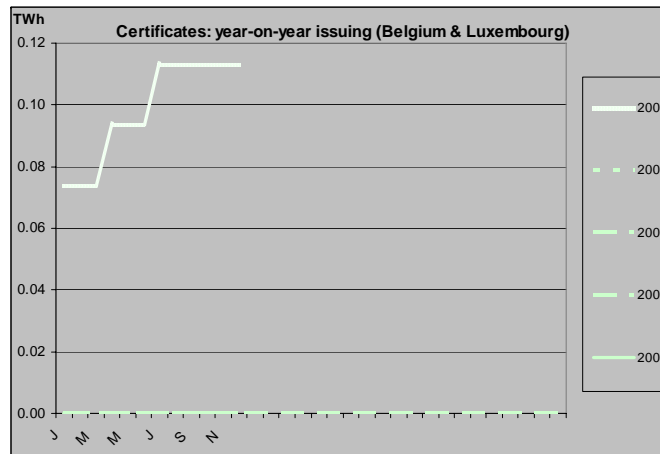
While issuing continues at a higher rate in the last year (albeit slower this year, given the delay experienced by Grexel in gaining accreditation as a member in place of Svenska Kraftnat and Fingrid), redemption has increased.



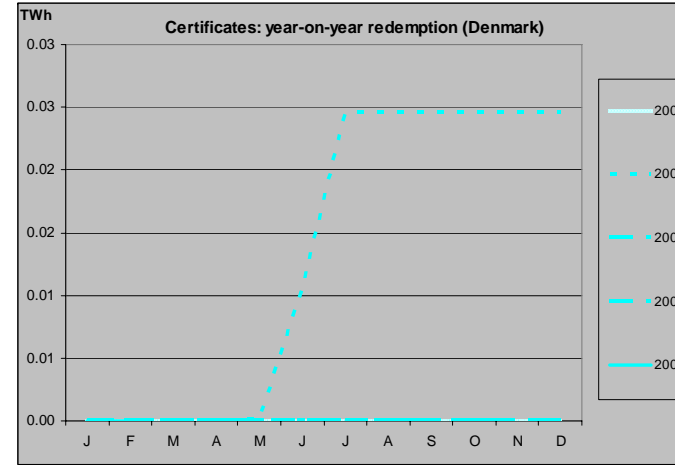
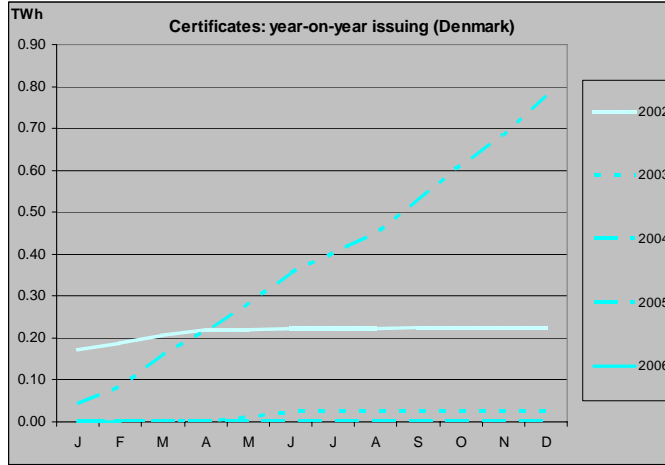
Austria has imported, exported and redeemed this year, but at a lower rate of activity that in the past. There has been little issuing in the last year, and none since January 2006.



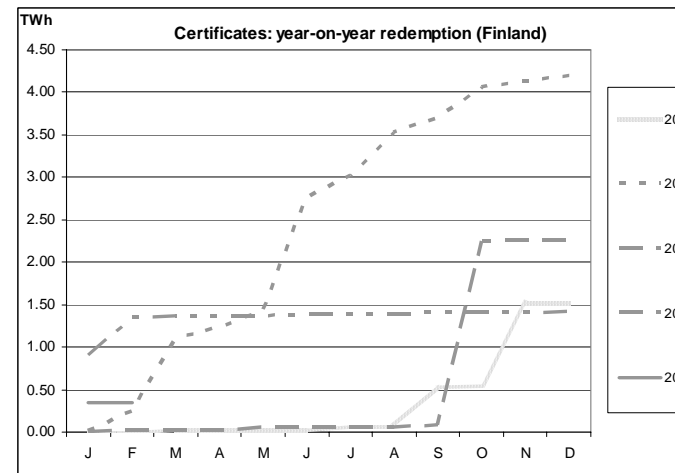
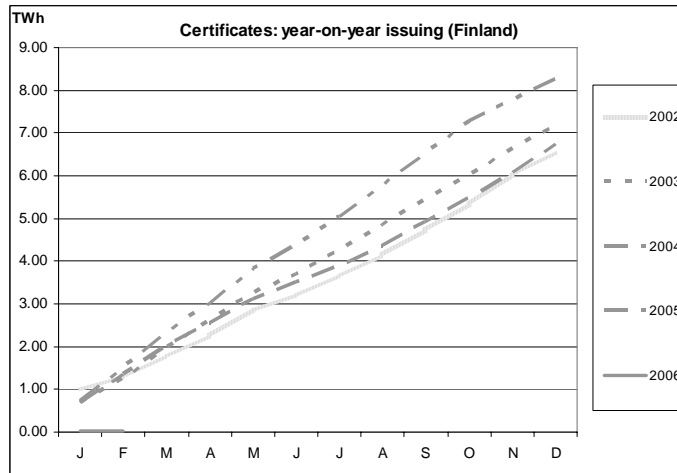
Belgium / Luxembourg. RECS activity looks likely to diminish markedly, with the Flemish GoO issuer becoming a member. However, the likely activity of the VREG and, in future, the Wallonian issuer (the CWaPE) suggest that Belgium will soon become close to a large member.



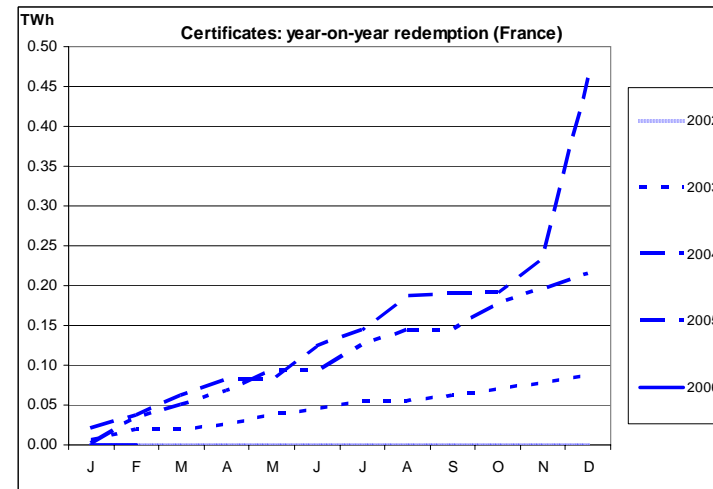
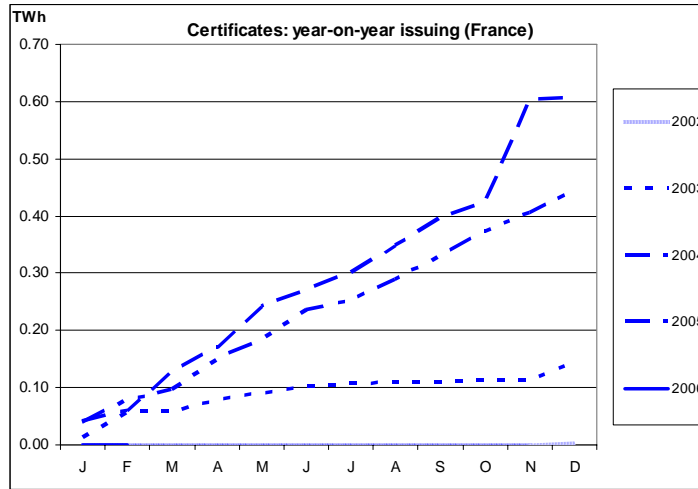
Denmark. Denmark continues to be a minor participant in the market – it will be interesting to see how the market changes with the consolidation of Elkraft and Eltra into Energinet.



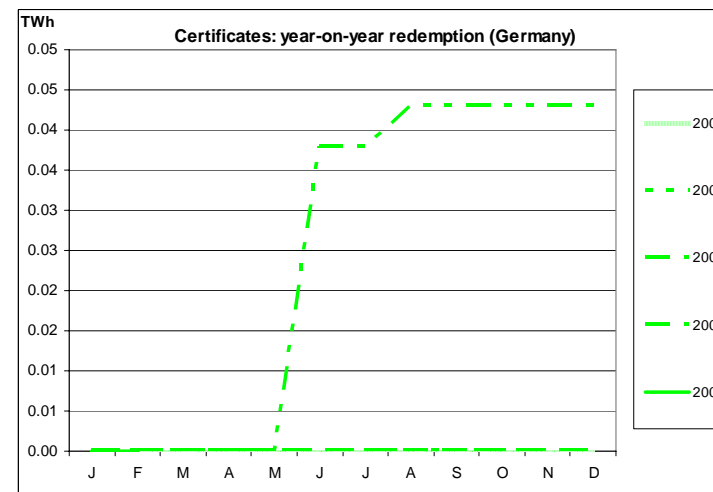
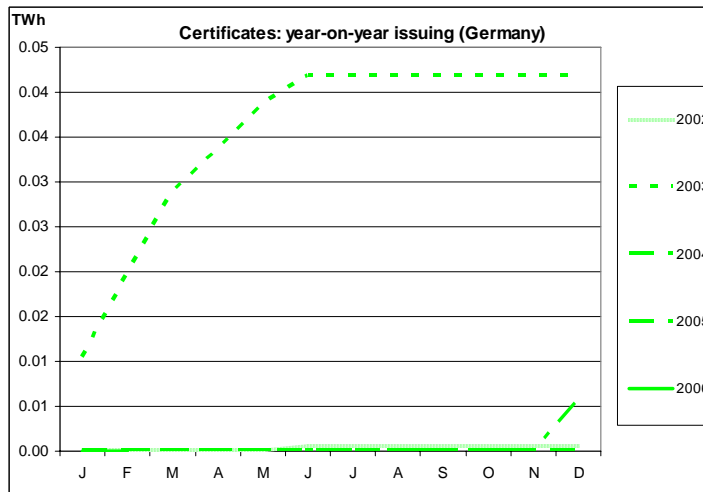
Finland has issued and redeemed no certificates this quarter, due to the transfer of responsibilities from Fingrid to Grexel. That being said, the continued activity during 2005 suggests normal service will resume in late March as Grexel commences work.



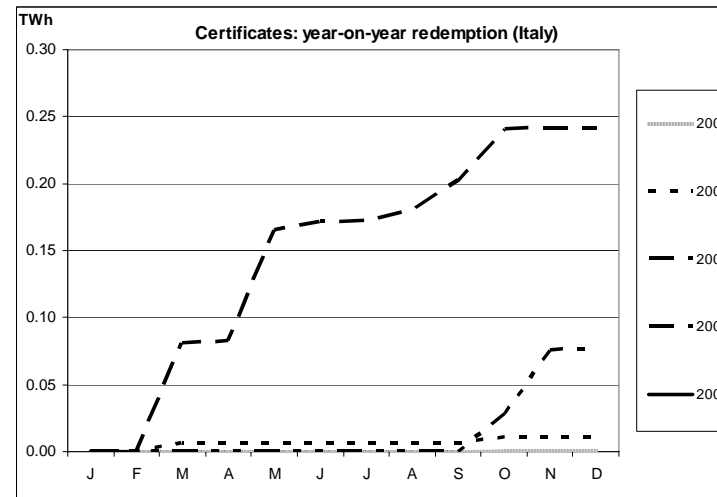
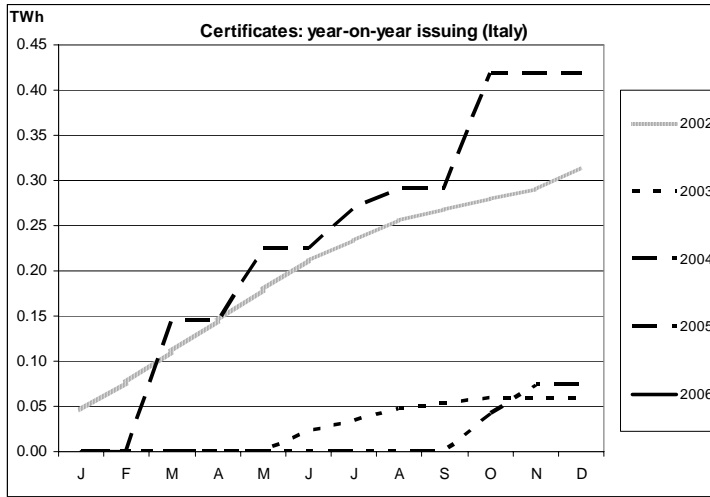
France. The French market, while comparatively small, continues to grow faster than previous years.



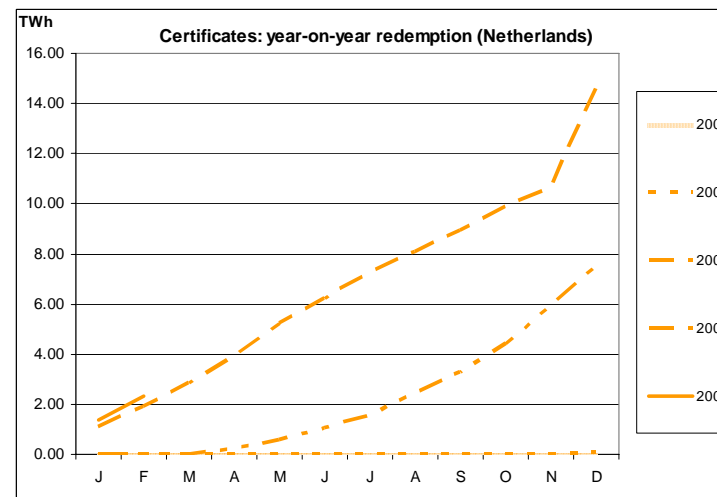
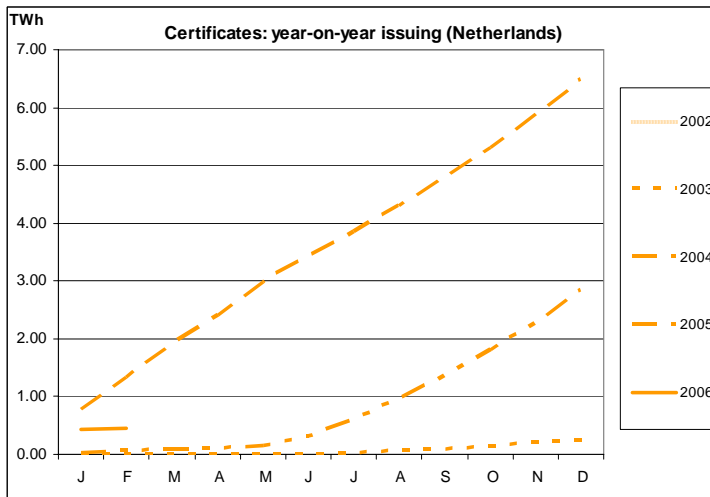
Germany. The German market has been very quiet this year.



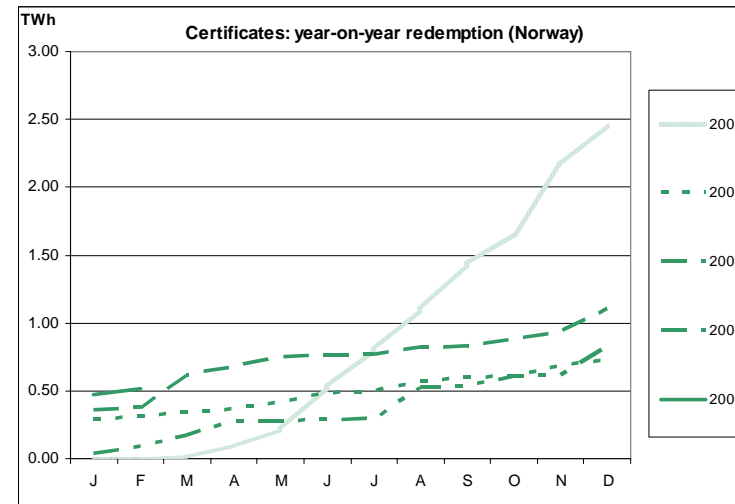
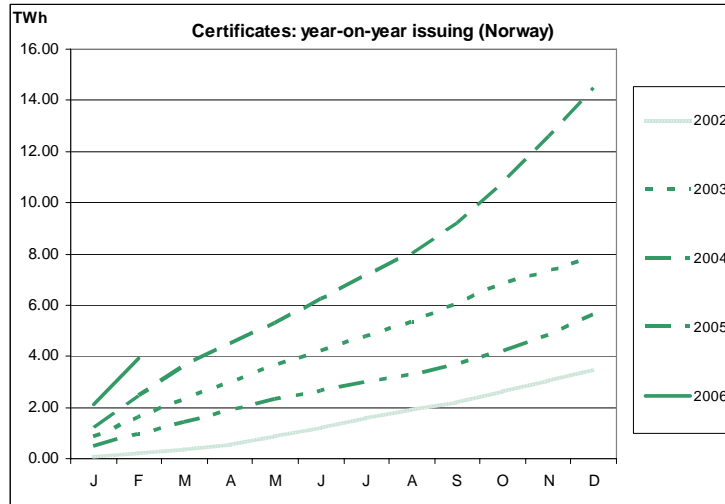
Italy. The Italian market has been inactive this quarter, although 2005 saw comparative growth.



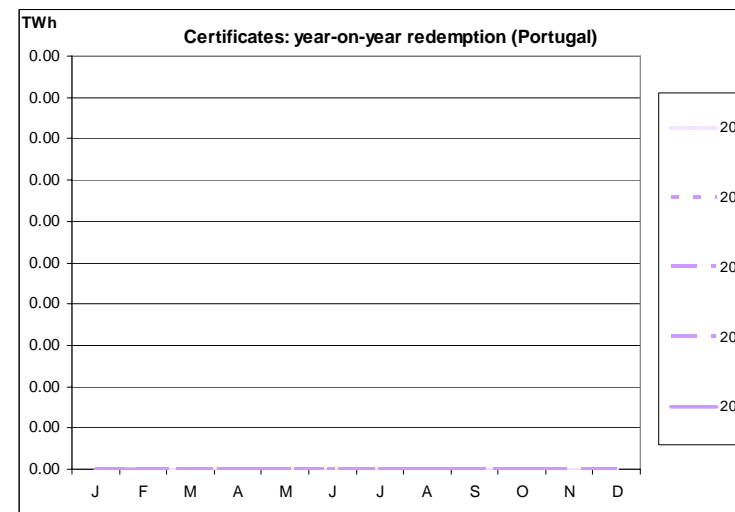
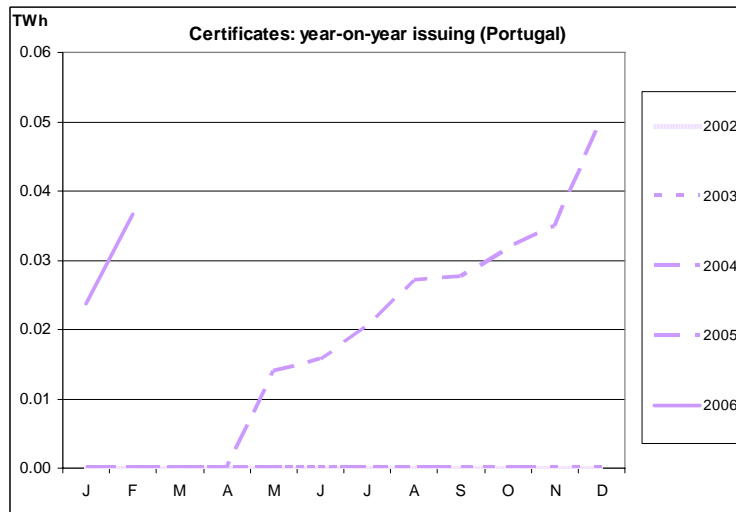
Netherlands continues its marked increase in all forms of activity, although issuing has been lower than last year.



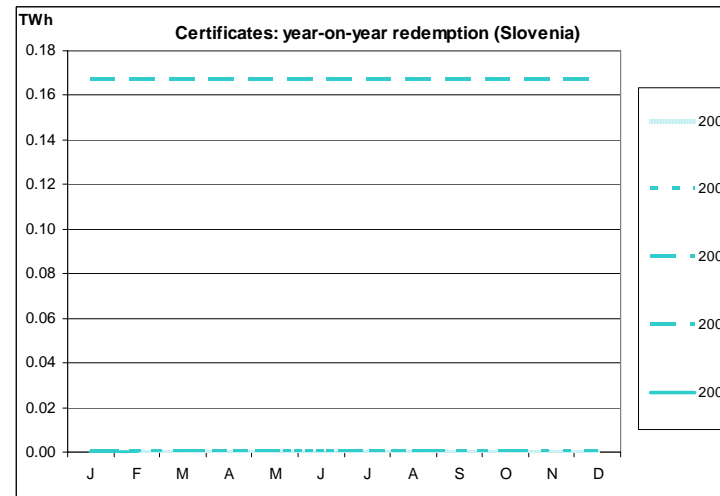
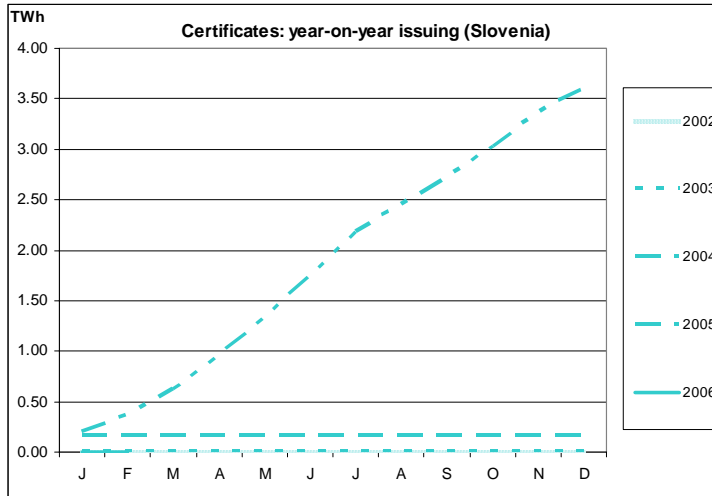
Norway continues to issue at a higher rate than ever before, although redemption has fallen away as certificates are exported.



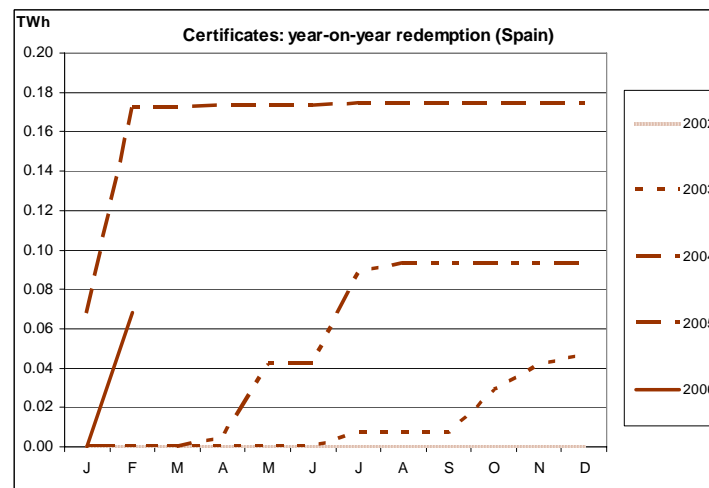
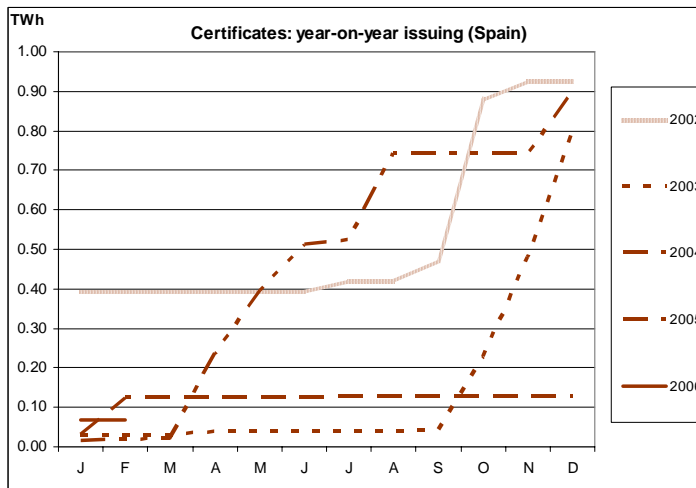
Portugal is still relatively inactive, although issuing continues at a higher rate than last year.



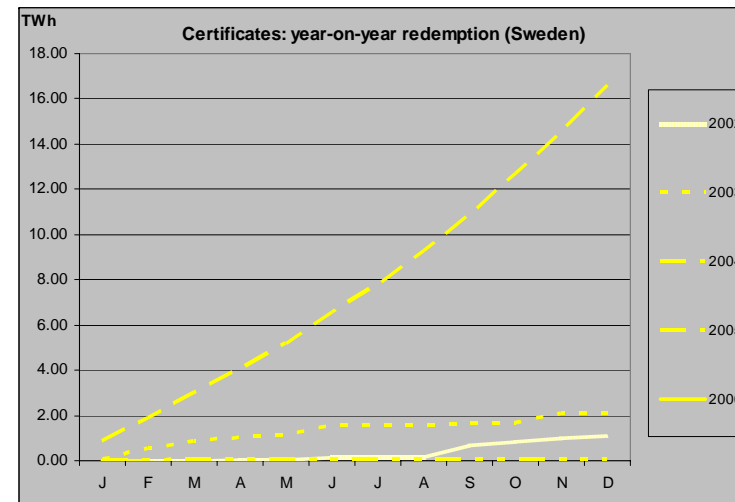
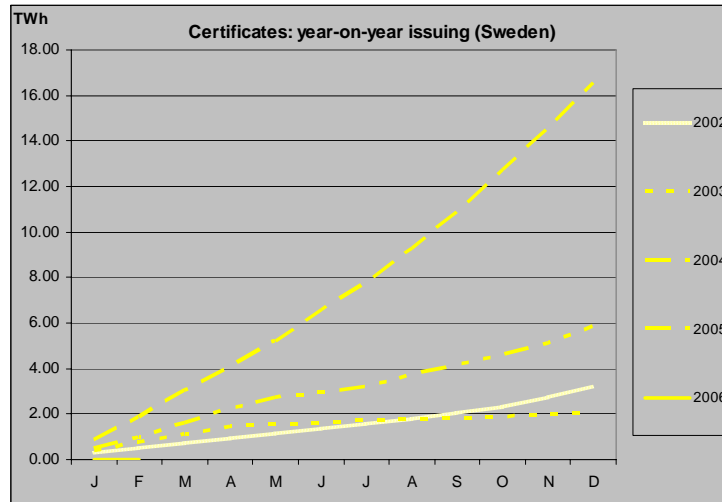
Slovenia has been virtually inactive since this time last year.



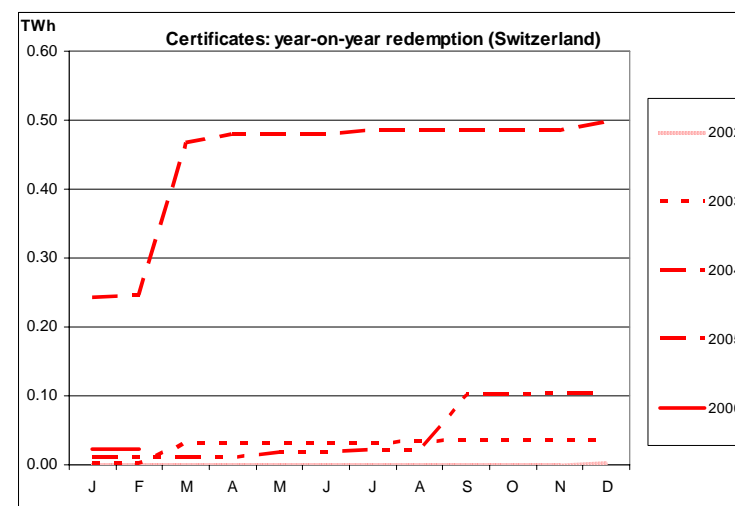
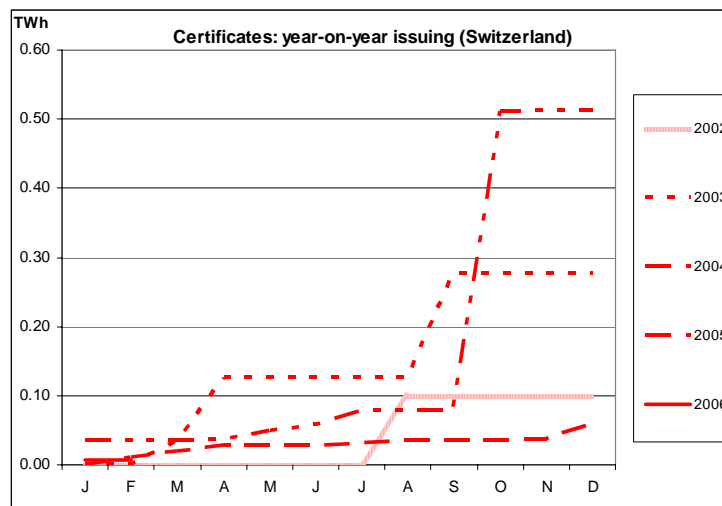
Spain has shown little activity during the last year, perhaps due to the current preparations for for guarantees of origin.



Sweden has issued and redeemed no certificates this quarter, due to the transfer of responsibilities from Svenska Kraftnat to Grexel. That being said, the substantial increase in activity throughout 2005 suggests normal service will resume in late March as Grexel commences work.

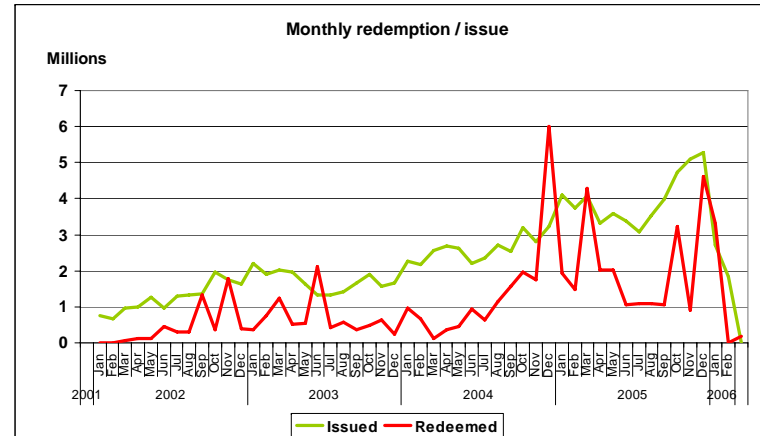
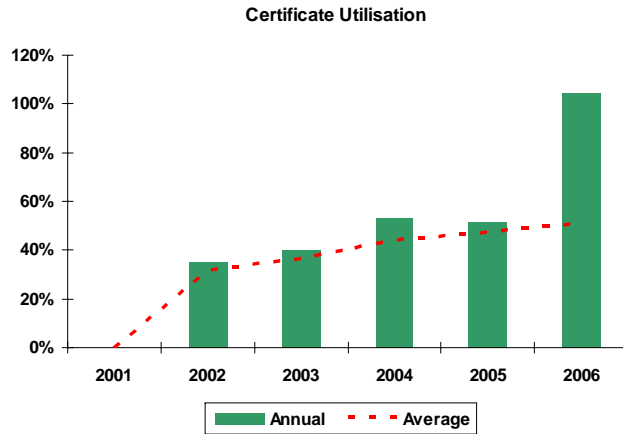


Switzerland has been virtually inactive this year, although with the move from VUE to ETRANS now in hand, there may be changes.



Realisation of value

The proportion of certificates that are redeemed has risen sharply to almost 50% overall, and above 100% this year (this is probably due to there being no issuing by Finland and Sweden).



Rolling three-month averages show that the market continues to grow at a relatively steady rate – the growth of international trade can be seen below.

