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Item 10 of the provisional agenda
Report of the administrator of the international transaction log under the Kyoto Protocol

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

Note by the secretariat*

Summary

This fourth 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 2007 to October 2008.

The report provides information on the implementation of the ITL, the go-live activities of national registries, the operation of the ITL and the facilitation of cooperation with registry system administrators.

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 administrator of the ITL. 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 late in order to include information on the latest developments in this area of work.

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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) in order to verify the validity of transactions proposed by registries established under decisions 3/CMP.1 and 13/CMP.1.
2. The Conference of the Parties (COP), by its decision 16/CP.10, requested the secretariat, as administrator of the ITL, 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 the annual reports of the administrator of the ITL, 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 fourth annual report of the administrator of the ITL provides information to the SBI 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 RSA Forum.
5. This annual report covers the period from 21 November 2007 to 31 October 2008.

C. Possible actions by the Subsidiary Body for Implementation

6. 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.

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

A. Summary of work undertaken

7. Substantial work has been undertaken to complete the initialization and go-live of national registries with the ITL. Twelve independent assessment reports (IARs) have been issued and the secretariat coordinated the go-live of 30 national registries during the reporting period. As at 31 October 2008, the secretariat supports the live operations with the ITL of 33 national registries and the clean development mechanism (CDM) registry. This support consists of ensuring the continued availability and high performance of all ITL environments, the ITL Service Desk, ITL software and the registry network infrastructure. Two additional national registries are expected to complete their initialization and go-live by the end of 2008.

8. The ITL administrator established the RSA Forum and its working groups to coordinate the management and technical activities of the registry system. The ITL administrator continued to convene the RSA Forum to direct the work of the working groups, including completion of the activities of the standard electronic format (SEF) and the independent assessment report (IAR) working groups.

9. The ITL administrator conducted the interactive exercise, requested by the SBI, demonstrating how the ITL functions with other registry systems and the full conformity of its performance with relevant decisions.

B. Initialization activities

10. Initialization is the formal process by which the ITL administrator verifies that a registry has fulfilled the technical requirements set out in the data exchange standards (DES). Initialization is therefore a pre-requisite to a registry commencing operations with the production environment of the ITL.

11. The initialization process is dependent on three interrelated but independent steps:

- (a) **Documentation review**, in which the technical and operational documentation of a registry is reviewed to assess operational practices implemented by the system. RSAs submit a completed 'readiness' questionnaire, supported by comprehensive documentation, for review by the ITL operator on the basis of predefined criteria;
- (b) **Connectivity testing**, in which the basic connection between a registry and the ITL is checked to assess its ability to communicate with the ITL and adhere to relevant standards for security and authentication;
- (c) **Interoperability testing**, in which the functions of a registry are tested to ensure that they are able to perform the transaction, reconciliation and administrative processes, including for notifications, as specified in the DES. Annex H of the DES contains the definitive tests undertaken by RSAs.

12. The operator of the ITL provides a technical recommendation to the ITL administrator for each registry that passes all three stages of the initialization process. The recommendation forms the basis for the preparation by the ITL administrator of an IAR for the RSA concerned, which is subsequently forwarded to the expert review team conducting the review of the Party's initial report under Article 8 of the Kyoto Protocol.

13. As at 21 November 2007, 24 national registries had completed the initialization process. The secretariat continued its intense scheduling and supporting activities in this area, which led to a further 12 IARs being issued during the reporting period, as shown in table 1. As at 31 October 2008, the total number of IARs issued was 36.

Table 1. Independent Assessment Reports (IARs) issued during the reporting period

Party	Date of initial IAR
Belgium	7 December 2007
Bulgaria	10 April 2008
Canada	12 June 2008
European Community	1 February 2008
Iceland	3 January 2008
Italy	5 December 2007
Liechtenstein	7 December 2007
Luxembourg	7 December 2007
Monaco	9 April 2008
Poland	5 December 2007
Romania	30 April 2008
Ukraine	10 December 2007

C. Go-live activities

14. At its twenty-seventh session, the SBI welcomed the launch of the ITL¹ and connection to it of the first registries under the Kyoto Protocol (the registries of Japan, New Zealand, Switzerland and the CDM registry). The SBI urged other Parties included in Annex I with commitments inscribed in Annex B to the Kyoto Protocol (Annex B Parties) to initiate the operation of their national registries with the ITL as soon as possible during 2008. Consequently, the key objective of the secretariat ITL team for 2008 has been to enable as many national registries as possible to start operations with the ITL, while continuing to ensure business-as-usual support to the RSAs. Significant effort went into the planning, coordination and execution of this event, resulting in an additional 30 national registries commencing operations with the ITL, as shown in table 2.

¹ FCCC/SBI/2007/34.

Table 2. Registry go-live during the reporting period

Party	Go-live date
Russian Federation	4 March 2008
Hungary	11 July 2008
Twenty-five ^a Emissions Trading Scheme (ETS) registries: Austria, Belgium, Bulgaria, Czech Republic, Estonia, European Community, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom of Great Britain and Northern Ireland	16 October 2008
Liechtenstein	21 October 2008
Norway	21 October 2008
Ukraine	28 October 2008

^a These 25 registries were connected to the international transaction log during a coordinated ETS go-live event that was completed on 16 October 2008.

15. As noted in the footnote to table 2, most connections to the ITL in 2008 were implemented during a coordinated ETS go-live event from 6 to 16 October 2008 (the part of ETS go-live relating to Liechtenstein and Norway was completed on 21 October). The secretariat dedicated significant resources to establishing, preparing and executing the go-live for European Union greenhouse gas emissions trading scheme (EU ETS) registries, with the aim of initiating operations with the ITL for those registries currently operating under the EU ETS (25 registries) or foreseen to join the EU ETS (2 registries). The major achievements of ETS go-live were:

- (a) The establishment of a comprehensive ETS go-live plan, comprising a framework planning document and detailed annexes defining explicitly all steps in the go-live process;
- (b) Two series of coordinated testing, the first implemented with registry software developers (23 June–1 July 2008) and the second implemented with the registries (5–22 August 2008);
- (c) Three go-live rehearsals: rehearsal 1 from 15 to 29 May 2008, rehearsal 2 from 18 July to 4 August 2008 and rehearsal 3 from 22 to 26 September 2008;
- (d) The actual ETS go-live event from 6 to 16 October 2008 (for all countries except Liechtenstein and Norway for whom it was 6 to 21 October 2008).

16. The secretariat established the ETS go-live plan in close collaboration with the European Commission, the RSAs and the registry software developers. The plan was communicated to all registries on 5 May 2008 and presented to, and discussed at, the RSA Forum that took place in Bonn on 13–14 May 2008. Continuous feedback and improvements to the plan have been assured at all stages of the process with a review and revisions after each rehearsal.

17. During the second series of coordinated testing, a thorough verification of all major technical systems (the registries, the Community Independent Transaction Log (CITL) and the ITL) took place. The key point of testing was to focus on the behaviour of all systems when they act together, which was a critical addition to the testing of individual components which had been conducted earlier by the software developers. The first coordinated testing involved, in addition to the ITL and the CITL, all key registry software developers, and enabled the comprehensive testing of basic functionality implemented across all types of registry software used by Annex B Parties. The second coordinated testing was conducted with the registries in order to verify the functionality based on real registry instances used by Annex B Parties. For both series of testing, issues (bugs and improvements) were identified, logged into a centralized issue tracking system, prioritized and assigned for implementation to registry software developers, CITL developer or ITL developer as appropriate.

18. The coordinated testing provided valuable quality assurance for the go-live registry systems. However, it did not replicate the go-live process; the testing of all systems in 'close-to-real' conditions was implemented during three rehearsals. The rehearsals were seen as risk mitigating measures which were necessary owing to the technical and organizational complexity of the go-live process for EU ETS registries.

19. The first rehearsal took place from 15 to 29 May 2008. The main focus of this rehearsal was to test the technical feasibility of one particular part of the go-live process, which involved the restoration of account holdings within EU ETS registries and the CITL. This was one of the most complex parts of go-live, which warranted making it the focus of the first rehearsal. Five registries took part (Austria, Denmark, France, Germany, United Kingdom of Great Britain and Northern Ireland) and it was led on the registry side by the relevant registry software developers. The rehearsal resulted in the identification of a number of technical and organizational issues to be resolved before the go-live event.

20. The second rehearsal took place from 18 July to 4 August 2008. It was a full-scope rehearsal involving all EU ETS registries operating with the CITL at that time, the only noticeable difference from the real go-live event being the use of non-production environments (test environments were used by the registries and the registry environment was used by the CITL and ITL). The scope of the second rehearsal included the migration of EU ETS allowances issued for the period 2005–2007 and the account restoration process, which was previously tested during the first rehearsal. The second rehearsal was completed successfully and on time and, as in the case of the first rehearsal, produced technical and organizational suggestions for improvements during the go-live event.

21. The third rehearsal took place from 22 to 26 September 2008. Its primary objective was to check that the connectivity between registry systems and the ITL was functional and to minimize the risks linked to connectivity during the go-live event. All EU ETS registries participated and it was completed successfully, the major outcome being that connectivity between the production environments of the registries, the CITL and the ITL was demonstrated, and the risk of not achieving or losing connectivity during the actual event was mitigated considerably. Only a few minor technical and organizational issues were identified at this rehearsal.

22. The main go-live event started on 6 October and finished on 21 October, two days earlier than scheduled. An important interim achievement of go-live – the completion of CITL–ITL switchover and the commencement of live operations of 25 EU registries with the ITL – was achieved as planned on 16 October; the remaining period until 21 October was used to complete connection to the ITL for the Liechtenstein and Norway registries.

23. Overall, the go-live process proceeded according to plan, without the need to deviate or to design or implement alternative solutions. The preparatory work carried out by all stakeholders in the go-live process – RSAs, registry technical staff, registry software developers, CITL administrator, CITL

developer, ITL operator, ITL developer and ITL administrator – resulted in a successful, well-timed go-live event that produced relatively little feedback for further improvement.

24. As at 31 October 2008, 34 registries are operational with the ITL and 5 registries still have to connect to the ITL (Australia, Canada, Croatia, Iceland, Monaco). The complete list of operational registries is given in annex I.

25. In February 2008, the secretariat completed the go-live of the joint implementation (JI) information systems to the ITL, leading to the creation of the first JI track 1 projects in the ITL and the subsequent conversions to emission reduction units (ERUs) for those projects. The JI information system was the last information system to go live with the ITL after the Compilation and Accounting Database (CAD), specified in decision 13/CMP.1, and the CDM information system which were linked to the ITL in November 2007. The data from the JI information system are used by the ITL to validate in real time the conversion to ERUs transactions issued by national registries by checking the validity of the project and the quantities of assigned amount units (AAUs) and removal units (RMUs) the registry may convert for this project.

D. Implementation activities

1. Work on Standard Electronic Format

26. The SBI, at its twenty-seventh session, requested the secretariat to continue working with administrators of registry systems to facilitate the electronic submission of standard electronic format (SEF)² by national registries in accordance with decisions 14/CMP.1 and 15/CMP.1. Therefore the secretariat has coordinated the activities of the SEF working group under the RSA Forum with the following positive results:

- (a) The SEF technical specifications were completed, with the aim of providing guidance to registry administrators and registry system developers on the calculations required to produce SEF tables;
- (b) A SEF application was developed, with the aim of allowing Parties to enter and visualize data in SEF tables that appear exactly the same as those in decision 14/CMP.1;
- (c) An extensible markup language (XML) specification to support SEF was elaborated, allowing registry system developers to produce the required data programmatically from the national registries and hence reduce manual errors;
- (d) Implementation and testing plans were created in collaboration with the RSAs in order to complete the SEF implementation activities early next year and well before the due date for the 2009 SEF annual submission.

27. Information reported by Parties through the SEF will be made available through the annual compilation and accounting (C&A) reports mandated by decision 13/CMP.1. The first C&A report was prepared in 2008.³

² FCCC/SBI/2007/34.

³ FCCC/KP/CMP/2008/9.

2. ITL data warehouse

28. The development of a data warehouse infrastructure for the ITL based on Oracle and Online Analytical Processing (OLAP) technologies has been initiated with the purpose of supporting the ITL reporting of the accounting and operational information on the registries. The first reports that will be generated in 2009 from the ITL data warehouse are:

- (a) The SEF comparison report to compare the Party's SEF data to that held by the ITL;
- (b) The list of discrepant transactions per registry;
- (c) The list of notifications sent to a registry;
- (d) A reconciliation statistical report per registry;
- (e) The report on conversion of units per registry.

29. These reports will be used to assess problems related to the accounting of Kyoto Protocol units by a national registry, in the context of the IAR common operational procedures defined in decision 16/CP.10. The result of this assessment will be forwarded to the expert review team conducting the review under Article 8 of the Kyoto Protocol of the annual report of the Party concerned.

3. Support to registry and ITL environments

30. Much effort has been made to support the registry administrators and the registry developers during their testing of the registry applications. The secretariat continued to maintain two additional environments and the defect reporting and tracking tools to enhance further the robustness of the registry systems network.

31. The ITL software was enhanced to facilitate faster resolution of production incidents and ensure adherence to DES version 1.1.1. Consequently, two ITL releases were deployed in the ITL production environment during the reporting period.

32. User Acceptance Test (UAT) environments were deployed in the secretariat infrastructure. These environments include the ITL software, four types of registry software and one supplementary transaction log CITL software. The UAT process provided further quality assurance of the ITL system as it enabled the identification and correction of a limited number of defects related to either ensuring strict adherence of the ITL to the DES or the user interface of the ITL administrator application. The UAT environments in the secretariat infrastructure will be valuable in performing quality assurance of future changes to the ITL.

4. Support of communication tools

33. The ITL administrator contributed to the secretariat development undertaking of a new submission portal that facilitates the secure transmission of a Party's annual submission for the review process under Article 8 of the Kyoto Protocol. Once the development effort has been completed, the submission portal will support the SEF and the national registry information submission from pre-authorized Party users.

34. The RSA extranet remains the central location for sharing all technical and planning information among RSAs. It contains all meetings documentation for the RSA Forum, working groups, an up-to-date contact list of RSAs, operational procedures documentation, technical or organizational documentation, planning documents and frequently asked questions. As at 31 October 2008, the RSA extranet support was available to 203 users.

35. The secretariat ITL team maintains the public UNFCCC web pages relating to the registry systems under the Kyoto Protocol.⁴ These web pages contain information about the ITL, registry functions, registry initialization process, IARs, registry status including the public reports made available by the ITL administrator pursuant to decision 16/CP.10 and the list of initialized and live registries.

E. Operational activities

36. The secretariat has started to publish the information requested by decision 16/CP.10 regarding the operational status of each registry system, discrepancies and inconsistencies, required actions following notifications by the ITL that have not been completed in due time and aggregated information on unit holdings. This information is available to the public on the UNFCCC website.⁵

37. During the reporting period, the ITL processed 122,536 messages. The number of transactions, reconciliation, incoming and outgoing messages has increased significantly with the connection of the EU ETS registries in mid-October 2008. Table 3 lists the number of transactions processed by the ITL and the number of units involved in those transactions during the reporting period.

Table 3. Transaction volume for the international transaction log

Period	Number of transactions	Number of units involved
November 2007	1 213	175 639 923
December 2007	138	6 263 831 363
January 2008	59	12 200 120
February 2008	227	258 794 015
March 2008	133	20 750 988
April 2008	160	17 669 562
May 2008	172	23 303 814
June 2008	206	22 911 010
July 2008	202	16 638 158 272
August 2008	162	25 555 460
September 2008	168	565 963 322
October 2008	9 179	37 903 398 005
Total	12 049	61 928 175 854

⁴ Available at <http://unfccc.int/kyoto_protocol/registry_systems/items/2723.php>.

⁵ Available at <http://unfccc.int/kyoto_protocol/registry_systems/registry_status/items/4433.php>.

38. During the reporting period, the ITL was stable in the production environment and test environments. In the production environment, transactions were completed in the time frames displayed in table 4.

Table 4. Transaction completion time for the international transaction log

Time to complete transaction	Percentage of transaction completed in time frame
Under 10 seconds	43
Under 30 seconds	71
Under 60 seconds	82
Under 10 minutes	99
Under 24 hours	100

39. The ITL Service Desk is the focal point for all support provided to RSAs regarding the operation and testing of their registries. Furthermore, the ITL Service Desk executes the technical activities related to the initialization and go-live processes, under the supervision of the secretariat. The ITL Service Desk is available 24 hours a day, 7 days a week.

F. Registry System Administrators Forum

40. The ITL administrator convenes the RSA Forum as a channel for the coordination of the technical and management activities of RSAs and to provide a forum in which RSAs can cooperate and provide input to the development by the ITL administrator of common operational procedures, recommended practices and information-sharing measures for registry systems, in accordance with decision 16/CP.10.

41. Participation in the RSA Forum is open to all administrators of national registries, the CDM registry, supplementary transaction log administrators (such as the CITL) and ITL vendors. RSAs send participants as appropriate to the specific items to be addressed at meetings. The ITL administrator also invites a number of participants from Parties not included in Annex I to the Convention (non-Annex I Parties) that are Parties to the Kyoto Protocol.⁶ Although these Parties have no requirements under the Kyoto Protocol to implement registry systems, the participation of such experts is intended to increase the transparency of the RSA Forum and allow experience with registry systems under the Kyoto Protocol to be shared with experts implementing similar systems for environmental policy purposes in non-Annex I Parties. Table 5 outlines the RSA Forum meeting organized by the secretariat in 2008.

⁶ Decision 16/CP.10, paragraph 6(c), requested the ITL administrator to involve appropriate experts from non-Annex I Parties.

Table 5. Meeting of the Registry System Administrators Forum in 2008

Meeting	Date	Location	Key objectives
Seventh	13–14 May 2008	Bonn, Germany	<ul style="list-style-type: none"> • Share information on status of registry systems and their connection to the ITL, CITL and CDM registry. • Discuss preparation for ETS go-live. • Share information on common operational procedures, especially on the implementation of the change and release management procedures, and the reconciliation procedure. • Share information and discuss the outcome of the SEF working groups. • Call the attention of Parties to the new working groups on standard IAR and service restoration.

Abbreviation: ITL = international transaction log
CITL = community independent transaction log
CDM = clean development mechanism
ETS = emission trading system
SEF = standard electronic format
IAR = independent assessment report

42. Eight subjects were presented at the RSA Forum meeting:

- (a) The go-live status of registries with the ITL, go-live status of the CITL with the ITL and schedules for the registries testing activities. A draft technical paper with revised go-live planning prepared by the secretariat was shared with all RSAs on the EU ETS go-live status and plans. RSAs were requested to provide general and specific feedback to the ITL administrator on this document;
- (b) The secretariat presented the ITL operational and budgetary status, and emphasized the need for contributions in 2008 to ensure the continuity of all required activities in the ITL project;
- (c) The secretariat announced the entry into force of the change and release management procedure starting in May 2008. The RSAs confirmed the nomination of members for the Change Advisory Board (CAB). Considering the pressing need to complete the ETS go-live as soon as possible, the RSA Forum agreed to postpone the assessment of the change request, submitted by the European Commission, to change the order of connection of European registries to the ITL until after the completion of the ETS go-live;
- (d) The secretariat provided information on the CDM registry status and shared information and lessons learned about activities with national registries which were connected to the ITL by May 2008;
- (e) The secretariat presented the basis for a new common operational procedure related to service restoration within the registry systems and proposed to create a new working group to discuss and develop this procedure further;

- (f) The SEF working group reported the outcome of their activities and a plan for the second part of 2008 with a view to implementing decision 14/CMP.1 across registry systems by the end of February 2009;
- (g) The secretariat called for the attention of national registries to the annual review process and annual reports stemming from decision 15/CMP.1 and the requirements on registry systems from 2008 onwards. The secretariat reiterated the role of the independent assessment procedure in the annual review stemming from decision 16/CP.10;
- (h) The secretariat provided Parties with information on the interactive exercise demonstrating the functioning of the ITL with other registry systems as requested by decision 12/CMP.1.

43. The next RSA Forum meeting has been scheduled on 18 November 2008 and will be held in Bonn. The agenda and outcomes of the RSA meeting will be summarized in the fifth annual report of the administrator of the ITL under the Kyoto Protocol.

G. Activities of the working groups and established procedures under the RSA Forum

44. During the reporting period, three new working groups have been established under the RSA Forum to foster involvement and collaboration among RSAs for the elaboration of common operational procedures and the adoption of changes to the registry systems.

- (a) The **SEF** working group was established in March 2008 and completed its work in May 2008 thanks to the coordination efforts and leadership of the secretariat and registry developers. The goal of the SEF working group was to elaborate the process and detailed specifications supporting the annual electronic reports by Parties of Kyoto Protocol units pursuant to decisions 14/CMP.1 and 15/CMP.1. Following four meetings of this working group, the SEF technical specifications were completed on schedule.
- (b) The **Standard Independent Assessment Report (SIAR)** working group was established in July 2008 and expects to complete its work early in November 2008. Its purpose is to extend the IAR common operational procedures to annual reporting and reviews, aligning it to the annual review process under Article 8 of the Kyoto Protocol, decision 15/CMP.1 and decision 22/CMP.1. It aims to standardize the reporting and review process and draws on the experience gathered during the initial reviews of registry systems. In order to conclude the work by the beginning of November 2008, three meetings were organized while progressing on the elaboration of the relevant documentation. The fourth and last meeting of this working group was held on 7 November 2008.
- (c) The establishment of a **Service Restoration** working group was proposed during the above-mentioned RSA Forum to tackle service restoration of the registry system as a whole, should a major incident or disruption of service occur. During 2008, the secretariat carried out the preparatory work which should enable the Service Restoration working group to start work early in 2009.

45. In addition to establishing three new working groups, the secretariat and registry administrators continued work on the existing working group, namely those on reconciliation, terms of use, and change management working groups.

- (a) The **Reconciliation** working group focuses on the procedural aspects of the periodic comparison of Kyoto Protocol unit holdings and transactions between the ITL, the supplementary transaction logs (currently the CITL) and the registries. The reconciliation common operational procedure was established during the previous reporting period and has now been applied. As a result of the experience gathered, technological improvements made to the ITL during 2008 and a concerted exercise between the ITL, CITL and two national registries, the ITL administrator will propose a change to the CAB to simplify and streamline this common operational procedure. Reconciliation inconsistencies between the ITL, CITL and registries will be dealt with more efficiently and will reduce the need for manual interventions on the various systems, thereby reducing the potential for errors.
- (b) The objective of the **Terms of Use** working group is to define the terms of use of the ITL. This working group has made a draft of the terms of use, which attracted many divergent views, including on the intended legal status of the document, the liability of the ITL administrator and the service levels applicable to the ITL. Since some of the divergent views have clear budgetary impacts and since the potential impacts were not calculated and considered in the budget for this biennium, the ITL administrator has postponed further work on the terms of use until the operational performance of the registry system is well understood and the full cost implications of the proposed terms of use, including any liability, are understood and can be supported by future ITL budgets.
- (c) The **Change Management** working group established the CAB which met three times during the reporting period. It approved two changes and is currently considering a third, the generic web service change proposed by the European Commission:
 - (i) In May 2008 the SEF working group proposed the SEF implementation change and the CAB accepted it;
 - (ii) In May 2008 the ITL administrator proposed the EU15 commitment period reserve change to reflect the agreement between the European Community and its member States under Article 4 of the Kyoto Protocol⁷ and the CAB accepted it. This change affected the DES, leading to the issue of DES 1.1.1 and a new ITL release. Consequently, the secretariat had to carefully coordinate the change before ETS go-live.
 - (iii) In October 2008 the European Commission proposed a change to the ITL to enable it to support generic web services and forward generic messages to supplementary transaction logs from national registries, and vice versa, thereby reusing the robust network infrastructure sustaining messages under the registry system. The secretariat organized a CAB meeting at the end of October 2008 to assess the proposed change; the results of the CAB meeting will be discussed at the RSA Forum in November 2008.

⁷ FCCC/CP/2002/2.

- (d) The **IAR** working group was established in 2006 and completed its work in 2007, which consisted of establishing the common operational procedure followed during the initial assessment of registries. This procedure has been applied successfully to the 12 registries initialized during the reporting period.

46. Table 6 shows the seven working groups under the RSA Forum, the number of members of each and the number of meetings held since their inception.

Table 6. Working groups established under the Registry System Administrators Forum

Working group	Objective	Members	Meetings held
Terms of use	Agree on the terms of use of the international transaction log	7	3
Change management	Elaborate on how change is managed in the registry system	8	4
Reconciliation	Elaborate on the reconciliation common operational procedure	8	3
Independent Assessment Report ^a	Implement the procedure registries must follow during their initial assessment	8	4
Standard Independent Assessment Report ^a	Implement the procedure registries must follow during their annual assessment	8	3
Standard Electronic Format ^a	Elaborate the process and detailed specifications following decision 14/CMP.1	7	4
Service restoration	Agree on how to restore service in case of disaster	Not available	(To be started in 2009)

^a These working groups were initiated during the reporting period.

H. Interactive exercise

47. The CMP, by its decision 12/CMP.1, requested the administrator of the ITL to facilitate an interactive exercise demonstrating the functioning of the ITL with other registry systems and the full conformity of the performance of the ITL with relevant decisions and specifications for the ITL, and to include information on this exercise in its annual report to the CMP.
48. The SBI, at its twenty-seventh session, requested the secretariat to facilitate the interactive exercise referred to in decision 12/CMP.1 during the twenty-eighth sessions of the subsidiary bodies.
49. The ITL interactive exercise was conducted on 7 June 2008 during the twenty-eighth sessions of the subsidiary bodies. It was successfully prepared, conducted and supported by members of the secretariat. Participants requested that a similar exercise be scheduled in the future.
50. The main objectives were to demonstrate the overall functionality and connectivity of the ITL with registry systems, and to enable the interaction of participants with the different systems. The exercise was divided into two parts:
- (a) A presentation on the main concepts of the Kyoto Protocol and the ITL system, with demonstrations of the various systems;
 - (b) A hands-on exercise in which three registries were used: Austria, New Zealand and the CDM registry.
51. Participants from the following Parties attended the exercise: Belarus, Brazil, Bulgaria, China, Colombia, Croatia, Czech Republic, European Commission, Egypt, Germany, Japan, Latvia, Norway, Republic of Korea, Romania, Slovenia, South Africa, Spain, Sudan and Ukraine.

III. Organizational arrangements and resources

52. The functions of the ITL administrator are performed by the Reporting, Data and Analysis programme of the secretariat. This programme is also responsible for the substantive work of the secretariat relating to other aspects of emissions trading and the accounting of assigned amounts under the Kyoto Protocol, as well as that relating to the submission, analysis and review of information submitted by Parties under the Convention and its Kyoto Protocol and the intergovernmental negotiations on national communications, inventories, assigned amounts, registry systems and policy instruments.

1. Resource requirements

53. The resource requirements for activities relating to the ITL and the ITL administrator to be funded from supplementary sources for the periods 2006–2007⁸ and 2008–2009⁹ were identified in the respective programme budget proposals for those periods.
54. The CMP, by its decision 11/CMP.3, requested the Executive Secretary to provide a breakdown of the expenditure on the development and operation of the ITL with a view of optimizing the cost structure. At its twenty-seventh session, the SBI requested the secretariat to make concrete proposals with regard to optimizing the ITL cost structure.

⁸ FCCC/SBI/2005/8/Add.2.

⁹ FCCC/SBI/2007/8/Add.2.

55. Table 7 shows expenditure in 2006–2009, by object of expenditure, with a total of USD 4,244,441 in 2008 and USD 4,176,240 in 2009. The total expenditure for 2008 and 2009 is well below the approved budgets, and the measures adopted by the secretariat are expected to yield 8.1 per cent savings relative to the 2009 budget.

Table 7. Expenditure for the international transaction log for 2006–2009^a
(United States dollars)

Expenditure	2006–2007	2008	2009 Estimated
Salaries	628 852	926 595	928 650
General temporary assistance	272 738	158 000	160 000
Contractors and consultancies	4 544 955	2 436 737	2 362 137
Travel of representatives and experts	33 643	36 490	40 000
Travel of staff	43 283	17 596	20 000
Operating expenses	15 115	16 784	30 000
Data processing equipment and software	0	43 396	50 000
Support services	2 498	120 545	105 000
Programme support costs (13 per cent)	720 341	488 298	480 452
Total	6 261 424	4 244 441	4 176 240

^a Actual expenditures from 1 January 2007 to 31 October 2008 and planned expenditures from 1 November 2008 to 31 December 2009.

56. Table 8 shows the breakdown of expenditure expected for contractors and consultancies in 2008–2009, which is the largest expenditure in the ITL budget. The ITL operation services and contractor services for operation procedures will increase in 2009 owing to the adoption of additional common operational procedures under the RSA Forum and due to the significant increase in the number of live registries with the ITL. It is expected that costs relating to ITL operation services will increase from USD 1,653,197 in 2008 to USD 1,769,316 in 2009 and the costs relating to contractor services for operation procedures will increase from USD 134,430 in 2008 to USD 230,000 in 2009. The ITL implementation service costs are expected to be reduced from USD 542,425 in 2008 to USD 221,024 in 2009, as fewer changes will take place for ITL software and hardware. Finally, the total expenditure on contractors and consultancies is expected to be lower in 2009 compared with 2008.

Table 8. Expenditure on international transaction log (ITL) contractors and consultants forecast for 2008–2009^a
(United States dollars)

Expenditure	2008	2009 Estimated
ITL implementation services	542 425	221 024
ITL operation services	1 653 197	1 769 316
Legal services	10 549	21 798
Operation procedures contractor services	134 430	230 000
Consultancies	96 136	120 000
Total	2 436 737	2 362 137

^a Actual expenditures from 1 January 2008 to 31 October 2008 and planned expenditures from 1 November 2008 to 31 December 2008.

57. An exchange rate of the United States dollar against the euro of 0.746 (1 USD = 0.746 EUR) has been used for the purpose of this report. The ITL project costs remain sensitive to the exchange rate between the United States dollar and the euro, as more than 50 per cent of the ITL costs are in euros. For example, a decrease of that exchange rate by 8 per cent may result in an increase of expenditure by more than USD 552,000 during 2008–2009.

58. Owing to the difference in timing between cash inflows and cash outflows and the sensitivity of the ITL expenditure to the variation of the exchange rate of the United States dollar against the euro, the secretariat recommends keeping a working capital reserve able to sustain ITL operations for three months, or about USD 1 million. Delays in receiving fees and the variation of the exchange rate have previously resulted in advances from other sources of funding being sought, as noted in the third annual report of the administrator of the ITL under the Kyoto Protocol,¹⁰ preventing the ITL from being self-sustaining.

59. At its twenty-seventh session, the SBI requested the secretariat to include information in its annual report on the planned activities and staffing levels for the forthcoming year in order to facilitate the transparency of ITL administrator activities during the operational phase of the ITL. For 2009 the planned staffing level is six Professional and two General Service staff to perform the following activities of the ITL administrator:

- Development activities:
 - (a) Initialize and perform go-live events for the remaining national registries;
 - (b) Complete the development activities for the ITL data warehouse, ITL reports, SEF and all approved change requests in 2008 and 2009;
 - (c) Continue to support future changes to the DES and releases of the ITL as a result of the operational experience and changes adopted under the change management and release management common operational procedures.

¹⁰ FCCC/KP/CMP/2007/5.

- Operational activities:
 - (a) Continue to support the live operations and test activities of the ITL system and the registry systems in all supported environments;
 - (b) Perform all activities to support the operational procedures including change management and the CAB and the execution of the new SIAR common operational procedures;
 - (c) Continue to facilitate cooperation among the RSA Forum and its working groups and registry developers;
 - (d) Continue to support the ITL administrator obligations under all relevant decisions;
 - (e) Provide support for the negotiation of a future regime in relation to the functions of ITL and registry systems.

2. Income to support the ITL administrator activities

60. Following verification of income¹¹ from ITL fees as at 31 December 2007, the United Nations Board of Auditors showed that for 2007, the total fees were USD 2.5 million, USD 1.04 million or 42 per cent had been paid whereas USD 1.46 million or 58 per cent remained unpaid. Of which The Board recommended that secretariat continue to remind Parties of their outstanding ITL assessments.

61. As of 24 November 2008, USD 1,648,171 in ITL fees had been received from Parties for 2007 and USD 4,331,110 for 2008. However, USD 851,829 is outstanding for 2007 and USD 168,890 is outstanding for 2008, a cumulated shortfall of USD 1,020,719 for the period 2007–2008. Some Parties already contributed their 2009 fees. The secretariat would like to express its gratitude to Parties who have paid their fees and urge Parties that have not paid to do so without further delay in order to ensure the continuing operation of the ITL. The status of the fees as at 24 November 2008 is reflected in table 9.

Table 9. Fees and shortfall for ITL activities in 2007–2009

(United States dollars)

	2007	2008	2009
Fees foreseen	2 500 000	4 500 000	4 588 970
Fee received	1 648 171	4 331 110	482 764
Shortfall	851 829	168 890	Not applicable
Cumulated shortfall	851 829	1 020 719	Not applicable

62. By its decision 11/CMP.3, paragraph 15, the CMP authorized the ITL administrator to deny or suspend registry system operations with the ITL in the event of non-payment of a fee by a Party, subject to two reminders followed by a final reminder and a consultation. In accordance with this decision, the ITL administrator has sent reminders to the Parties concerned and aims to complete any required consultations by 31 December 2008 in order to avoid any suspension of registry system operations from January 2009 onwards.

¹¹ FCCC/SBI/2008/13.

3. Actions to optimize the ITL cost structure

63. In order to reduce ITL costs, the secretariat has taken the following measures with no impact on the level of service to registries:

- (a) Increase the number of meetings of working groups and registry developers through conference calls, thereby reducing the travel costs for staff and experts;
- (b) Assign secretariat staff to perform support, go-live and coordination activities rather than use more expensive contractual staff;

64. The secretariat requested the ITL operator to review the type of digital certificates used within the ITL environment and provide options to reduce the total cost of certificate renewals per year.

4. Proposals to optimize the ITL cost structure

65. The secretariat has examined several options with regard to optimizing the ITL cost structure, and is currently considering the following concrete actions:

- (a) The number of environments supported by the ITL team could be reduced. The registry environment and registry developer environments could be removed as the registry systems are performing more operational rather than development activities. If agreed within the RSA Forum, registries and developers would need to build their own environments for testing as part of their development activities. It is expected that this measure would reduce the cost of the ITL by more than USD 400,000 per year.
- (b) The number of physical machines in the various ITL environments could be reduced by virtualizing those machines, thus allowing several environments to be used concurrently on the same equipment. This would reduce the cost of hardware and the cost of maintaining the environments, with the added benefit of ensuring that the ITL environments are strictly running on the same equipment and hence facilitate testing. The secretariat intends to evaluate the cost reduction potential of this option in 2009 and take action to implement it if deemed worthwhile in the following biennium budgets when the ITL hardware is due for renewal.
- (c) Continue with the actions described in paragraphs 63 and 64.

66. Owing to the lateness in connecting 28 national registries, there is insufficient information available regarding the frequency, size and/or type of transactions processed by the ITL which would facilitate the approach to ensure sufficient and stable funding for the ITL, as envisaged by decision 11/CMP.3.

Annex I**Registry status as at 31 October 2008**

Registry	Date independent assessment report issued	Date of live connection to the international transaction log
CDM Registry	Not applicable	14 November 2007
Australia		
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	
Croatia		
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	
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	
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 of Great Britain and Northern Ireland	16 August 2007	16 October 2008

Annex II

**Status of international transaction log fee payments for 2008–2009 (in United States dollars)
as at 24 November 2008**

Party	2008 budgeted	2008 received	2008 outstanding	2009 budgeted	2009 received	2009 outstanding
Austria	70 290	70 290	0	71 680	0	71 680
Belgium	87 345	87 345	0	89 072	60	89 012
Bulgaria	1 575	1 575	0	1 606	0	1 606
Canada	201 420	201 420	0	205 402	0	205 402
Czech Republic	22 275	22 255	20	22 715	0	22 715
Denmark	58 545	58 545	0	59 702	59 682	20
Estonia	1 260	1 260	0	1 285	0	1 285
European Community	118 890	118 820	70	121 241	0	121 241
Finland	44 685	44 660	25	45 568	0	45 568
France	472 365	472 365	0	481 704	0	481 704
Germany	679 635	679 635	0	693 073	0	693 073
Greece	47 205	0	47 205	48 138	0	48 138
Hungary	19 350	19 350	0	19 733	0	19 733
Iceland	32 670	32 670	0	33 316	33 316	0
Ireland	35 280	35 280	0	35 978	35 978	0
Italy	402 480	402 480	0	410 437	0	410 437
Japan	661 500	661 500	0	674 579	0	674 579
Latvia	1 440	1 440	0	1 468	1 468	0
Liechtenstein	8 325	8 325	0	8 490	0	8 490
Lithuania	2 475	2 475	0	2 524	0	2 524
Luxembourg	6 750	6 750	0	6 883	0	6 883
Monaco	8 010	8 010	0	8 168	0	8 168
Netherlands	148 410	148 410	0	151 344	0	151 344
New Zealand	42 525	42 500	25	43 366	0	43 366
Norway	102 690	102 690	0	104 720	104 685	35
Poland	39 690	39 650	40	40 475	0	40 475
Portugal	41 760	41 760	0	42 586	0	42 586
Romania	5 535	5 535	0	5 644	0	5 644
Russian Federation	121 455	0	121 455	123 856	0	123 856
Slovakia	4 995	4 995	0	5 094	0	5 094
Slovenia	7 605	7 605	0	7 755	7 755	0
Spain	235 170	235 170	0	239 820	239 820	0
Sweden	84 870	84 845	25	86 548	0	86 548
Switzerland	122 175	122 150	25	124 591	0	124 591
Ukraine	33 030	33 030	0	33 683	0	33 683
United Kingdom of Great Britain and Northern Ireland	526 320	526 320	0	536 726	0	536 726
Total	4 500 000	4 331 110	168 890	4 588 970	482 764	4 106 206
