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Item 11 of the provisional agenda
Issues relating to the international transaction log

**Annual report of the administrator of the international
transaction log under the Kyoto Protocol**

Note by the secretariat*

Summary

This seventh annual report of the administrator of the international transaction log (ITL) provides information to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) on the activities of the ITL administrator from November 2010 to October 2011. This report also contains information on transactions of Kyoto Protocol units, as requested by the CMP at its sixth session. The CMP, by its decision 12/CMP.1, requested the Subsidiary Body for Implementation (SBI) to consider, at its future sessions, the annual reports of the ITL administrator. The SBI may wish to take note of the information contained in this report and provide guidance to the secretariat and Parties, as necessary, concerning the implementation of registry systems.

* This document was submitted after the due date in order to include information on the latest progress in this work.

Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Introduction.....	1–6	3
A. Mandate.....	1–3	3
B. Scope of the note.....	4–5	3
C. Possible action by the Subsidiary Body for Implementation.....	6	3
II. Work undertaken since the publication of the sixth annual report of the administrator of the international transaction log under the Kyoto Protocol.....	7–54	3
A. Summary of work undertaken.....	7–10	3
B. Implementation activities.....	11–20	4
C. Operational activities.....	21–38	6
D. Independent assessment of national registries and go-live activities.....	39–44	11
E. Registry System Administrators Forum and activities of the working groups.....	45–54	12
III. Organizational arrangements and resources.....	55–69	14
A. Resource requirements and expenditure.....	56–61	14
B. Income to support the activities of the administrator of the international transaction log.....	62–63	16
C. Actions to optimize the cost structure of the international transaction log.....	64–66	17
D. Proposals to optimize the cost structure of the international transaction log..	67–69	18
 Annexes		
I. Registry status as at 31 October 2011.....		19
II. Scale of fees and status of international transaction log fee payments for the biennium 2010–2011 as at 31 October 2011.....		20
III. Number of transactions proposed to the international transaction log from 1 November 2008 to 31 October 2011.....		21
IV. Number of Kyoto Protocol units subject to transactions proposed to the international transaction log from 1 November 2008 to 31 October 2011.....		23

I. Introduction

A. Mandate

1. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP), by its decision 13/CMP.1, requested the secretariat to establish and maintain an international transaction log (ITL) to verify the validity of transactions proposed by registries established under decisions 3/CMP.1 and 13/CMP.1. The ITL is essential for the implementation of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol.

2. The Conference of the Parties (COP), by its decision 16/CP.10, requested the secretariat, as the ITL administrator, to report annually to the CMP on organizational arrangements, activities and resource requirements and to make any necessary recommendations to enhance the operation of registry systems.

3. The CMP, by its decision 12/CMP.1, requested the Subsidiary Body for Implementation (SBI) to consider, at its future sessions, the annual reports of the ITL administrator, with a view to requesting the CMP to provide guidance, as necessary, in relation to the operation of registry systems.

B. Scope of the note

4. This seventh annual report of the ITL administrator provides information on the implementation of the ITL and its operational status, including the facilitation of cooperation with registry system administrators (RSAs) through the activities of the Registry System Administrators Forum (RSA Forum) and the independent assessment of registry systems. This annual report also contains information on transactions in the ITL, as requested by the CMP at its sixth session.

5. This report covers the reporting period from 1 November 2010 to 31 October 2011.

C. Possible action by the Subsidiary Body for Implementation

6. The SBI may wish to take note of the information contained in this report and request the CMP to provide guidance to the secretariat and Parties, as necessary, concerning the implementation of registry systems.

II. Work undertaken since the publication of the sixth annual report of the administrator of the international transaction log under the Kyoto Protocol

A. Summary of work undertaken

7. The ITL administrator established the RSA Forum and its working groups to coordinate the management and technical activities of the registry systems. The ITL administrator continued to convene the RSA Forum to guide the work of the working groups.

8. The activities related to the third annual assessment of national registries and accounting of Kyoto Protocol units were completed successfully. The work included improvements to the assessment procedure and a post-mortem analysis of experiences in the second year aimed at further improving the assessment procedure.

9. The ITL administrator continued to support the 'business as usual' operations of the ITL. Detailed information on the operational activities and ITL operational performance is provided in this report.

10. During the reporting period, particular attention was paid to the issue of security in registry systems and the optimization of the cost of the ITL.

B. Implementation activities

1. International transaction log releases

11. During the reporting period, there were two releases of the ITL software, which improved performance and stability and addressed software defects. These releases implemented changes that were decided under the change management procedure, such as the limit on unit blocks per transaction and the case of invalid acquiring registry code. The releases also contained improvements to the ITL administrator application user interface.

12. These releases of the ITL software have increased the ability of the ITL to handle the larger volumes of transactions proposed by registry systems, improved the reliability of transaction message flows across the various registry system implementations and resulted in more efficient incident handling by the ITL service desk.

2. International transaction log service desk

13. Two ITL service desk procedures related to the manual intervention process and the time drift were updated during the reporting period. The outcomes of these updates are a streamlined manual intervention process when the Community Independent Transaction Log (CITL) is involved and a more flexible time drift actions workflow, which gives registries more time to correct the issue before any change of operational status is taken.

3. Consolidated system of European registries

14. The consolidation of European national registries is a significant change to the registry system. An impact statement, developed in 2010 and mentioned in the previous annual report of the ITL administrator, concluded that registry recertification is required for this change. The following activities were planned in 2011 to test and recertify the 29 registries involved in the consolidation:

(a) Connectivity testing:

(i) In May 2011, the ITL administrator consulted with the European Commission (EC) to elaborate on details with regard to connectivity between the Consolidated European Registries (CSEUR) and the ITL;

(ii) In July and September 2011 the EC provided details on how digital certificate exchange will be used over secure communications between the consolidated registries, the European Union Transaction Log and the ITL;

(iii) The ITL administrator developed registry recertification requirements and a process for testing the connections;

(iv) Connectivity tests are planned to be carried out in October and November 2011;

- (b) Registry distinctness testing:
- (i) In order to assess the ability of changed registries to operate as distinct national registries within the platform of CSEUR, the ITL administrator developed a set of distinctness tests, which were agreed to by the Parties involved;
- (ii) Distinctness tests are planned to be carried out in November and December 2011;
- (c) Interoperability testing:
- (i) Annex H to the Data Exchange Standards (DES) provides a set of functional tests for evaluating a registry's ability to operate with the ITL. Successful completion of these functional tests is a necessary condition for a registry to go live with the ITL. These tests have been updated for the purpose of testing the consolidated system;
- (ii) Modified annex H test cases, test scripts and test manuals have been developed and evaluated in order to prepare for functional CSEUR tests;
- (iii) Topics covered in these tests are the following:
- Successful transactions;
 - Rejected and cancelled transactions;
 - Notifications and notification fulfilment;
 - Reconciliations;
 - Other non-functional aspects.
- (iv) Functional annex H tests are planned to be carried out in November and December 2011;
- (d) Readiness documentation review:
- The CSEUR registry consolidation is a significant change, so revised readiness documentation must be provided. For the consolidation of registry systems, a single document covering subject material that is common across national registries included on the CSEUR platform may be provided. Common readiness documentation was provided in September 2011. This was assessed in October 2011. National registries included on the CSEUR platform will provide specific readiness documentation in the standard independent assessment reports (SIAR) covering 2012 in 2013.

4. International transaction log technology refresh

15. In 2011, the ITL administrator, with its infrastructure provider, undertook a study to refresh the technical infrastructure of the ITL. A number of options were considered:

(a) 'As is' technology refresh. Replacing the infrastructure (servers and storage devices) with current models in an, as much as possible, like-for-like replacement. (This was not always possible, because the configuration of the current servers is no longer available);

(b) Refresh to virtual technology on shared infrastructure. Move from the current physical servers to virtual servers hosted on a shared infrastructure provided by the infrastructure provider;

(c) Refresh mass storage devices. In 2011, the mass storage devices failed a number of times, and although they are still under support, replacing them would improve the reliability of the system.

16. Initially, option (b) above was preferred, with the thinking that it would avoid further capital investment in infrastructure and would reduce operational expenditures. Further investigation proved that this option increased monthly operational and software licensing costs. Option (a) above was also rejected, as:

- (a) The current servers' support/warranty could be extended until 2015;
- (b) It required increased operational and software licensing costs;
- (c) It required a large investment in new infrastructure;
- (d) Transitioning to the new infrastructure would incur significant costs.

17. Ultimately, option (c) above was selected, given that existing operational service levels were maintained, the one known unreliability linked to the storage device was removed and minimal additional expenses were required.

5. Registry system administrators extranet

18. The RSA extranet is the central location for sharing all technical and planning information among RSAs. It contains all meetings documentation for the RSA Forum and working groups, an up-to-date contact list of RSAs, operational procedures documentation, technical and organizational documentation, planning documents and frequently asked questions.

19. The current RSA extranet is built on top of a content management system that has been withdrawn from the market. As support for the product has not been provided since 30 April 2010, the RSA extranet will be migrated to a new system.

20. During the reporting period, all relevant documentation residing on the current system was migrated to a new platform. In addition, new functionality regarding contact and security certificate management was implemented.

C. Operational activities

1. Registry testing

21. In 2011, the secretariat organized the testing of transactions involving more than 3,000 unit blocks in both the developer and registry environments. The main goal of the testing was to validate the registries' implementation of the new 2027 and 2028 checks. Six Parties, representing four different software developers, took part in this activity.

22. Structured registry testing has continued in the registry and registry developer environments. As at 15 September 2011, 467 issues have been registered following developer tests for registries and 430 issues have been resolved. The rate of new issues in the registry developer environment continues to decrease; during the reporting period an average of four new issues per month were reported.

2. Disaster recovery testing

23. The disaster recovery test took place on 11 and 12 June 2011, with some preparatory actions completed ahead of the test on 10 June 2011. The ITL was failed over to the disaster recovery site and operated as expected. It was then failed back to the primary site.

24. The test was an overall success and followed the established plan. Minor issues outside of the ITL operator's control were encountered with one of the participating registries, but were mitigated and did not influence the overall positive outcome of the testing.

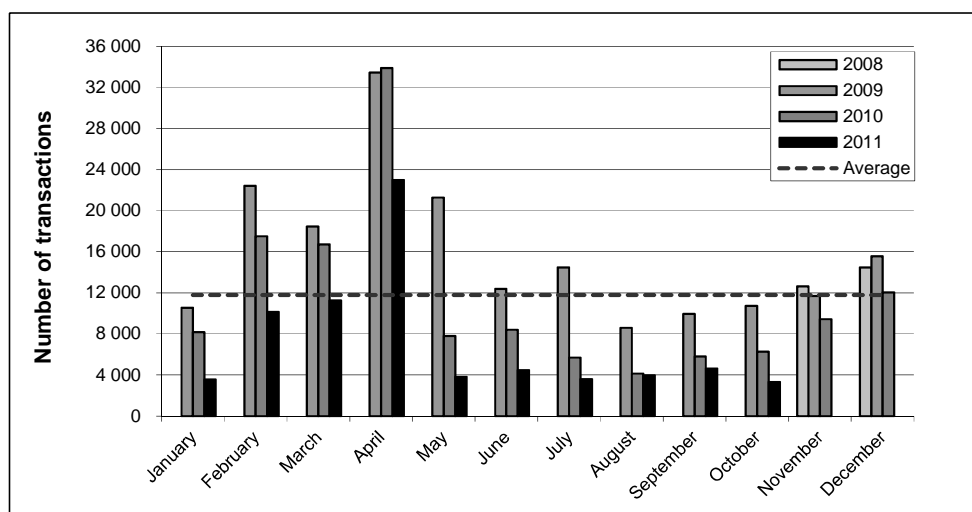
25. The main issue was around the length of time some activities took to complete; however, all steps were necessary in order to ensure the integrity of the production system during disaster recovery. Lessons learned are being considered so as to improve the disaster recovery test in 2012.

3. Operational performance

26. The number of transactions proposed to the ITL in the production environment is shown for each month since November 2008 in figure 1.

Figure 1

Number of transactions proposed to the international transaction log in the production environment since November 2008



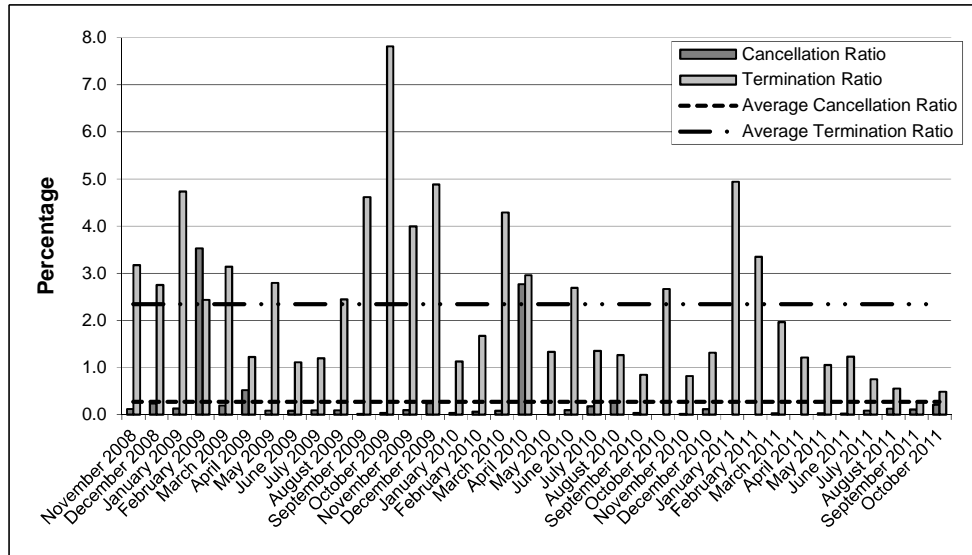
27. The transaction termination ratio, which is defined as the number of terminated transactions, (i.e. discrepant transactions) divided by the number of transactions proposed in a given time frame and multiplied by 100, is a good indicator of the level of internal checking performed by a registry to ensure that the transactions it proposes and its data records are accurate. The change in this ratio since November 2008 is shown in figure 2. The high number of terminated transactions in January and February 2011 is due to the suspension of trading of the European Union emissions trading scheme (EU ETS) registries following security incidents at the start of the year. After the gradual resumption of trading in the ETS registries was completed (in March 2011), the transaction termination ratio has been steady, at around 1 per cent of the proposed transactions.

28. The transaction cancellation ratio (the number of cancelled transactions; that is, transactions not finalized within 24 hours, divided by the number of proposed transactions in a given time frame and multiplied by 100) is a good indicator of the extent of communication problems within registry systems. Changes in this ratio since November 2008 are also shown in figure 2. The transaction cancellation ratio was also impacted by the temporary suspension of trading in EU ETS registries. No transactions were cancelled in January and February 2011. The average cancellation ratio for the period November 2010 to October 2011 is 0.03. The value for the previous year (from November 2009 to October

2010) was 0.33. This is due to technical improvements in the ITL and in service desk procedures.

Figure 2

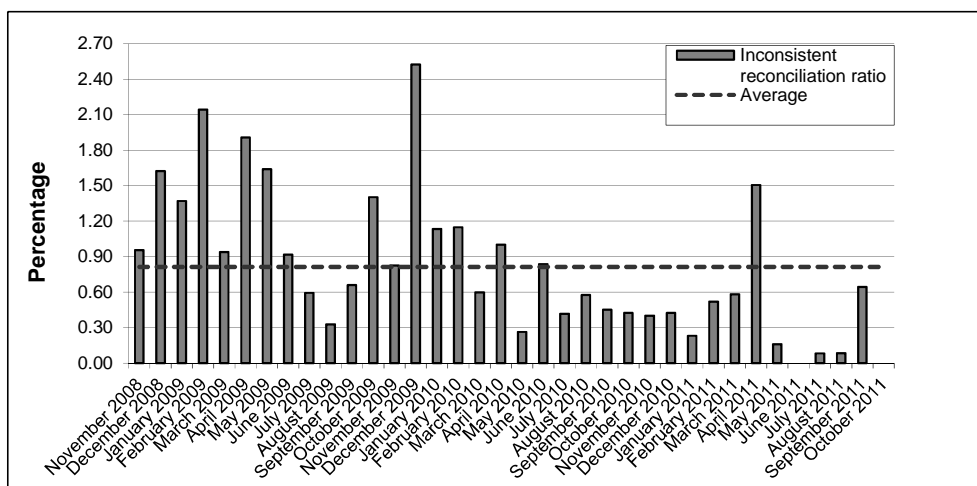
Changes in the production environment of the international transaction log of the transaction cancellation and termination ratios since November 2008



29. The inconsistent reconciliation ratio (the number of inconsistent reconciliations divided by the number of reconciliations initiated in a given time frame multiplied by 100) is a good indicator of the capacity of registries to maintain accurate records of their Kyoto Protocol unit holdings. Changes in the inconsistent reconciliation ratio since November 2008 are shown in figure 3. No reconciliation inconsistencies were witnessed in June 2011.

Figure 3

Changes in the production environment of the international transaction log of the inconsistent reconciliation ratio since November 2008

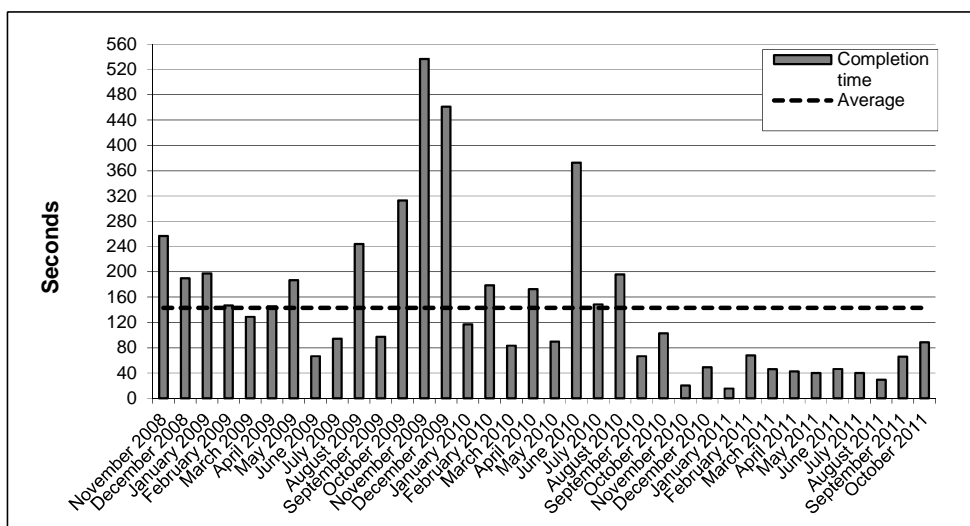


30. Unavailability of the ITL prevents registries from performing their transactions and should be kept to a minimum. The unavailability of the ITL is composed of its planned outages, where the RSAs are informed ahead of time of any down time, and unplanned outages. The ITL availability for October 2010 to September 2011 was 99.55 per cent.

31. Since November 2008, transactions proposed in production were completed in the time frames displayed in figure 4. The transaction completion time includes the latency incurred by the travel time of messages through the registry network and the processing time within registries, the ITL and the CITL if an EU ETS registry is involved in the transaction. Owing to improvements in the ITL and the DES, the completion time has significantly decreased since November 2010.

Figure 4

Completion time of transactions proposed to the international transaction log in the production environment since November 2008

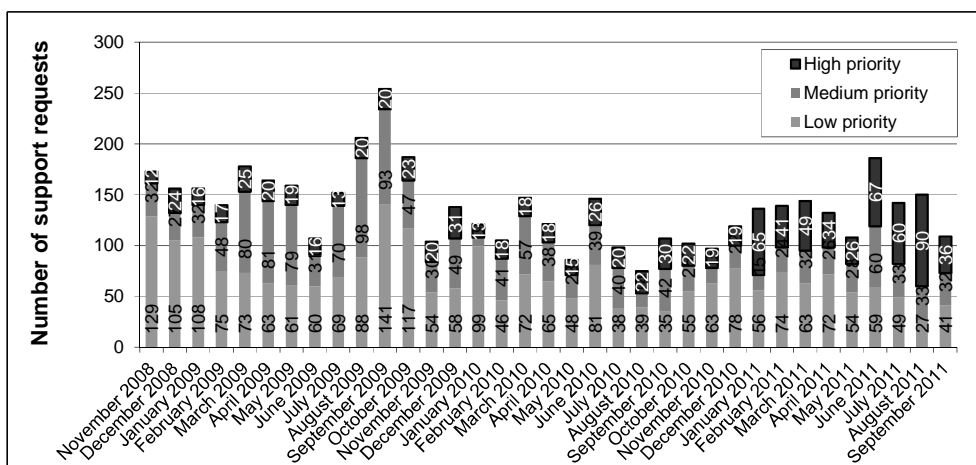


4. International transaction log service desk

32. The ITL service desk is the focal point for all support provided to RSAs regarding the operation and testing of registries. The ITL service desk also carries out the technical activities related to the initialization and go-live processes, under the supervision of the secretariat. The ITL service desk provides continuous support to RSAs from 8 p.m. on Sunday until midnight on Friday based on Coordinated Universal Time.

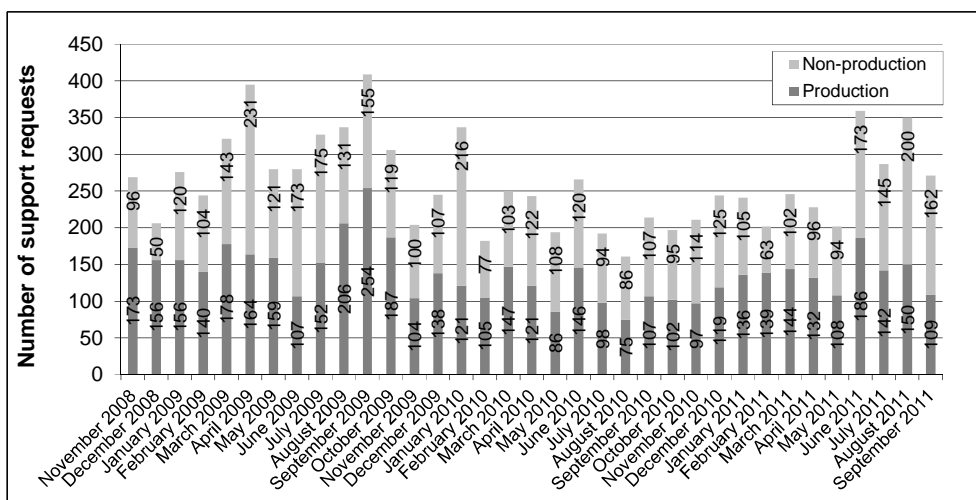
33. Figure 5 shows the changes in the number of support requests handled by the ITL service desk in the ITL production environment during the reporting period, by priority. High-priority support requests are raised when a registry-ITL connectivity alert is triggered for one or more registries or when the processing of transactions from one or more registries cannot be performed. Medium-priority support requests are related to issues concerning the performance or stability of the ITL that may impact on transaction processing. Low-priority support requests relate to information items or performance issues for which transaction processing is not directly affected. The increasing number of support requests at the end of the reporting period is due to an increase in incidents related to registry connectivity.

Figure 5
Number of support requests handled by the international transaction log service desk in the international transaction log production environment



34. Figure 6 shows the changes in the number of support requests handled by the ITL service desk in the production environment and the non-production environment.

Figure 6
Number of support requests handled by the international transaction log service desk in the production environment and the non-production environment over time



5. Support of communication tools

35. The secretariat ITL team continued to maintain the web pages of the UNFCCC website relating to the registry systems under the Kyoto Protocol. These web pages contain information about the ITL, registry functions, the registry initialization process, initial independent assessment reports, registry status, including the information made publicly available by the ITL administrator pursuant to decision 16/CP.10, and the list of initialized and live registries.

36. In January 2011, the ITL administrator published the information requested by decision 16/CP.10 regarding the operational status of each registry system, discrepancies and inconsistencies, required actions specified in notifications sent by the ITL that have not

been completed in the specified time frame and aggregated information on unit holdings in each registry at the end of the calendar year. This information, which can be used by RSAs to verify the content of their respective standard electronic format (SEF) tables prior to the annual submission, is publicly available on the UNFCCC website.¹

6. Security incidents

37. In December 2010 and January 2011, a number of registries were targeted by security attacks that led to potentially fraudulent transactions. The ITL administrator suspended the virtual private network connection of the affected registries and these registries were requested to provide a security incident report to the ITL administrator before being allowed to be operational again in the ITL, in accordance with the agreed procedure.

38. It should be noted that the recurring security attacks against a number of EU national registries resulted in a decision being taken by the Directorate-General for Climate Action of the European Commission on 19 January 2011 to temporarily suspend trading for EU ETS national registries. These registries were progressively allowed to fully trade again from 25 January 2011. These events had an impact on the transaction termination ratio and the cancellation ratio in January and February, as mentioned in paragraphs 27 and 28 above.

D. Independent assessment of national registries and go-live activities

1. Initial assessment activities

39. Initialization is the formal process by which the ITL administrator verifies that a registry has fulfilled the technical requirements set out in the DES. Initialization is a prerequisite for a registry to commence operations with the production environment of the ITL. The ITL administrator did not support initialization activities during the reporting period. As at 31 October 2011, 38 initial independent assessment reports had been issued, as shown in annex I.

2. Annual assessment activities

40. The standardized testing and independent assessment reporting process mentioned in decision 16/CP.10, paragraph 5(a), hereinafter referred to as the SIAR process, expands on the initial independent assessment of national registries by defining the process to be followed by RSAs when reporting annually on changes in the national registry, providing information on accounting of Kyoto Protocol units, and defining the activities to be carried out by assessors when reviewing reported changes and accounting information. The outcome of the SIAR process is forwarded to expert review teams for consideration as part of the review of national registries under Article 8 of the Kyoto Protocol.

41. As noted in the previous annual report of the ITL administrator, the secretariat has continued to encourage and promote the engagement of RSAs in the SIAR process, with a view to stimulating the sharing of information on national registry reporting and review, thus improving the quality of national registry information in annual submissions and optimizing the ITL costs. In January 2011, the ITL administrator reissued its invitation to all RSAs to participate in the SIAR process as assessors. As a result, 27 RSAs contributed to the SIAR process. In 2011, 38 Parties submitted the SEF tables providing information on Kyoto Protocol units for 2010. Four submissions of SEF tables were initially found to be inconsistent with the ITL records. The Parties concerned corrected their submissions and the resubmissions were found to be consistent with the ITL records. Thirty-eight national

¹ <http://unfccc.int/kyoto_protocol/registry_systems/registry_status/items/4765.php>.

inventory reports, which include the information on changes to the national registry and Kyoto Protocol units assessed under the SIAR process, were submitted during 2011.

42. The SIAR process in 2011 was successful, owing to the growing experience of RSAs with the process. The following issues were identified during the 2011 assessment cycle:

(a) The public information to be provided in accordance with decision 13/CMP.1 by Parties through the national registry user interface was more complete than in previous years. However, for some Parties, the public information was still lacking, despite the guidance on reporting of public information provided in the SIAR documentation, and clarification was often requested by the assessors;

(b) Some Parties failed to accurately report on changes made in their registry database, infrastructure and/or procedure to support a user authentication mechanism. The Parties concerned have been encouraged to report on these matters in a more substantive manner in their next annual submission.

43. After the completion of all assessments in September 2011, a post-mortem analysis of the SIAR process in 2011 was carried out, aimed at identifying areas in which adjustments and improvements are needed.

3. Go-live activities

44. During the reporting period, the ITL administrator did not support any go-live process of registries. As at 31 October 2011, 38 registries are connected to the ITL.

E. Registry System Administrators Forum and activities of the working groups

1. Registry System Administrators Forum

45. The ITL administrator convenes the RSA Forum to coordinate the technical and management activities of RSAs and to provide a platform for RSAs to cooperate with each other and to provide input to the development of common operational procedures, recommended practices and information sharing measures for registry systems, in accordance with decision 16/CP.10.

46. Participation in the RSA Forum is open to all administrators of national registries, administrators of the clean development mechanism registry, supplementary transaction log administrators (such as the CITL) and ITL vendors. The ITL administrator invites a number of participants from Parties to the Kyoto Protocol that are not included in Annex I to the Convention to participate.² Although these Parties are not required under the Kyoto Protocol to implement registry systems, the participation of such experts increases the transparency of the proceedings of the RSA Forum and allows the sharing of experiences with registry systems under the Kyoto Protocol with experts implementing similar systems for environmental policy purposes in such Parties.

47. The thirteenth meeting of RSAs was held on 10 and 11 October 2011. The key objectives of the meeting were the following:

- (a) To provide RSAs with an update of operational status and issues;
- (b) To share plans for the consolidation of the European national registries;
- (c) To provide feedback on the independent assessment report process for 2010;

² In accordance with decision 16/CP.10, paragraph 6(c).

- (d) To discuss reporting requirements for the end of the first commitment period;
- (e) To introduce the new RSA extranet.

2. Activities of the working groups under the Registry System Administrators Forum

48. During the reporting period, the secretariat and RSAs continued to work with the working groups in the areas of incident and problem management, security, fragmentation, change management and the SIAR process. The work performed by the working groups and the Change Advisory Board (CAB) is outlined in paragraphs 49–54 below.

49. The **fragmentation working group** recommended to the CAB to limit the number of unit blocks in transactions. This recommendation was accepted and has been implemented. The working group also undertook to study the impacts of fragmentation on reconciliation by running a limited coordinated test of large reconciliations with Japan in February 2011. After this test was completed the group agreed that no further testing was required. The final meeting of the working group was held on 23 May 2011. The members of the group concluded that it had exhausted its tasks and activities assigned to it by the CAB, and that the group could be wound up.

50. The **problem management working group** met once in the reporting period to tackle problem management for registry systems. In coordination with the ITL operator, an initial release of the problem management procedure was shared with the working group during its first meeting. The comments made following this meeting were incorporated in the latest draft release, which is close to being agreed as there are no pending key issues.

51. The **registry security working group** was established during the tenth CAB meeting to tackle security issues in registry systems. The working group produced a document summarizing security recommendations to registries and registry operators. Furthermore, the group discussed several proposals aimed at strengthening the registry system as a whole.

52. The **standard independent assessment report working group** met once during the reporting period to improve the SIAR procedure based on the 2011 assessment cycle.

53. The **end of commitment period working group** was established during the thirteenth meeting of the RSA Forum with the objective of discussing and agreeing reporting requirements and procedures related to the accounting of Kyoto Protocol units at the end of the commitment period.

54. The **CAB**, established in accordance with the change management procedure, met twice during the reporting period and considered the changes described in table 1.

Table 1

Changes considered by the Change Advisory Board during the reporting period

<i>Change title</i>	<i>Date proposed</i>	<i>Status as at 31 October 2011</i>
Consolidation of European Union registries	25 September 2010	Approved
Improvement of the international transaction log–Community Independent Transaction Log manual interventions	15 November 2010	Closed
Updates to the SIAR ^a procedure in preparation for the 2011 assessment cycle	18 November 2010	Closed
Invalid acquiring registry response code	8 December 2010	Closed

^a Standard independent assessment report.

III. Organizational arrangements and resources

55. The functions of the ITL administrator have been assumed by the Information Technology Services (ITS) programme of the secretariat. The ITS programme is also responsible for the software delivery and information technology infrastructure support for the secretariat.

A. Resource requirements and expenditure

56. The resource requirements for activities relating to the ITL and the ITL administrator, to be funded from supplementary sources for the bienniums 2006–2007,³ 2008–2009,⁴ 2010–2011⁵ and 2012–2013,⁶ were identified in the proposed programme budget for each of these bienniums.

57. The budget for the ITL for the biennium 2010–2011,⁷ not including the deduction of fees paid by Parties which were not listed in annex II to decision 11/CMP.3, is EUR 6,150,617. This budget includes a working capital reserve equal to EUR 245,080.

58. The CMP, by its decision 11/CMP.3, requested the Executive Secretary to provide a breakdown of the expenditures on the development and operation of the ITL with a view to optimizing the cost structure. Table 2 shows the expenditure of the ITL in the biennium 2010–2011, by object of expenditure.

Table 2

Expenditure of the international transaction log for the biennium 2010–2011

(Euros)

<i>Object of expenditure</i>	<i>1 July 2011–</i>		<i>Total</i>
	<i>As at 30 June 2011</i>	<i>31 December 2011</i>	
Staff costs	1 076 896	358 965	1 435 681
Contractors and consultants	2 400 668	838 278	3 238 946
Expert groups	12 896	15 000	27 896
Travel of staff	12 807	8 000	20 807
General operating expenses and contributions to common services	132 377	52 467	184 844
Programme support costs	475 504	165 452	640 956
Total expenditure	4 111 148	1 438 162	5 549 130

59. Table 3 shows the breakdown of expenditure expected for contractors and consultants for the ITL in 2011. Operation services are activities performed by the developer and operator of the ITL to sustain all operations of the ITL, such as maintaining the infrastructure and operating the ITL service desk. Software maintenance services are services performed by the developer of the ITL to support the software implementation activities outlined in this report. Operational procedure services cover the expenditure required to deliver services related to the elaboration and execution of the common

³ FCCC/SBI/2005/8/Add.2.

⁴ FCCC/SBI/2007/8/Add.2.

⁵ FCCC/SBI/2009/2/Add.3.

⁶ FCCC/SBI/2011/2/Add.3.

⁷ Decision 10/CMP.5.

operational procedures pursuant to decision 16/CP.10. Consultancies expenditures are incurred when the secretariat needs to consult experts in specific fields.

Table 3

Breakdown of planned expenditure for contractors and consultants for the international transaction log in 2011

<i>Object of expenditure</i>	<i>Percentage of expenditures for contractors and consultants</i>
Operation services	69
Production and disaster environments	46
Service desk	14
Registry developer support	6
Security and disaster recovery testing	3
Software maintenance services	21
Operational procedures services	5
Consultancies	4
Legal support	1

60. The CMP, at its fourth session, requested the ITL administrator to report on planned activities and the related resource requirements with a view to ensuring that adequate means are available to perform these activities.⁸

61. In the biennium 2010–2011, the focus of activities shifted from implementing registry systems to ensuring that these systems continue to operate reliably. For 2010 and 2011 the staffing level is composed of three P-4 positions, two P-3 positions and two full-time positions at the General Service level. These members of staff perform the following activities:

- (a) Development activities:
 - (i) Initializing and performing go-live events for the national registries not yet connected to the ITL or potential new national registries;
 - (ii) Continuing to support future changes to the DES and releases of the ITL as a result of operational experience and changes adopted under the common operational procedures for change management;
 - (iii) Steering the work of a working group to deal with technical issues related to the end of the first commitment period under the Kyoto Protocol and its additional period for fulfilling commitments, with a view to adopting a common operational procedure and agreed formats for data exchange;
 - (iv) Upgrading the hardware and software in the ITL infrastructure, as necessary;
 - (v) Completing the migration of the RSA extranet to a new platform;
 - (vi) Supporting and completing the work arising from the change request related to the consolidation of EU national registries;
- (b) Operational activities:
 - (i) Continuing to support the live operations and test activities of the ITL system and the registry systems in all supported environments;

⁸ FCCC/KP/CMP/2008/11, paragraph 72.

- (ii) Performing an annual disaster recovery test and security audit on the ITL and taking into account the results of this test and audit to enhance the reliability and security of the ITL;
- (iii) Maintaining the ITL data warehouse;
- (iv) Performing all required activities to support the common operational procedures, including change management, and the implementation of the common operational procedure for security and problem management for registries;
- (v) Continuing to facilitate cooperation among RSAs through the RSA Forum, its working groups and registry developers;
- (vi) Continuing to support the obligations of the ITL administrator in accordance with all relevant decisions of the COP and the CMP.

B. Income to support the activities of the administrator of the international transaction log

62. As at 01 November 2011, USD 1,963,788 in ITL fees had been received from Parties for 2007,⁹ USD 4,518,060 for 2008, USD 4,745,041 for 2009, EUR 3,014,423 for 2010 and EUR 3,014,423 for 2011, with EUR 0 outstanding for 2011. Some Parties have already paid their 2012 ITL fees, which amount to EUR 509,774. The secretariat would like to express its gratitude to Parties that have paid their fees. The status of fees as at 31 October 2011 is shown in tables 4 and 5.

Table 4

Fees for international transaction log activities in the period 2007–2009 and cumulative shortfall as at 31 October 2011

(United States dollars)

	2007	2008	2009
Fees budgeted	2 500 000	4 518 060	4 745 741
Fees received	1 963 788	4 518 060	4 745 041
Shortfall	536 212	0	0
Cumulative shortfall	536 212	536 212	536 212

Table 5

Fees for international transaction log activities in the period 2010–2011 and cumulative shortfall as at 31 October 2011

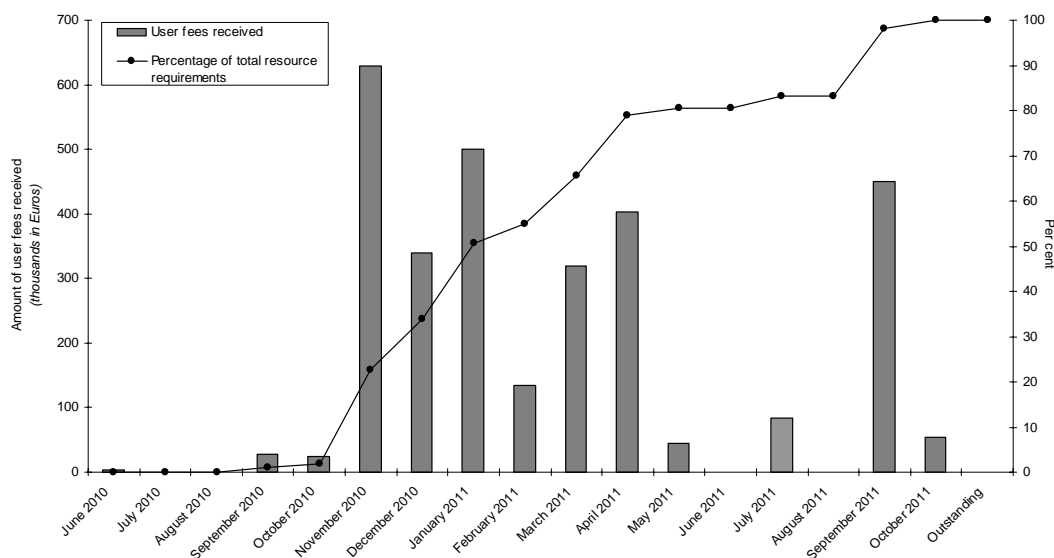
(Euros)

	2010	2011
Fees budgeted	3 014 423	3 014 423
Fees received	3 014 423	3 014 423
Shortfall	0	0
Cumulative shortfall	0	0

⁹ This figure differs from the previous annual report of the ITL administrator as USD 48,693 in user fees for 2007 was received in July 2011.

63. Delays in receiving ITL fees from Parties have already been noted in previous annual reports of the ITL administrator.¹⁰ The situation has not improved in 2011, as more than EUR 1,000,000 (35 per cent of the fees budgeted for 2011) was still due as at 1 April 2011. Figure 7 shows the ITL fees received for 2011 in 2010 and 2011 as at 31 October 2011 and the cumulative percentage of resource requirements, by month.

Figure 7
User fees for 2011 received in 2010 and 2011



C. Actions to optimize the cost structure of the international transaction log

64. The SBI, at its thirty-fourth session, requested the ITL administrator to continue to investigate and implement further efficiencies with a view to reducing the cost of the ITL in the biennium 2014–2015.¹¹

65. In order to reduce further the ITL costs, the secretariat has taken the following actions, which have not affected the level of service to registries:

- (a) Minimized changes to the DES, the ITL software and its infrastructure, and common operational procedures;
- (b) Continued to involve RSAs as assessors in the SIAR process;
- (c) Reduced the frequency of RSA Forum meetings;
- (d) Reviewed the digital certificate replacement procedure.

66. The transfer of the ITL to a shared infrastructure was also investigated but eventually rejected because of the increase in operational costs and the significant upfront transition costs. The increase in operational costs is attributable to the advantageous software licensing scheme currently in place.

¹⁰ FCCC/KP/CMP/2006/7, FCCC/KP/CMP/2007/5, FCCC/KP/CMP/2008/7, FCCC/KP/CMP/2009/19 and FCCC/KP/CMP/2010/8.

¹¹ FCCC/SBI/2011/7, paragraph 195.

D. Proposals to optimize the cost structure of the international transaction log

67. The secretariat is seeking ways to optimize further the ITL cost structure and is currently considering the following measures:

(a) Improving the RSA extranet, with a view to providing RSAs with direct access to their support requests, thereby reducing the ITL service desk costs;

(b) Revising the usage of the non-production ITL environments, in particular the registry and registry developer environments;

(c) Pooling of ITS staff, with a view to compensating the Trust Fund for the International Transaction Log for activities performed by ITL staff in support of other activities and allowing the ITL to make use of skilled resources that are only occasionally needed.

68. As noted in the previous annual report of the ITL administrator, a large share of the expenditures related to the ITL service desk are for manual interventions performed when transactions are delayed or discrepant and when reconciliations are delayed or inconsistent. A few registries are responsible for the majority of discrepant transactions and inconsistent reconciliations: six registries are responsible for 90 per cent of the discrepancies and for 82 per cent of the inconsistencies. The ITL service desk related expenditures would be reduced should these registries review their implementation and operating practices.

69. The CMP, in its decision 9/CMP.6, requested the ITL administrator to provide, in its annual reports for 2011 and 2012, information on transactions of Kyoto Protocol units. The information on the number of transactions and the number of units involved in transactions proposed to the ITL from November 2008 to October 2011 is given in annexes III and IV.

Annex I

Registry status as at 31 October 2011

Table 6
Registry status as at 31 October 2011

<i>Registry</i>	<i>Date independent assessment report was issued</i>	<i>Date of live connection to the international transaction log</i>
Australia	19 December 2008	19 December 2008
Austria	12 July 2007	16 October 2008
Belgium	7 December 2007	16 October 2008
Bulgaria	10 April 2008	16 October 2008
Canada	12 June 2008	12 February 2010
Croatia	30 April 2008	11 December 2009
Clean development mechanism	Not applicable	14 November 2007
Czech Republic	1 August 2007	16 October 2008
Denmark	16 October 2008	16 October 2008
Estonia	12 November 2007	16 October 2008
European Community	1 February 2008	16 October 2008
Finland	16 November 2007	16 October 2008
France	9 November 2007	16 October 2008
Germany	23 November 2007	16 October 2008
Greece	27 September 2007	16 October 2008
Hungary	8 August 2007	11 July 2008
Iceland	3 January 2008	6 May 2010
Ireland	19 September 2007	16 October 2008
Italy	5 December 2007	16 October 2008
Japan	9 July 2007	14 November 2007
Latvia	13 November 2007	16 October 2008
Liechtenstein	7 December 2007	21 October 2008
Lithuania	29 October 2007	16 October 2008
Luxembourg	7 December 2007	16 October 2008
Monaco	9 April 2008	Not available
Netherlands	19 September 2007	16 October 2008
New Zealand	27 July 2007	3 December 2007
Norway	27 September 2007	21 October 2008
Poland	5 December 2007	16 October 2008
Portugal	24 October 2007	16 October 2008
Romania	30 April 2008	16 October 2008
Russian Federation	12 November 2007	4 March 2008
Slovakia	13 September 2007	16 October 2008
Slovenia	25 October 2007	16 October 2008
Spain	8 October 2007	16 October 2008
Sweden	9 November 2007	16 October 2008
Switzerland	8 August 2007	4 December 2007
Ukraine	10 December 2007	28 October 2008
United Kingdom	16 August 2007	16 October 2008

Annex II

**Scale of fees and status of international transaction log fee payments for
the biennium 2010–2011 as at 31 October 2011**

Table 7

**Scale of fees and status of international transaction log fee payments for the biennium 2010–2011
as at 31 October 2011**

(Euros)

Party	Scale of fees	2010			2011		
		Budgeted	Received	Outstanding	Budgeted	Received	Outstanding
Australia	2.342	70 609	70 609	0	70 609	70 609	0
Austria	1.509	45 482	45 482	0	45 482	45 482	0
Belgium	1.875	56 517	56 517	0	56 517	2 986	0
Bulgaria	0.034	1 019	1 019	0	1 019	1 019	0
Canada	4.324	130 330	130 030	0	130 330	130 330	0
Croatia	1.064	32 062	32 062	0	32 062	32 062	0
Czech Republic	0.478	14 413	14 413	0	14 413	14 413	0
Denmark	1.257	37 882	37 882	0	37 882	37 882	0
Estonia	0.027	815	815	0	815	815	0
European Community	2.552	76 928	76 928	0	76 928	76 928	0
Finland	0.959	28 914	28 914	0	28 914	28 914	0
France	10.139	305 647	305 647	0	305 647	305 647	0
Germany	14.589	439 762	439 762	0	439 762	439 762	0
Greece	1.013	30 544	30 544	0	30 544	30 544	0
Hungary	0.415	12 521	12 521	0	12 521	12 521	0
Iceland	0.701	21 139	21 139	0	21 139	21 139	0
Ireland	0.757	22 828	22 828	0	22 828	22 828	0
Italy	8.639	260 427	260 427	0	260 427	260 427	0
Japan	14.199	428 028	428 028	0	428 028	428 028	0
Latvia	0.031	932	932	0	932	932	0
Liechtenstein	0.179	5 387	5 387	0	5 387	5 387	0
Lithuania	0.053	1 601	1 601	0	1 601	1 601	0
Luxembourg	0.145	4 368	4 368	0	4 368	4 368	0
Monaco	0.172	5 183	5 183	0	5 183	5 183	0
Netherlands	3.186	96 029	96 023	6	96 029	96 029	0
New Zealand	0.913	27 516	27 516	0	27 516	27 516	0
Norway	2.204	66 446	66 446	0	66 446	66 446	0
Poland	0.852	25 682	25 682	0	25 682	25 682	0
Portugal	0.896	27 021	27 021	0	27 021	27 021	0
Romania	0.119	3 581	3 581	0	3 581	3 581	0
Russian Federation	2.607	78 588	78 588	0	78 588	78 588	0
Slovakia	0.107	3 232	3 232	0	3 232	3 232	0
Slovenia	0.163	4 921	4 921	0	4 921	4 921	0
Spain	5.048	151 168	151 168	0	151 168	152 168	0
Sweden	1.822	54 916	54 916	0	54 916	54 916	0
Switzerland	2.623	79 054	79 054	0	79 054	79 054	0
Ukraine	0.709	21 372	21 372	0	21 372	21 372	0
United Kingdom	11.298	340 559	340 559	0	340 559	340 559	0
Total	100.000	3 014 423	3 014 423	0	3 014 423	3 014 423	0

Annex III

Number of transactions proposed to the international transaction log^a from 1 November 2008 to 31 October 2011

Table 8

Number of transactions proposed to the international transaction log^a from 1 November 2008 to 31 October 2011

<i>Registry</i>	<i>Acquisition^b</i>	<i>Transfer^c</i>	<i>Forwarding^d</i>	<i>Internal transfer^e</i>	<i>Issuance^f</i>	<i>Retirement^g</i>	<i>Cancellation^h</i>	<i>Total</i>
Australia	2	4	0	0	1	0	1	8
Austria	528	543	0	1 153	0	2	0	2 226
Belgium	210	247	0	765	0	1	1	1 224
Bulgaria	121	173	0	344	18	1	0	657
Clean development mechanism	0	16	2 652	0	1 350	0	0	4 018
European Community	10	5	0	45	3	0	0	63
Canada	0	0	0	0	0	0	0	0
Croatia	0	0	0	0	0	0	0	0
Czech Republic	576	681	0	1 785	65	1	0	3 108
Denmark	424	478	0	1 223	2	1	20	2 148
Estonia	38	86	0	114	15	1	0	254
Finland	299	204	0	1 780	3	1	2	2 289
France	3 010	3 488	0	19 677	15	1	40	26 231
Germany	2 154	1 885	0	7 886	11	7	50	11 993
Greece	125	345	0	554	0	1	0	1 025
Hungary	169	190	0	607	13	1	2	982
Iceland	0	0	0	0	0	0	0	0
Ireland	149	211	0	257	0	1	1	619
Italy	1 653	1 062	0	4 351	0	5	0	7 071
Japan	303	156	0	0	0	0	0	459
Latvia	17	30	0	174	0	1	0	222
Liechtenstein	394	494	0	218	1	0	1	1 108
Lithuania	128	140	0	254	5	1	0	528
Luxembourg	52	11	0	31	0	1	0	95
Netherlands	2 126	1 600	0	1 701	0	3	18	5 448
New Zealand	40	17	0	0	8	0	43	108
Norway	236	104	0	286	0	1	22	649

<i>Registry</i>	<i>Acquisition^b</i>	<i>Transfer^c</i>	<i>Forwarding^d</i>	<i>Internal transfer^e</i>	<i>Issuance^f</i>	<i>Retirement^g</i>	<i>Cancellation^h</i>	<i>Total</i>
Poland	921	931	0	4 005	17	2	0	5 876
Portugal	88	157	0	467	0	2	0	714
Romania	297	572	0	743	12	1	0	1 625
Russian Federation	0	10	0	50	19	0	1	80
Slovakia	453	641	0	613	0	1	0	1 708
Slovenia	109	108	0	253	0	1	0	471
Spain	717	946	0	5 487	1	3	2	7 156
Sweden	217	190	0	1 689	0	1	188	2 285
Switzerland	425	1 620	0	0	2	0	113	2 160
Ukraine	0	152	0	0	124	0	0	276
United Kingdom	5 708	4 218	0	7 091	0	0	76	17 093
Total	21 699	21 715	2 652	63 603	1 685	42	581	111 977

^a Completed transactions of assigned amount units (AAUs), emission reduction units (ERUs), removal units (RMUs), certified emission reductions (CERs), long-term emission reductions and temporary emission reductions have been accounted for.

^b Acquisition from another national registry. See paragraph 30 of the annex to decision 13/CMP.1.

^c Transfer to another national registry. See paragraph 30 of the annex to decision 13/CMP.1.

^d Forwarding from the clean development mechanism (CDM) registry to a national registry. See paragraph 66(a) of the annex to decision 3/CMP.1. Note that this excludes transfers from the CDM registry to a national registry in support of the Adaptation Fund.

^e See paragraph 30 of the annex to decision 13/CMP.1.

^f See paragraphs 23–29 of the annex to decision 13/CMP.1, paragraphs 64–66 of the annex to decision 3/CMP.1 and paragraphs 36 and 37 of the annex to decision 5/CMP.1. Issuance of ERUs by converting AAUs or RMUs is included.

^g See paragraph 34 of the annex to decision 13/CMP.1.

^h See paragraph 33 of the annex to decision 13/CMP.1.

Annex IV

Number of Kyoto Protocol units subject to transactions proposed to the international transaction log^a from 1 November 2008 to 31 October 2011

Table 9

Number of Kyoto Protocol units subject to transactions proposed to the international transaction log from 1 November 2008 to 31 October 2011

<i>Registry</i>	<i>Acquisition^b</i>	<i>Transfer^c</i>	<i>Net transfer^d</i>	<i>Forwarding^e</i>	<i>Internal transfer^f</i>	<i>Issuance^g</i>	<i>Retirement^h</i>	<i>Cancellationⁱ</i>
Australia	10 001	25 847	35 848	0	0	23 032 901	0	49 650 531
Austria	25 582 500	18 325 227	43 907 727	0	101 446 128	0	85 648 277	0
Belgium	61 430 931	72 349 986	133 780 917	0	175 541 326	0	50 099 783	4 932
Bulgaria	50 940 022	10 245 251	61 185 273	0	73 607 029	2 256 087	33 527 260	0
Clean development mechanism	0	2 600 000	2 600 000	271 920 280	0	309 027 933	0	0
European Community	1 031 108	5 090 000	6 121 108	0	15 821 555	19 735 238	0	0
Canada	0	0	0	0	0	0	0	0
Croatia	0	0	0	0	0	0	0	0
Czech Republic	34 547 213	47 145 358	81 692 571	0	504 207 564	605 235	229 972 782	0
Denmark	52 165 235	66 054 696	118 219 931	0	99 915 189	624 109	25 271 229	487 719
Estonia	6 308 358	43 335 611	49 643 969	0	42 263 104	290 429	14 345 407	0
Finland	21 264 980	14 143 917	35 408 897	0	138 003 363	244 500	41 300 302	3 843
France	346 607 641	352 181 380	698 789 021	0	769 042 675	26 113 525	115 268 784	12 746 348
Germany	253 216 864	216 379 440	469 596 304	0	1 876 594 739	2 905 652	456 091 920	285 891
Greece	7 046 677	22 603 965	29 650 642	0	205 928 273	0	59 925 860	0
Hungary	5 790 816	9 143 752	14 934 568	0	72 663 017	5 686 951	23 085 911	34 639
Iceland	0	0	0	0	0	0	0	0
Ireland	15 218 805	24 992 770	40 211 575	0	67 095 529	0	17 356 018	245
Italy	92 024 770	108 178 461	200 203 231	0	1 126 006 561	0	597 088 153	0
Japan	67 766 259	39 176 228	106 942 487	0	0	0	0	0
Latvia	447 344	1 914 135	2 361 479	0	9 895 993	0	3 240 180	0
Liechtenstein	18 550 879	38 282 203	56 833 082	0	12 263 949	11 879	0	3 658

<i>Registry</i>	<i>Acquisition^b</i>	<i>Transfer^c</i>	<i>Net transfer^d</i>	<i>Forwarding^e</i>	<i>Internal transfer^f</i>	<i>Issuance^g</i>	<i>Retirement^h</i>	<i>Cancellationⁱ</i>
Lithuania	6 787 067	28 747 830	35 534 897	0	22 265 657	697 728	6 394 454	0
Luxembourg	2 760 674	497 720	3 258 394	0	6 823 026	0	2 252 662	0
Netherlands	262 905 671	188 438 826	451 344 497	0	459 077 404	0	84 411 123	20 416
New Zealand	4 083 955	1 897 914	5 981 869	0	0	1 022 471	0	7 845
Norway	18 529 552	12 403 783	30 933 335	0	69 373 478	0	19 333 292	63 734
Poland	66 120 012	81 883 994	148 004 006	0	713 666 247	4 048 434	200 110 158	0
Portugal	13 479 402	14 410 489	27 889 891	0	95 427 427	0	24 164 049	0
Romania	24 966 965	77 460 701	102 427 666	0	181 949 591	3 431 159	47 487 653	0
Russian Federation	0	17 615 392	17 615 392	0	160 440 597	26 249 789	0	26 607 307
Slovakia	17 288 200	27 210 747	44 498 947	0	82 866 028	0	22 193 301	0
Slovenia	2 887 289	2 291 392	5 178 681	0	26 143 267	0	8 126 747	0
Spain	74 187 075	48 313 964	122 501 039	0	686 201 418	67 321	121 624 241	19
Sweden	9 915 950	14 913 155	24 829 105	0	61 991 336	0	22 637 902	170 279
Switzerland	105 235 222	162 348 828	267 584 050	0	0	889 349	0	252 285
Ukraine	0	70 439 487	70 439 487	0	0	49 816 087	0	0
United Kingdom	739 852 759	570 507 747	1 310 360 506	0	1 941 074 962	0	0	579 471
Total	2 408 950 196	2 411 550 196	4 820 500 392	271 920 280	9 797 596 432	476 756 777	2 310 957 448	90 919 162

^a Completed transactions of assigned amount units (AAUs), emission reduction units (ERUs), removal units (RMUs), certified emission reductions (CERs), long-term emission reductions and temporary emission reductions have been accounted for.

^b Acquisition from another national registry. See paragraph 30 of the annex to decision 13/CMP.1.

^c Transfer to another national registry. See paragraph 30 of the annex to decision 13/CMP.1.

^d Net transfer is equal to transfer minus acquisition.

^e Forwarding from the clean development mechanism (CDM) registry to a national registry. See paragraph 66(a) of the annex to decision 3/CMP.1. Note that this excludes transfers from the CDM registry to a national registry in support of the Adaptation Fund.

^f See paragraph 30 of the annex to decision 13/CMP.1.

^g See paragraphs 23–29 of the annex to decision 13/CMP.1, paragraphs 64–66 of the annex to decision 3/CMP.1 and paragraphs 36 and 37 of the annex to decision 5/CMP.1. Issuance of ERUs by converting AAUs or RMUs is included.

^h See paragraph 34 of the annex to decision 13/CMP.1.

ⁱ See paragraph 33 of the annex to decision 13/CMP.1.