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Subsidiary Body for Implementation

Report of the administrator of the international transaction log under the Kyoto Protocol


Summary

This sixteenth annual report of the administrator of the international transaction log provides information to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on the activities of the administrator of the international transaction log in the period from 1 October 2019 to 30 September 2020. It contains information on transactions of Kyoto Protocol units, as requested by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its sixth session, and information on the outcomes of the 22nd Registry System Administrators Forum.

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Abbreviations and acronyms

AAU	assigned amount unit
CDM	clean development mechanism
CER	certified emission reduction
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
COP	Conference of the Parties
ERU	emission reduction unit
EUTL	European Union transaction log
ITL	international transaction log
ICER	long-term certified emission reduction
NIR	national inventory report
RMU	removal unit
RSA	registry system administrator
RSA Forum	Registry System Administrators Forum
SBI	Subsidiary Body for Implementation
SEF	standard electronic format
SIAR	standard independent assessment report
tCER	temporary certified emission reduction

I. Introduction

A. Mandate

1. CMP 1 requested the secretariat to establish and maintain the ITL to verify the validity of transactions proposed by registries established under decisions 3/CMP.1 and 13/CMP.1.¹ The ITL is essential for implementing the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol.
2. COP 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.²
3. CMP 1 also requested the 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.³

B. Scope of the report

4. This sixteenth annual report of the ITL administrator to the CMP, covering the reporting period from 1 October 2019 to 30 September 2020, contains information on the implementation of the ITL and its operational status, including the facilitation of cooperation with RSAs through the RSA Forum and the independent assessment of registry systems. It also contains information on transactions of Kyoto Protocol units, organizational arrangements and resources.

C. Possible action by the Subsidiary Body for Implementation

5. The SBI may wish to take note of the information in this report and to request the CMP to provide guidance to the secretariat and Parties, as necessary, concerning the implementation of registry systems.
6. The SBI may also wish to provide guidance to the ITL administrator on finalizing the data exchange standards,⁴ as divergent views on implementing the carry-over process for Parties included in Annex I⁵ without quantified emission limitation or reduction commitments for the second commitment period of the Kyoto Protocol meant that the work could not be completed.
7. The SBI may further wish to provide guidance to the ITL administrator with regard to the expiry date of tCERs issued for the second commitment period.

II. Work undertaken in the reporting period

A. Summary

8. The ITL administrator convened the 22nd RSA Forum and continued to coordinate the tasks of its working groups.
9. Activities related to the twelfth annual assessment of national registries and the accounting of Kyoto Protocol units were conducted, including generating SIARs on the basis of information on changes in national registries and the SEF tables contained in the NIRs for 2019.

¹ Decision 13/CMP.1, annex, para. 38.

² Decision 16/CP.10, para. 6(m).

³ Decision 12/CMP.1, para. 11.

⁴ See decision 24/CP.8, para. 3.

⁵ The term "Party included in Annex I" is defined in Article 1, para. 7, of the Kyoto Protocol.

10. The ITL administrator continued to support the operations of the ITL. Detailed information on its operational activities and performance is provided in chapter II.C below.

B. Implementation activities

1. Software releases

11. During the reporting period, there were no releases of ITL software. A release with minor updates to address application log issues and improve the logging mechanism so as to allow data to be collected and monitored in the cloud is planned for the end of 2020.

2. Standard electronic format reporting application

12. Parties included in Annex I report, in the SEF tables, information on ERUs, CERs, tCERs, ICERs, AAUs and RMUs from their national registry transferred or acquired in the calendar year preceding the reporting year.⁶

13. CMP 11 requested the ITL administrator to develop an application to facilitate the submission of the SEF tables for reporting Kyoto Protocol units for the second commitment period and to report on progress in developing and testing that application in its annual report.⁷ The ITL administrator developed an application to enable the preparation of the SEF tables, as specified in the eleventh annual report of the ITL administrator.⁸

14. During the reporting period, the ITL administrator prepared and released a new version of the SEF reporting application containing a performance enhancement. The new version was successfully used by Parties to generate the SEF reports for the 2020 reporting cycle.

3. Common operational procedures

15. During the reporting period, no changes were made to the existing common operational procedures as they were deemed to be well established and still relevant.

4. Maintenance and technology refresh

16. A back-end migration of the public key infrastructure of the ITL service was carried out during the reporting period. The migration allows for a new line of digital certificates for the ITL to be issued to national registries in the course of 2021 to replace the initial certificates, which expire at the beginning of 2022, while ensuring business continuity during the transitional period.

17. To maintain the ITL service and protect against cybersecurity threats, software upgrades for the ITL components, including operating systems, application servers and database servers, were carried out during the reporting period. Solutions for a virtual private network and load-balancing issues were also implemented. A security audit of the ITL service to identify and remedy any vulnerabilities will be carried out in the last quarter of 2020.

5. Data centre hosting and infrastructure

18. Following completion of the migration of the data centre hosting of the ITL infrastructure to a cloud-based environment in February 2019, the availability of the ITL has remained stable and its service well within the agreed levels.

19. During the reporting period, the ITL administrator – jointly with the cloud service provider – undertook a review and assessment of the ITL architecture focusing on resilience and failover capacity of the components forming the ITL infrastructure. Changes necessary to improve service availability and fault tolerance were identified, prioritized and implemented, while opportunities for optimizing the ITL service are being considered.

⁶ Decision 15/CMP.1, annex, para. 11.

⁷ Decision 3/CMP.11, para. 19.

⁸ FCCC/SBI/2015/INF.12, para. 13.

20. The secretariat continues to monitor the quality of the ITL service and improve service delivery arrangements with the new provider by leveraging the benefits of using a cloud-based environment.

6. Information technology service management

21. Options for optimizing and consolidating activities related to the ITL service desk and to software development were investigated and subsequently reported in the previous report of the ITL administrator.⁹ Following a review of application support activities, the ITL team internalized these activities, leading to cost savings. However, owing to the 24 hours a day, seven days a week, nature of support needs and the extensive, specialized skills required to provide such support, it is not possible to internalize infrastructure support activities.

C. Operational activities

1. Provision of support for registry testing

22. During the reporting period, the ITL administrator supported the functional testing for the second commitment period of one national registry.¹⁰ In addition, the ITL administrator supported operational activities and changes for eight national registries, including service migration, connectivity support and disaster recovery testing.

2. Disaster recovery testing

23. Following the migration of the ITL infrastructure to the cloud, a revised disaster recovery plan was developed in collaboration with the cloud service provider. Disaster recovery testing is planned to be conducted in the last quarter of 2020. However, the failover of the individual components of the ITL infrastructure and the data replication bridge between the primary and secondary sites of the ITL were tested during the reporting period.

3. Transaction data and their analysis

24. The level of activity in the ITL can be measured using various transactional and operational metrics. Figure 1 shows the number of transactions proposed to the ITL in the production environment¹¹ each month during the reporting period. The breakdowns by registry of the number of transactions and the number of Kyoto Protocol units subject to transactions proposed to the ITL in the reporting period are shown in annexes II and III, respectively.

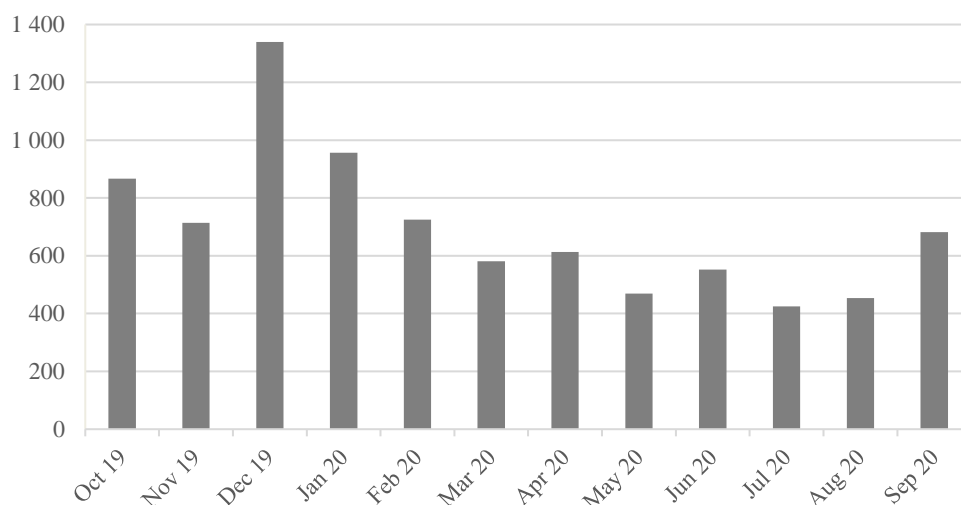
⁹ FCCC/SBI/2019/INF.14, paras. 69–70.

¹⁰ In accordance with annex H to the data exchange standards, which contains functional test suites covering modalities, rules and guidelines for emissions trading under Article 17 of the Kyoto Protocol.

¹¹ The live system of the ITL used to support emissions trading under the Kyoto Protocol.

Figure 1

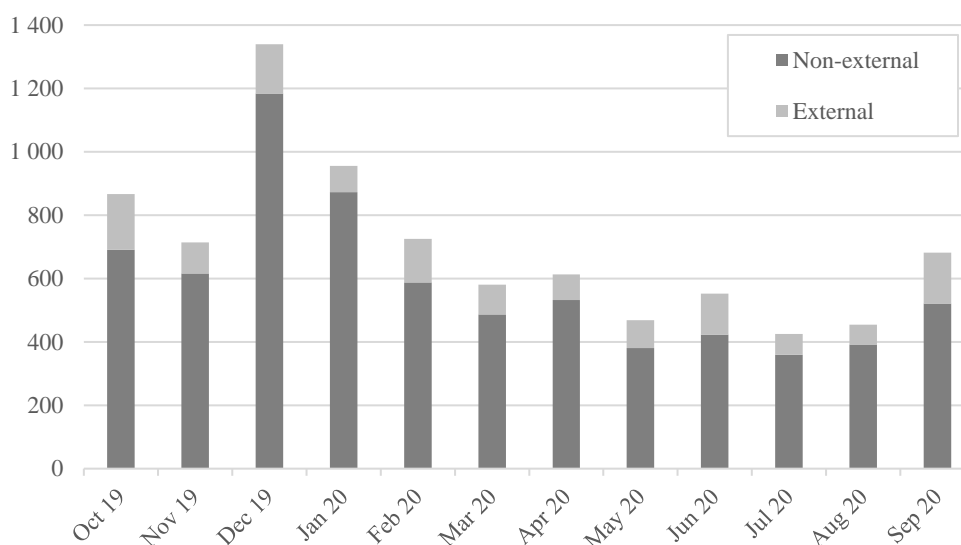
Number of transactions proposed to the international transaction log between 1 October 2019 and 30 September 2020



25. External transactions, in which the units involved leave the originating registry and arrive at a different registry, and non-external transactions, in which the units stay in the same registry, take place in the registry systems and the ITL. Figure 2 shows the evolution of the breakdown of external and non-external transactions in the ITL during the reporting period.

Figure 2

Number of external transactions compared with non-external transactions in the international transaction log between 1 October 2019 and 30 September 2020

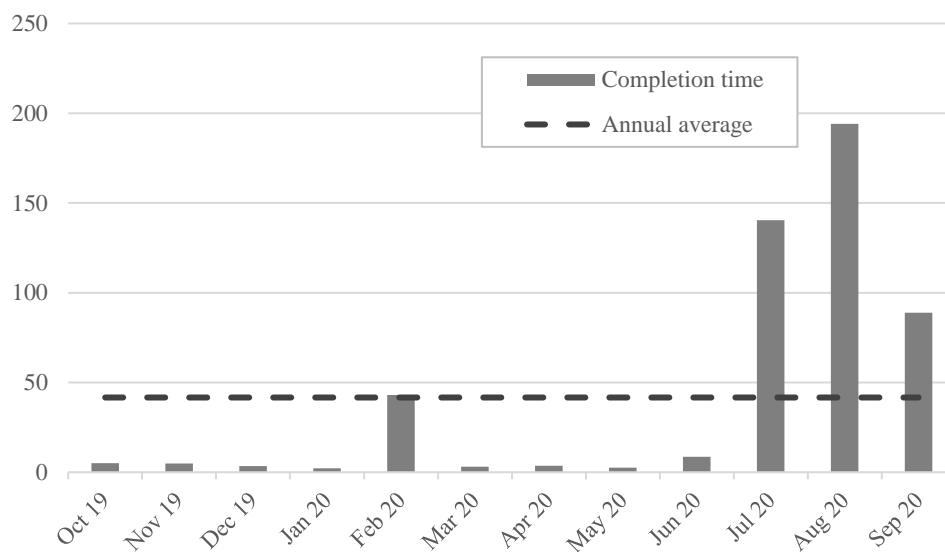


26. Transactions proposed to the ITL end with the status terminated, cancelled or completed.

27. The transaction completion time includes the latency incurred as a result of the travel time of messages through the registry network and the processing time within registries, the ITL and the EUTL (if a European Union Emissions Trading System registry is involved in the transaction). The monthly average transaction completion times in the reporting period are shown in figure 3.

Figure 3
Monthly average transaction completion times between 1 October 2019 and 30 September 2020

(Seconds)



28. The longer average transaction completion times observed in February, June, July, August and September are due to unexpected national registry downtime, which caused some ongoing transactions to take longer to complete.

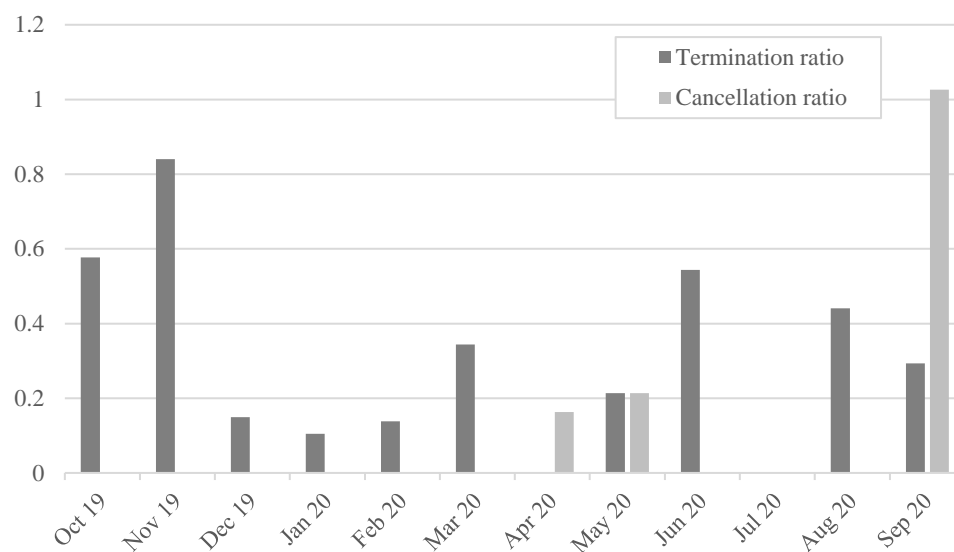
29. Transactions that are not compliant with the data exchange standards are terminated by the ITL. The transaction termination ratio, an indicator of the level of internal checking performed by registries to ensure that the proposed transaction is accurate, is obtained by dividing the number of terminated transactions by the number of transactions proposed in a given time frame. The evolution of the termination ratio in the reporting period is shown in figure 4.

30. If a transaction has not reached a final status within 24 hours, it is automatically cancelled by a clean-up mechanism. The transaction cancellation ratio, an indicator of the extent of communication problems in registry systems, is obtained by dividing the number of cancelled transactions by the number of proposed transactions in a given time frame. Figure 4 also provides the transaction cancellation ratios in the reporting period.

Figure 4

Transaction cancellation and termination ratios between 1 October 2019 and 30 September 2020

(Per cent)

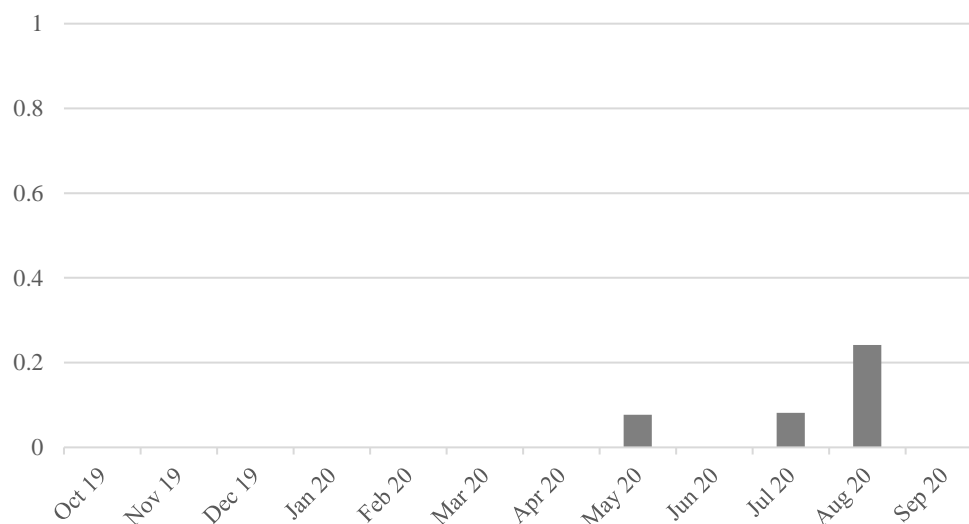


31. The reconciliation process ensures that holdings of Kyoto Protocol units are consistent between registries and the ITL. The occurrence of a reconciliation inconsistency indicates a discrepancy between the ITL and a registry's records. The inconsistent reconciliation ratio is obtained by dividing the number of inconsistent reconciliations by the number of reconciliations initiated in a given time frame. The ratio is an indicator of the capacity of registries to maintain accurate records of their Kyoto Protocol unit holdings. Figure 5 shows the inconsistent reconciliation ratios in the reporting period.

Figure 5

Inconsistent reconciliation ratios between 1 October 2019 and 30 September 2020

(Per cent)



32. The ITL facilitates communication between registries in performing their transactions. The ITL can become unavailable during planned maintenance windows, of which RSAs are informed in advance, or during unplanned outages caused by operational incidents. Given that there were no unplanned outages during the reporting period, the availability of the ITL was 100 per cent. The availability of the ITL taking into account planned outages was 99.58 per cent.

33. The ITL started to receive units applicable to the second commitment period in April 2013, when the first issuance of CERs for the second commitment period was made in the

CDM registry. As at 30 September 2020, 603,498,016 CERs for the second commitment period had been issued for 1,361 CDM projects.

4. Status of carry-over

34. Following completion of the true-up period, 18 Parties carried over units issued for the first commitment period to the second commitment period. A total of 137,153,029 CERs, 168,128,873 ERUs and 5,794,523 AAUs had been carried over as at 30 September 2020.

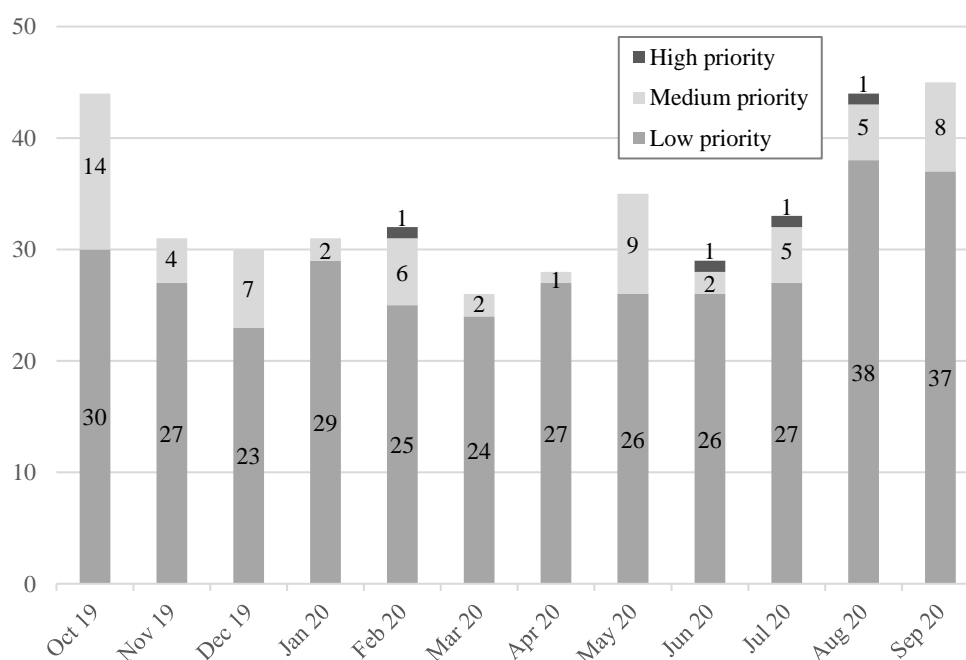
5. Service desk

35. The ITL service desk is the focal point for all support provided to RSAs for operating and testing their registries. The service desk carries out the technical activities related to the initialization and go-live processes under the supervision of the ITL administrator. The service desk provides continuous support to RSAs from 8 p.m. on Sundays until midnight on Fridays (Coordinated Universal Time).

36. Figure 6 tracks the number of support requests handled by the ITL service desk during the reporting period, categorized by priority. High-priority support requests are initiated when the processing of transactions from one or more registries cannot be performed. Medium-priority support requests are related to the performance or the stability of the ITL, which may affect transaction processing. Low-priority support requests are related to information items or performance issues that do not directly affect transaction processing.

Figure 6

Number of support requests handled by the international transaction log service desk between 1 October 2019 and 30 September 2020



6. Change management activities

37. Since the go-live of the ITL, the ITL administrator has established a change management procedure for making changes to the data exchange standards and to the common operational procedures governing various processes.

38. During the reporting period, no change requests were submitted and the ITL administrator continued to maintain the data exchange standards in collaboration with RSAs.

39. Owing to diverging views on implementing the carry-over process for Parties included in Annex I without quantified emission limitation or reduction commitments for the second commitment period, it has not been possible to issue a final version of the data exchange standards with complete support for the second commitment period processes. The SBI may

wish to provide guidance to the ITL administrator on this issue, the resolution of which is essential to ensuring accurate accounting of all Kyoto Protocol units.

40. The SBI may also wish to provide guidance to the ITL administrator on the expiration date of tCERs issued for the second commitment period. Some RSAs have noted the lack of clarity with regard to the expiration date of these tCERs, which are due to expire at the end of the commitment period following the one during which they were issued.

7. Communications

41. The ITL administrator continues to facilitate collaboration among RSAs to ensure the accurate, efficient and secure operation of registry systems. To support this process, the ITL administrator utilizes and maintains a number of communication channels, including pages on the UNFCCC website and the RSA extranet collaboration platform. This platform will be transitioned to Microsoft Teams in 2021.

42. During the reporting period, the ITL administrator supported the work of the secretariat in updating the UNFCCC website to improve public access to ITL information through a modern, user-friendly interface.

43. The turnover in RSAs is relatively high, and the registry system and accounting of Kyoto Protocol units are complex matters, leading to a steep learning curve for newcomers. Since a large body of documentation and presentations, covering over 12 years of operations, is available on the RSA extranet, the ITL administrator continues to explore efficient ways of providing the most relevant presentations and documents to newcomers so that they may familiarize themselves quickly with the registry system processes and procedures and the accounting framework of the Kyoto Protocol.

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

1. Annual assessment activities

44. The process of creating the SIARs¹² relies on the initial independent assessment of national registries. The process is followed by RSAs when reporting annually on changes in national registries and providing information on accounting of Kyoto Protocol units, and guides the activities carried out by assessors when reviewing reported changes and accounting information. The final SIARs are forwarded to the expert review teams for consideration as part of the review of national registries.¹³

45. The ITL administrator continues to encourage and promote the engagement of RSAs in the SIAR process¹⁴ with a view to stimulating the sharing of information on national registry related reporting and review and thus improving the quality of the information on national registries in the annual submissions and optimizing the ITL cost structure.

46. Before a registry assessment by the SIAR assessors, a Party submits an NIR and an SEF report to the secretariat. During the reporting period, 37 Parties submitted their NIRs with information on changes in their national registries and SEF reports with information on transactions applicable to the second commitment period.

47. The following issues regarding the assessed registries were identified and addressed in the recommendations provided by the assessors in the final SIARs:

(a) Some Parties did not fully comply with the requirement contained in decision 13/CMP.1, annex, paragraphs 44–48, to make information publicly accessible;

(b) Some Parties did not fully comply with the requirement contained in decision 15/CMP.1, annex, paragraph 32, to provide complete information on changes to their national registry.

¹² See decision 16/CP.10, para. 5(a).

¹³ Decision 16/CP.10, para. 6(k).

¹⁴ Per decision 16/CP.10, para. 6(c).

2. Go-live activities

48. Since no go-live processes were initiated by registries during the reporting period, the ITL administrator did not need to provide relevant support. As at 30 September 2020, 38 national registries and the CDM registry were connected to the ITL (see annex I).

E. Registry System Administrators Forum

49. The ITL administrator convenes the RSA Forum to coordinate the technical and management activities of RSAs, 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.¹⁵

50. Participation in the RSA Forum is open to all national registry administrators, the CDM registry administrator and the EUTL administrator. A number of experts from Parties to the Kyoto Protocol that are not included in Annex I to the Convention are also invited to attend.

51. The 22nd RSA Forum took place virtually on 5 and 6 October 2020. Eighty participants registered. Presentations and discussions on the operations of registry systems covered:

- (a) The status of ITL operations, with a focus on transport layer security upgrades and the availability of a data export tool for use by national registries;
- (b) Feedback on the ITL security audit to be carried out in late 2020;
- (c) The status of ratification of the Doha Amendment and the implications of its entry into force for transactions and reporting obligations;
- (d) The support of national registries through the provision of testing protocols and assistance with testing environments;
- (e) The reporting processes for the independent assessment of national registries conducted during the reporting period and preparations for the next reporting cycle;
- (f) Key actions and events related to registries and the ITL occurring in late 2020 and in 2021.

52. Presentations were made and discussions held to promote information-sharing among RSAs and to provide feedback on related or emerging initiatives on the following matters:

- (a) The status of the CDM;
- (b) The status of negotiations under Article 6 of the Paris Agreement;
- (c) The Carbon Offsetting and Reduction Scheme for International Aviation;
- (d) The Climate Warehouse initiative of the World Bank.

F. Other activities

53. The purpose of the security working group is to elaborate options for enhancing information security controls in systems supporting emissions trading under the Kyoto Protocol, as requested at SBI 40.¹⁶

54. The security working group did not meet during the reporting period as there were no specific matters to discuss. It may meet in the future to discuss and coordinate the approach to implementing transport layer security version 1.3 in registry systems.

55. In response to a request made at the 21st RSA Forum,¹⁷ the working group on the second commitment period of the Kyoto Protocol met once during the reporting period to review the implications of the entry into force of the Doha Amendment for transactions of Kyoto Protocol units and reporting.

¹⁵ Per decision 16/CP.10.

¹⁶ FCCC/SBI/2014/8, para. 72.

¹⁷ See document FCCC/SBI/2019/INF.14, para. 52.

56. The ITL administrator continues to monitor the negotiations under Article 6 of the Paris Agreement for any potential impacts on the ITL.

III. Organizational arrangements and resources

57. Effective 1 March 2020, the functions of the ITL administrator have been assumed by the Mitigation division within the new structure of the secretariat. The Information and Communication Technology subdivision is responsible for software delivery and supporting the secretariat's information technology infrastructure, including the infrastructure sustaining the ITL.

A. Resource requirements and expenditure

58. The resource requirements for activities relating to the ITL and the ITL administrator, to be funded from supplementary sources for the bienniums 2006–2007,¹⁸ 2008–2009,¹⁹ 2010–2011,²⁰ 2012–2013,²¹ 2014–2015,²² 2016–2017,²³ 2018–2019²⁴ and 2020–2021,²⁵ were identified in the proposed programme budgets for the respective bienniums.

59. The budget for the ITL for the biennium 2020–2021²⁶ is EUR 4,610,775, including a working capital reserve of EUR 192,339.

60. CMP 3 requested the Executive Secretary to provide a breakdown of expenditure on the development and operation of the ITL with a view to optimizing its cost structure.²⁷ Table 1 shows the expenditure of the ITL in the biennium 2020–2021 by object of expenditure.

Table 1

Expenditure of the international transaction log in the biennium 2020–2021 as at 30 September 2020

(Euros)

<i>Object of expenditure</i>	<i>Expenditure</i>
Staff costs	352 115
Contractual and consultancy services	511 952 ^a
Expert groups	0
Travel of staff	0
General operating expenses	140 835 ^a
Contributions to common services	39 967
Programme support costs	135 832
Total expenditure	1 180 701

^a EUR 423,671 was obligated for contractual services and general operating expenses for until the end of 2020 but not spent in the first nine months of 2020.

61. Table 2 shows the expected percentage breakdown of estimated expenditure on contractors and consultants in 2020. Operational services are activities performed by the developer and operators of the ITL to sustain all operations of the ITL, such as infrastructure maintenance and the service desk. Software maintenance services are services performed by

¹⁸ See document FCCC/SBI/2005/8/Add.2.

¹⁹ See document FCCC/SBI/2007/8/Add.2.

²⁰ See document FCCC/SBI/2009/2/Add.3.

²¹ See document FCCC/SBI/2011/2/Add.3.

²² See document FCCC/SBI/2013/6/Add.3.

²³ See document FCCC/SBI/2015/3/Add.3.

²⁴ See document FCCC/SBI/2017/4/Add.2.

²⁵ See document FCCC/SBI/2019/4/Add.2.

²⁶ See decision 5/CMP.15, paras. 1–2.

²⁷ Decision 11/CMP.3, para. 14.

the developer of the ITL to support any relevant software implementation activities, including those outlined in this report. Consultancy expenditure is incurred when the secretariat needs to consult experts in specific fields.

Table 2

Expected percentage breakdown of expenditure of the international transaction log on contractors and consultants in 2020

<i>Object of expenditure</i>	<i>% of total expenditure</i>
Operational services	80
Production and disaster recovery environments	54
Service desk	11
Registry developer support	3
Security and disaster recovery testing	12
Software maintenance services	16
Consultancy	4

62. CMP 4 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 those activities.²⁸

63. In 2020 the focus of the activities of the ITL was on completing the transition to the cloud-based service provider and continuing efforts to ensure that registry systems operate securely and reliably.

64. Owing to several staff departures, the restructuring of the secretariat and the decrease in operational activities, the staffing level of the ITL during the reporting period was below the requirements included in its budget.

65. The ITL staff:

(a) Provide technical services through the ITL to enable national registries and the CDM registry to perform transactions of Kyoto Protocol units;

(b) Ensure reliable hosting for the ITL and perform upgrades to the hardware and software of the ITL infrastructure, as necessary;

(c) Support national registries, the consolidated system of European Union Emissions Trading System registries, the EUTL, the CDM registry, the joint implementation and CDM information systems and the compilation and accounting database in order to maintain their connections and operations with the ITL;

(d) Initialize, perform and support go-live events for registries not yet connected;

(e) Support changes to the data exchange standards and new releases of ITL software and the SEF reporting application resulting from operational experience and changes adopted under the common operational procedure for change management;

(f) Facilitate the annual reporting on and review of national registries and accounting of greenhouse gas emission units under Articles 7–8 of the Kyoto Protocol;

(g) Administer and maintain the RSA extranet;

(h) Facilitate cooperation among RSAs through the RSA Forum and its working groups to ensure that registry systems are accurate, efficient and secure;

(i) Support testing of the ITL and registry systems, including through disaster recovery testing and security audits, with a view to enhancing the reliability and security of the ITL;

(j) Make available to RSAs and relevant experts from Parties to the Kyoto Protocol that are not included in Annex I to the Convention online training and guidance

²⁸ FCCC/KP/CMP/2008/11, para. 72.

materials on the general functioning of the ITL and registry systems, the common operational procedures and other relevant knowledge areas;

(k) Support the ITL administrator in meeting its obligations in accordance with all applicable decisions of the COP and the CMP;

(l) Monitor and support the negotiations under Article 6 of the Paris Agreement to identify potential impacts on the ITL.

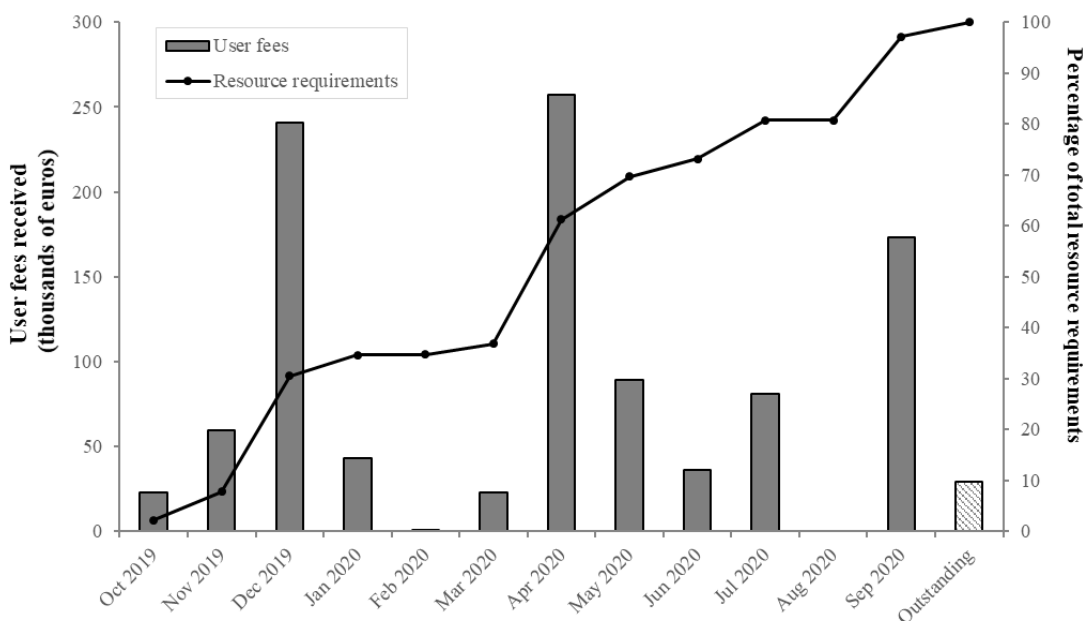
B. Income for activities

66. As at 30 September 2020, USD 1,963,788 in ITL user fees had been received from Parties for 2007,²⁹ USD 4,518,060 for 2008, USD 4,745,041 for 2009, EUR 3,014,423 for 2010, EUR 3,014,423 for 2011, EUR 2,885,010 for 2012, EUR 2,759,483 for 2013, EUR 2,740,760 for 2014, EUR 2,740,760 for 2015, EUR 2,602,275 for 2016, EUR 2,602,275 for 2017, EUR 1,352,260 for 2018, EUR 1,352,260 for 2019 and EUR 1,025,918 for 2020. One Party was credited with advances towards its 2021 ITL fees as a result of overpayment of its 2020 fees and advance payment of its 2021 fees. The secretariat would like to express its gratitude to the Parties that have paid their fees and remind those Parties with outstanding fees to pay them without delay. The scale of ITL fees and the status of fee payments for the biennium 2020–2021 as at 30 September 2020 are shown in annex IV. The status of fees as at 30 September 2020 is shown in annex V.

67. Delays in receiving user fees from Parties have been noted in previous annual reports of the ITL administrator. As at 30 September 2020, EUR 29,470 was still due for 2020 (2.8 per cent of the fees budgeted for 2020). Figure 7 shows the user fees that had been received for 2020 in 2019 and 2020 as at 30 September 2020 and the cumulative percentage of resource requirements by month.

Figure 7

International transaction log user fees for 2020 received in 2019 and 2020 as at 30 September 2020



68. CMP 13 requested the ITL administrator to disclose in its annual report the unspent balance of the Trust Fund for the International Transaction Log from the previous biennium as at the time of publication of the report.³⁰

²⁹ This figure differs from that provided in the annual reports of the ITL administrator prior to 2011 because USD 48,693 in user fees for 2007 was received in July 2011.

³⁰ Decision 7/CMP.13, para. 7.

69. As at 31 December 2019, the unspent balance of the Trust Fund for the International Transaction Log was USD 8,061,000, not including the operating reserve of USD 241,000.³¹

C. Optimization of the cost structure

70. The ITL administrator continues to seek ways to optimize the ITL cost structure and is currently considering or continuing the following measures:

- (a) Optimizing the data hosting, technology refresh, and licence and third-party support costs of the required software and hardware;
- (b) Systematizing, documenting and addressing typical incident, user error and user problem scenarios, while providing proactive guidance to registry systems, to minimize their reoccurrence and associated remedial costs;
- (c) Simplifying registry testing arrangements, registry contact management and digital certificate management with the goal of optimizing the costs associated with these activities;
- (d) Engaging RSAs in the centralized annual review of national registries, thereby avoiding the cost of consultants and minimizing travel costs;
- (e) Providing options for virtual participation and remote meetings with the goal of reducing travel and meeting costs;
- (f) Identifying ways to employ secretariat staff instead of consultants or contractors, where possible, including options for consolidating activities related to the ITL service desk, software development and application support.

71. During the reporting period, the review of the technical functions underpinning the ITL was completed with the following outcomes:

- (a) The **service desk function** remains externalized because it would not be financially viable to internalize it and because of the 24 hours a day, seven days a week, nature of support needs;
- (b) The **software development function** remains externalized because it would not be financially viable to internalize it and because it requires specialized skills not readily available in the secretariat;
- (c) The **application support function**, following a review of its activities, has been internalized within the ITL team, leading to cost savings;
- (d) The **infrastructure support function**, owing to the extensive, specialized skills required to provide such support and the 24 hours a day, seven days a week, nature of support needs, remains externalized.

³¹ These are preliminary figures.

Annex I

Registry status as at 30 September 2020

<i>Registry</i>	<i>Issue date of independent assessment report</i>	<i>Date of live connection to the ITL</i>
CDM	Not applicable	14 November 2007
Australia	19 December 2008	19 December 2008
Austria	12 July 2007	16 October 2008
Belarus	—	—
Belgium	7 December 2007	16 October 2008
Bulgaria	10 April 2008	16 October 2008
Croatia	30 April 2008	11 December 2009
Cyprus	1 February 2017	4 November 2016
Czechia	1 August 2007	16 October 2008
Denmark	16 October 2008	16 October 2008
Estonia	12 November 2007	16 October 2008
European Union	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
Kazakhstan	—	—
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
Malta	22 February 2017	4 November 2016
Monaco	9 April 2008	30 July 2015
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 ^a	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

^a Disconnected from the ITL on 30 December 2015 in accordance with decision 8/CMP.11.

Annex II

**Number of transactions proposed to the international
transaction log between 1 October 2019 and 30 September
2020**

<i>Registry</i>	<i>Acquisition^a</i>	<i>Transfer^b</i>	<i>Forwarding^c</i>	<i>Internal transfer^d</i>	<i>Issuance^e</i>	<i>Retirement^f</i>	<i>Cancellation^g</i>	<i>Total</i>
CDM	0	24	548	0	339	0	4 156	5 067
Australia	59	62	0	0	0	0	252	373
Austria	5	4	0	0	0	0	1	10
Belarus ^h	0	0	0	0	0	0	0	0
Belgium	0	1	0	0	0	0	2	3
Bulgaria	0	0	0	0	0	0	2	2
Croatia	0	0	0	0	0	0	0	0
Cyprus	0	0	0	0	0	0	0	0
Czechia	0	0	0	0	0	0	0	0
Denmark	1	3	0	0	0	0	0	4
Estonia	0	0	0	0	0	0	0	0
European Union	308	192	0	0	0	0	626	1 126
Finland	18	6	0	0	0	0	1	25
France	4	0	0	0	0	0	12	16
Germany	53	95	0	0	0	0	174	322
Greece	0	0	0	0	0	0	0	0
Hungary	1	1	0	0	0	0	0	2
Iceland	0	0	0	0	0	0	0	0
Ireland	32	0	0	0	0	0	3	35
Italy	2	7	0	1	0	0	9	19
Japan	0	0	0	0	0	0	0	0
Kazakhstan ^h	0	0	0	0	0	0	0	0
Latvia	0	0	0	0	0	0	0	0
Liechtenstein	1	0	0	0	0	0	0	1
Lithuania	0	2	0	1	0	0	1	4
Luxembourg	5	0	0	0	0	0	0	5
Malta	0	0	0	0	0	0	0	0
Monaco	3	0	0	0	0	0	0	3
Netherlands	14	94	0	0	0	0	130	238
New Zealand	0	0	0	0	0	0	199	199
Norway	22	6	0	8	0	0	66	102
Poland	0	0	0	1	0	0	0	1
Portugal	0	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	2	2
Russian Federation ^h	0	0	0	0	0	0	0	0
Slovakia	0	0	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0	0	0
Spain	11	8	0	0	0	0	29	48
Sweden	29	27	0	13	0	0	153	222
Switzerland	123	175	0	116	0	0	345	759
Ukraine	0	0	0	0	0	0	0	0
United Kingdom	44	52	0	4	0	0	61	161
Total	735	759	548	144	339	0	6 224	8 749

Note: Completed transactions of AAUs, ERUs, RMUs, CERs, ICERs and tCERs have been accounted for.

^a Acquisition from another national registry. See decision 13/CMP.1, annex, para. 30.

^b Transfer to another national registry. See decision 13/CMP.1, annex, para. 30.

^c Forwarding from the CDM registry to a national registry. See decision 3/CMP.1, annex, para. 66(b). Transfers from the CDM registry to a national registry in support of the Adaptation Fund are excluded.

^d Transfer within the registry. See decision 13/CMP.1, annex, para. 30.

^e See decisions 13/CMP.1, annex, paras. 23–29; 3/CMP.1, annex, paras. 64–66; and 5/CMP.1, annex, paras. 36–37. Issuance of ERUs by converting AAUs or RMUs is included.

^f See decision 13/CMP.1, annex, para. 34.

^g See decision 13/CMP.1, annex, para. 33.

^h Not currently connected to the ITL.

Annex III

Number of Kyoto Protocol units subject to transactions proposed to the international transaction log between 1 October 2019 and 30 September 2020

<i>Registry</i>	<i>Acquisition^a</i>	<i>Transfer^b</i>	<i>Net transfer^c</i>	<i>Forwarding^d</i>	<i>Internal transfer^e</i>	<i>Issuance^f</i>	<i>Retirement^g</i>	<i>Cancellation^h</i>
CDM	0	1 633 762	1 633 762	74 913 005	0	67 815 273	0	12 070 772
Australia	5 393 123	5 350 374	-42 749	0	0	0	0	6 152 136
Austria	227 435	1 860 531	1 633 096	0	0	0	0	68 863
Belarus ⁱ	0	0	0	0	0	0	0	0
Belgium	0	4 987	4 987	0	0	0	0	68
Bulgaria	0	0	0	0	0	0	0	382 823
Croatia	0	0	0	0	0	0	0	0
Cyprus	0	0	0	0	0	0	0	0
Czechia	0	0	0	0	0	0	0	0
Denmark	299	1 525 000	1 524 701	0	0	0	0	0
Estonia	0	0	0	0	0	0	0	0
European Union	44 612 667	15 923 893	-28 688 774	0	0	0	0	5 064 565
Finland	276 792	62 880	-213 912	0	0	0	0	6 255
France	719 275	0	-719 275	0	0	0	0	147 036
Germany	3 205 014	13 840 680	10 635 666	0	0	0	0	3 265 750
Greece	0	0	0	0	0	0	0	0
Hungary	14 000	14 000	0	0	0	0	0	0
Iceland	0	0	0	0	0	0	0	0
Ireland	900 576	0	-900 576	0	0	0	0	29 815
Italy	8 665	238 839	230 174	0	22 071	0	0	21 798
Japan	0	0	0	0	0	0	0	0
Kazakhstan ⁱ	0	0	0	0	0	0	0	0
Latvia	0	0	0	0	0	0	0	0
Liechtenstein	53 463	0	-53 463	0	0	0	0	0
Lithuania	0	2	2	0	1	0	0	12
Luxembourg	32 219	0	-32 219	0	0	0	0	0
Malta	0	0	0	0	0	0	0	0

<i>Registry</i>	<i>Acquisition^a</i>	<i>Transfer^b</i>	<i>Net transfer^c</i>	<i>Forwarding^d</i>	<i>Internal transfer^e</i>	<i>Issuance^f</i>	<i>Retirement^g</i>	<i>Cancellation^h</i>
Monaco	13 700	0	–13 700	0	0	0	0	0
Netherlands	1 324 837	18 667 134	17 342 297	0	0	0	0	155 372
New Zealand	0	0	0	0	0	0	0	95 776 924
Norway	351 261	234 056	–117 205	0	3 602 705	0	0	190 411
Poland	0	0	0	0	4 814 441	0	0	0
Portugal	0	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0	812
Russian Federation ⁱ	0	0	0	0	0	0	0	0
Slovakia	0	0	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0	0	0
Spain	218 734	18 835	–199 899	0	0	0	0	306 934
Sweden	1 643 684	1 055 114	–588 570	0	164 071	0	0	7 533 739
Switzerland	91 626 768	12 033 397	–79 593 371	0	5 313 887	0	0	3 495 378
Ukraine	0	0	0	0	0	0	0	0
United Kingdom	5 476 584	85 269 374	79 792 790	0	164 575	0	0	4 441 913
Total	156 099 096	157 732 858	1 633 762	74 913 004	14 081 751	67 815 273	0	139 111 376

Note: Completed transactions of AAUs, ERUs, RMUs, CERs, ICERs and tCERs have been accounted for.

^a Acquisition from another national registry. See decision 13/CMP.1, annex, para. 30.

^b Transfer to another national registry. See decision 13/CMP.1, annex, para. 30.

^c Net transfer is equal to transfer minus acquisition.

^d Forwarding from the CDM registry to a national registry. See decision 3/CMP.1, annex, para. 66(b). Transfers from the CDM registry to a national registry in support of the Adaptation Fund are excluded.

^e Transfer within the registry. See decision 13/CMP.1, annex, para. 30.

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

^g See decision 13/CMP.1, annex, para. 34.

^h See decision 13/CMP.1, annex, para. 33.

ⁱ Not currently connected to the ITL.

Annex IV

**Scale of international transaction log fees and status of fee payments
for the biennium 2020–2021 as at 30 September 2020**

Party	Scale of fees (%)	2020				2021			
		Budgeted (EUR)	Balance of fees after credit from unspent balances (EUR)	Received (EUR)	Outstanding (EUR)	Budgeted (EUR)	Balance of fees after credit from unspent balances (EUR)	Received (EUR)	Outstanding (EUR)
Australia	2.841	67 287	30 803	30 803	0	67 287	30 803	0	30 803
Austria	1.588	37 610	17 218	17 218	0	37 610	17 218		17 218
Belarus ^a	0.073	–	–	–	–	–	–	–	–
Belgium	1.973	46 729	21 392	0	21 392	46 729	21 392	0	21 392
Bulgaria	0.036	853	390	390	0	853	390	0	390
Croatia	0.079	1 871	857	857	0	1 871	857	0	857
Cyprus	0.061	1 445	662	662	0	1 445	662	0	662
Czechia	0.503	11 913	5 454	5 454	0	11 913	5 454	0	5 454
Denmark	1.323	31 334	14 344	14 344	0	31 334	14 344	0	14 344
Estonia	0.028	663	304	304	0	663	304	0	304
European Union	2.685	63 592	29 112	29 112	0	63 592	29 112	0	29 112
Finland	1.009	23 897	10 940	10 940	0	23 897	10 940	0	10 940
France	10.667	252 638	115 656	115 656	0	252 638	115 656	0	115 656
Germany	15.35	363 551	166 431	166 431	0	363 551	166 431	0	166 431
Greece	1.065	25 224	11 547	11 547	0	25 224	11 547	20 217	0
Hungary	0.437	10 350	4 738	4 738	0	10 350	4 738	0	4 738
Iceland	0.737	17 455	7 991	7 991	0	17 455	7 991	0	7 991
Ireland	0.797	18 876	8 641	8 641	0	18 876	8 641	0	8 641
Italy	9.090	215 289	98 558	98 558	0	215 289	98 558	0	98 558
Japan	14.939	353 817	161 971	161 971	0	353 817	161 971	0	161 971
Kazakhstan ^a	0.157	–	–	–	–	–	–	–	–
Latvia	0.032	758	347	347	0	758	347	0	347
Liechtenstein	0.188	4 453	2 039	2 039	0	4 453	2 039	0	2 039
Lithuania	0.055	1 303	597	597	0	1 303	597	0	597
Luxembourg	0.153	3 624	1 659	1 659	0	3 624	1 659	0	1 659
Malta	0.021	497	228	228	0	497	228	0	228
Monaco	0.181	4 287	1 963	1 963	0	4 287	1 963	0	1 963
Netherlands	3.352	79 389	36 344	36 344	0	79 389	36 344	0	36 344
New Zealand	0.961	22 760	10 419	10 419	0	22 760	10 419	0	10 419
Norway	2.319	54 923	25 143	25 143	0	54 923	25 143	0	25 143
Poland	0.896	21 221	9 715	9 715	0	21 221	9 715	0	9 715
Portugal	0.943	22 334	10 224	10 224	0	22 334	10 224	0	10 224
Romania	0.125	2 961	1 356	1 356	0	2 961	1 356	0	1 356
Russian Federation ^a	2.743	–	–	–	–	–	–	–	–
Slovakia	0.113	2 676	1 225	1 225	0	2 676	1 225	0	1 225
Slovenia	0.171	4 050	1 854	1 854	0	4 050	1 854	0	1 854
Spain	5.311	125 786	57 584	57 584	0	125 786	57 584	0	57 584
Sweden	1.917	45 402	20 785	20 785	0	45 402	20 785	0	20 785

		2020				2021			
			<i>Balance of fees after credit from unspent balances</i>	<i>Received</i>	<i>Outstandi ng</i>		<i>Balance of fees after credit from unspent balances</i>	<i>Receive d</i>	<i>Outstanding</i>
<i>Party</i>	<i>Scale of fees (%)</i>	<i>Budgeted (EUR)</i>	<i>(EUR)</i>	<i>(EUR)</i>	<i>(EUR)</i>	<i>Budgeted (EUR)</i>	<i>(EUR)</i>	<i>(EUR)</i>	<i>(EUR)</i>
Switzerland	2.760	65 368	29 925	29 925	0	65 368	29 925	0	29 925
Ukraine	0.745	17 645	8 078	0	8 078	17 645	8 078	0	8 078
United Kingdom	11.888	281 557	128 894	128 894	0	281 557	128 894	0	128 894
Total	–	2 305 388	1 055 388	1 025 918	29 470	2 305 388	1 055 388	20 217	1 035 171

^a Not currently connected to the ITL but will be subject to ITL fees in case of connection or reconnection to the ITL in accordance with decision 5/CMP.15, paras. 11–13.

Annex V

Fees for international transaction log activities and cumulative shortfall

Table V.1

Fees for international transaction log activities in 2007–2009 and cumulative shortfall as at 30 September 2020

(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	4 745 741
Shortfall	536 212	0	0
Cumulative shortfall	536 212	536 212	536 212

Table V.2

Fees for international transaction log activities in 2010–2020 and cumulative shortfall as at 30 September 2020

(Euros)

	2010 ^a	2011	2012	2013	2014 ^b	2015 ^b	2016 ^b	2017 ^b	2018 ^b	2019 ^b	2020 ^b
Fees budgeted original	3 014 423	3 014 423	2 885 010	2 885 010	2 740 760	2 740 760	2 675 679 ^c	2 675 675 ^c	1 352 260	1 352 260	1 055 388
Fees budgeted revised	–	–	–	–	–	–	2 602 275 ^d	2 602 275 ^d	–	–	–
Fees received	3 014 423	3 014 423	2 885 010	2 759 483	2 740 760	2 740 760	2 602 275	2 602 275	1 352 260	1 352 260	1 025 918
Shortfall	0	0	0	125 527	0	0	0	0	0	0	29 470
Cumulative shortfall	374 812	374 812	374 812	500 339	374 812	374 812	374 812	374 812	374 812	374 812	404 282

^a The shortfall for 2009 in United States dollars was carried over to 2010 in euros using the average exchange rate of EUR 0.699 applicable on the day of conversion.

^b Canada's shortfall of EUR 125,527 was not carried over to 2014 and the following years owing to Canada's withdrawal from the Kyoto Protocol and the resulting disconnection of its registry from the ITL.

^c The amount of fees budgeted for the biennium 2016–2017 as per decision 8/CMP.11.

^d The amount of fees budgeted for the biennium 2016–2017 decreased resulting from the disconnection of a Party from the ITL in 2015.