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Open data in Mongolia

The development and implementation of an online system for
the Extractive Industries Transparency Initiative (EITI)

e-reporting.eitimongolia.mn

Adam Smith
International



Acronyms/Abbreviations

CSO	Civil Society Organisation
EBRD	European Bank for Reconstruction and Development
EITI	Extractive Industries Transparency Initiative
EITIM	Extractive Industries Transparency Initiative Mongolia
GDT	General Department of Taxation
HTTP	Hypertext Transfer Protocol
IA	Independent Administrator
MRPAM	Mineral Resources and Petroleum Authority of Mongolia
MSWG	Multi-Stakeholder Working Group
PMBOK	Project Management Body of Knowledge
SOAP	Simple Object Access Protocol
WSDL	Web Service Definition Language
XML	Extensible Markup Language

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Introduction

What is EITI?¹

The Extractive Industries Transparency Initiative (EITI) is a global Standard to promote public awareness about how countries manage their oil, gas and mineral resources. It seeks to strengthen government and company systems, inform public debate, and enhance trust. In each implementing country it is supported by a coalition of governments, companies and civil society working together. Implementing EITI offers a number of benefits to each of these groups, including:

- empowering citizens and civil society to hold government and companies to account;
- establishing a 'level playing field' for companies and state-owned enterprises, and improving companies' social license to operate; and
- to help governments strengthen policy, law, regulation and administration along the extractives value chain and to reduce corruption.

The types of information that EITI seeks to place in public domain are closely linked with the rapid increase around the world in the demand for, and the supply of, "open data" that citizens, governments and companies are using to drive innovation and change.

In Mongolia the three stakeholder groups are represented in equal proportions on the EITI National Council and the Multi-Stakeholder Working Group (MSWG). The participation of civil society organisations is central to the EITI process, both in Mongolia and globally. International and national civil society organisations are active participants in EITI through their research and analysis, advocacy, training and monitoring efforts, particularly at the sub-national level with mine-affected communities.

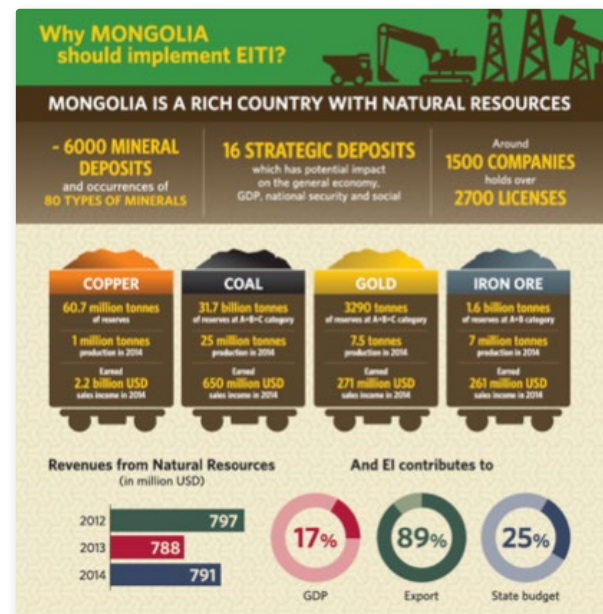
Countries implementing the EITI disclose information on tax payments, licences, contracts, production and other key elements around resource extraction. This information is disclosed in an annual EITI Report. This report is intended to enable citizens to see for themselves how their country's natural resources are being managed and how much revenue they are generating. The EITI Report is produced by an Independent Administrator, typically an accountancy firm, that reconciles the payments that companies say that they have made in the form of taxes, royalties, fees and bonuses, against what government entities report they have received. Discrepancies are investigated by the Independent Administrator and subsequently corrected or reported.

The EITI Standard contains the set of requirements that countries need to meet in order to be recognised as first an EITI Candidate and ultimately an EITI Compliant country. The EITI Standard requires that EITI Reports are comprehensible, actively promoted and contribute to public debate.

¹ Adapted from <https://eiti.org/eiti>

EITI Reports in Mongolia

Mongolia was one of the first countries to commit to implementing EITI and has since produced nine EITI Reports over the period 2006 to 2014. During this time the number of companies submitting reports has increased from 64 in 2006 to 990 in 2014, peaking at 1,495 in 2012². In comparison, in Azerbaijan, the first country to become EITI Compliant, the highest number of companies reporting was 38 in 2013. Indonesia, the first ASEAN country to become Compliant, reached a maximum of 256 companies in the same year. In the USA, one of the more recent EITI candidate countries, only 45 companies were asked to participate in its first report. EITI in Mongolia is therefore on a far greater scale than other implementing countries because of the scale of the extractives sector and the size of the country. Mongolia is therefore presented with unique challenges to the reporting, reconciliation and communications process that is central to EITI implementation. The scale of the extractives industries in Mongolia is captured in the infographic (right), prepared by the EITIM Secretariat.



Reaching Compliant status whilst implementing EITI at this scale was a significant achievement. In addition, Mongolia went beyond the former EITI Rules and the EITI Standard to introduce innovations such as including environmental rehabilitation payments in its reports for which it received an award at the International Conference in Paris in 2011. Nonetheless, despite this success, an underlying issue remained that the main output of EITI – the annual EITI Report – was not produced in a form that was accessible or relevant to the majority of interested stakeholders. While the Reports were “comprehensible” and “promoted” by the EITIM Secretariat, there was limited evidence that EITI Reports were being read, let alone contributing public debate, as required by the EITI Standard. This was because EITI Reports were produced in hard copy or were downloadable from the EITIM website only as PDF files. The critical data and information in the Reports—the key to informing public debate—were not available to users electronically. Moreover, the EITIM Secretariat was not able to easily analyse and present much of the data as part of its communications strategy.

“....when I went to visit [Mongolia] in 2012 I found the largest EITI Report I’ve ever experienced in the world. It weighed 4 kilos.... And there was an absolute dedication to generating data but worrying would anyone read it? Is it accessible?”

Claire Short, former EITI Chair

What this case study presents

In 2013 the European Bank for Reconstruction and Development (EBRD) commissioned Adam Smith International to provide technical assistance to strengthen the foundations of EITI in Mongolia. This included a task to scope, develop and pilot a new electronic system for the EITI reporting process that would transform a large, paper-based dataset into a codified and accessible information portal.

Three years on at the 2016 EITI International Conference, Mongolia was one of only four countries presented with a prestigious award for its work for making data available through the “eReporting system” that has been established with the support of the EBRD-funded project.

² Data according to the EITIM eReporting system

Key stakeholders: Who does what in EITIM?

The National Council – Comprises 10 members from each constituent and chaired by the Prime Minister. It is responsible for providing high-level oversight of EITI implementation and of the MSWG.

The MSWG – Comprises 11 members from each constituent and chaired by the Senior Adviser to the Prime Minister. It performs oversight, coordination and implementation roles.

The EITIM Secretariat – The four-person team that leads the implementation of the EITI work plan.

The Ministry of Mining and Heavy Industry – Which formulates and implements government policy for the extractives sector, including a commitment to EITI.

The Mineral Resources and Petroleum Authority of Mongolia (MRPAM) – An agency of government that implements policy and performs regulatory functions in the mining, oil and gas sectors. MRPAM is home to Mongolia's license cadastre system and also the recipient of company production reports. It also receives royalty fees from Production Sharing Agreements.

The General Department of Taxation – Which receives various tax payment and royalties from companies.

The Ministry of Finance – Which signs off on the consolidated EITI Government Report.

Aimag governments – Aimags are the administrative subdivision below the national level. 19 EITI sub-councils have been established with similar but local level functions to the National Council. Aimags are also recipients of a number of sub-national payments from companies.

Soum governments – Soums are administrative subdivision below the Aimag level. 14 Soum-level EITI sub-councils have been established in Mongolia.

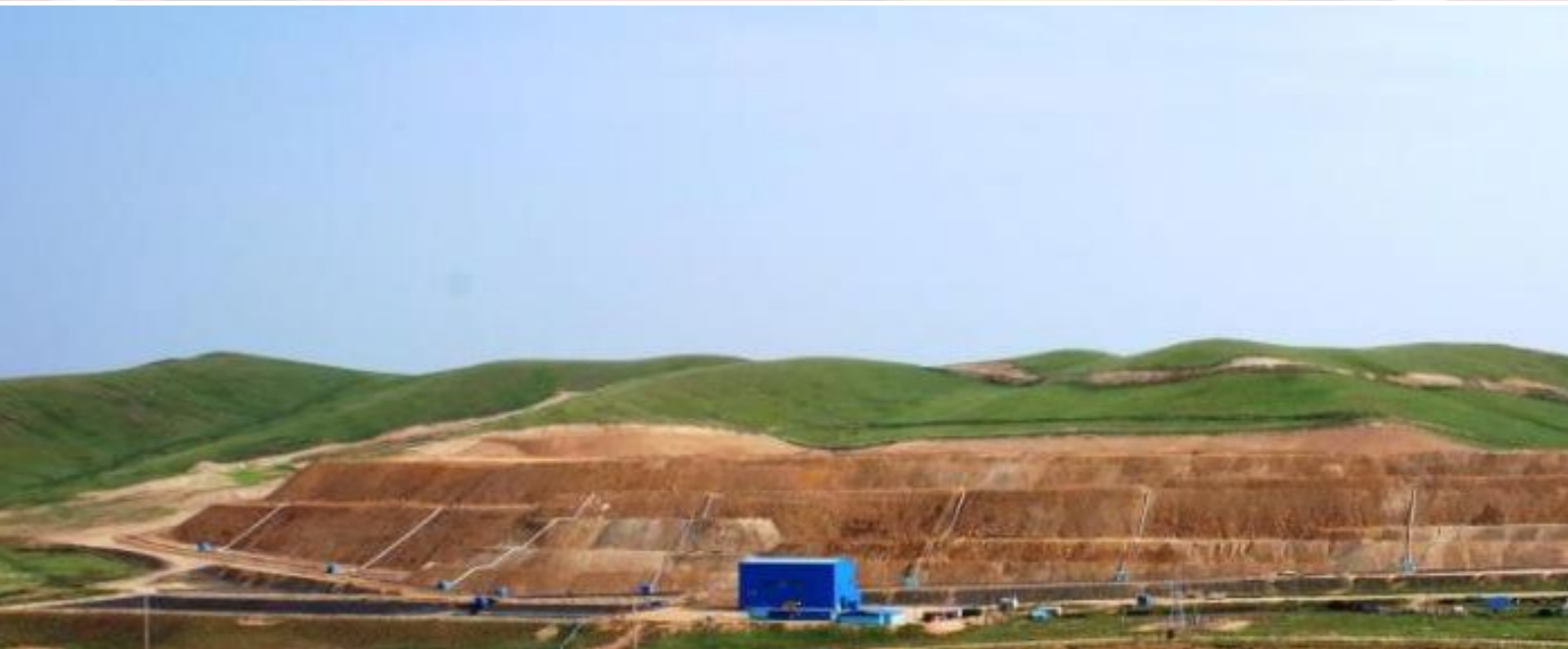
Civil Society Groups and NGOs – Members of the National Council and MSWG and that implement some EITI-related activities including research, advocacy and capacity building.

Companies – All companies that hold a license to explore, mine or produce in Mongolia are required to submit an EITI Report. Companies are represented on the National Council and the MSWG.

This case study tells the story of how the EITI reporting process has been transformed in Mongolia by designing and implementing the eReporting system. It explains:

- How the initial problem was identified and analysed;
- How the system was established;
- How the system functions; and
- Issues we encountered and lessons we learned.

The annex provides the technical specification of the system.



Acknowledgements

This case study is authored by Richard Bishopp and Jonathan Pell, members of the Adam Smith International team supporting implementation of the EITI in Mongolia.

The eReporting project and the wider programme of support to EITIM are funded by the EBRD. Our thanks go to the EBRD and particularly to Paul Moffatt for his long-term commitment to the project and to improving EITI in Mongolia.

The authors acknowledge the critical role played by our Mongolia partner company, Interactive LLC. The development of the eReporting system would not have been possible without Interactive's highly capable staff, professionalism and flexible approach.

We would also like to thank the staff of the EITIM Secretariat and the members of the Multi-Stakeholder Working Group for their ongoing support and guidance. Special thanks go to Sh. Tsolmon, National Coordinator, for his unwavering dedication to EITI in Mongolia. Finally, our thanks go to G. Ganbat, IT Manager in the EITIM Secretariat, who fully deserves the international acclaim he has received for his work in managing the eReporting system.

Finally we thank Oyu Tolgoi (www.ot.mn) and Boroo Gold (www.centerragold.com) for allowing us to use their photos throughout this Case Study. Both mining companies are participants in EITI in Mongolia and members of the MSWG.



Identifying and analysing the problem

Problem definition

The starting point for the EBRD eReporting project was investigating the issues that the EITIM MSWG had identified in the EITI reporting process. In addition, successive Independent Administrators had made the recommendation that EITIM should move to an electronic reporting system. EITIM had already committed in various forms to implement an e-Reporting system including:

- The EITIM Secretariat's 2013 Communications Work Plan which stated that the Secretariat will "prepare for e-Reporting to minimize difficulties during reporting process" and "prepare for e-Reporting to support government reporting process and minimize difficulties"; and
- Resolution #222 of the Mongolian Government, article 9.2, from 4th July 2012 which states that "to improve/expand information database of the Mongolian taxation office which is used to collect EITI report; to create web based software which is aligned/linked with the registry database of Mongolian central public administration; to improve efficiency and accuracy of the all incomes at local level such as taxation, fee, fine, donation etc".

We undertook fieldwork in Mongolia to consult with Mongolian government agencies (the Ministry of Mining and Heavy Industry, the Ministry of Finance, the MRPAM, the General Agency for State Inspections and the General Taxation Department), mining company representatives and Civil Society Organisations (CSOs) to identify inefficiencies and problems in the current reporting and reconciliation process. We identified five main issues.

Before the establishment of the eReporting system, completed report templates from companies were submitted mainly in paper form, or completed in the Excel template but then scanned and emailed to the EITIM Secretariat. Thereafter, it was the responsibility of the EITIM Communications Officer to manually input the data into a master Excel document. While in 2013 the EITI Secretariat was supported by two students in completing this task, the process was time consuming and gave rise to the possibility of human error.

There were also a high number of discrepancies in the reported data that were caused by errors and inconsistencies in inputting data into reports. The reporting templates did not have controls on number formats which led to some reports being submitted in 1,000s of Mongolian Tugrik rather using a standard accounting format. For example, 'company A' inputted a payment of MNT 1 million as 1,000,000 whereas 'company B' reported the payment as 1,000. This created additional work for the EITIM Secretariat, the Independent Administrator and for companies, as these errors had to be identified, corrected, and then reports re-submitted.

Anecdotal but persistent feedback from companies that the EITI reporting process created an additional burden on them, and that EITI required the same information they had already provided in other reports to the Mongolian government, either through their tax reports submitted to the General Department of Taxation or in their production reports submitted to MRPAM, for example. It was generally considered that if EITI was to gain the support of private sector stakeholders in Mongolia, it should not add to their cost of doing business.

Despite 1,531 companies submitting reports for 2012 and 1,198 for 2013, only 200 companies were reconciled in each of these years by the Independent Administrator. While the number of companies included in the reconciliation was determined to some degree by the materiality threshold³ that had been set, it was also dictated by the working days and time available to the Independent Administrator in its contract with EITIM. The manual nature of the reconciliation, along with the time consuming process of investigating discrepancies, meant that not all companies could be included in the reconciliation due to time limitations. Hence while the number of companies reconciled has grown, the rate of growth has not kept pace with the increasing number of companies participating in EITI in Mongolia, as shown in Table 1 below.

Table 1: Companies submitting reports and size of reconciliation

	2006	2007	2008	2009	2010	2011	2012	2013
Companies reporting	64	103	118	154	273	304	1,495	1,198
Reconciled companies	25	38	46	101	150	200	200	250



“[Putting data in pdfs] is like funding James Cameron to make Avatar, and then releasing it in a black and white flipbook. We are missing all the good stuff.”

**Nathaniel Manning, Fellow,
White House’s open data
project**

The most significant issue was that the primary output of the annual reporting and reconciliation was the production of a large EITI Report that was read by only a small number of stakeholders. The Report was available to some Ulaanbaatar-based stakeholders in hard copy and to others as a PDF available on the EITIM website or on the Mongolia page of the EITI global website. In this format, we found only a small number of examples that suggested that EITI data and information was being accessed, analysed and used in Mongolia to inform public debate. EITIM stakeholders, particularly CSOs, indicated to us that the data of greatest interest to them was at the sub-national level and/or specific to a particular license holder, and that this information was difficult to locate within the very large EITI Report⁴. Data was ‘buried’ in a large number of inaccessible tables with no way for users to summarise or extract subsets of information and no way to ‘drill down’ to specific locations or mining operations of interest. We also identified that the lack of access to electronic data and the limited capacity to interpret it, served to limit the communications strategy of EITIM. The use of infographics, visualisations, and other tools was limited without manually inputting the data into a spreadsheet and then analysing it. It was clear, therefore, that the main output of EITI, the annual Report, was not contributing to the intended outcome – increased public debate.

³ For guidance on defining materiality, please refer to: https://eiti.org/files/EN_Guidance%20note%20on%20Materiality.pdf

⁴ It is important to note that this issue was not and is not unique to Mongolia. See, for example, <https://eiti.org/blog/opening-eiti-reports>

The issues that we identified therefore fell into three broad stages in the process:

- Front-end reporting – the compilation of reporting templates and submission of reports by companies and government entities;
- The collection, storage and provision of EITI data; and
- Use of the data and information in the EITI Report by the end-users.

Defining eReporting and its potential benefits

It is important to highlight that the phrase “eReporting” is somewhat misleading in the case of Mongolia as the issues that the system tried to address related not only to the front-end “reporting” but also to information management and subsequent usage. In some respects and with the benefit of hindsight, it would have better described as an “open data” or a “big data” portal. Nonetheless, the phrase “eReporting” had been used in EITI community and also in Mongolia, and had become a commonly used phrase before we started our work. For our purposes we broadly defined “eReporting” as the use of information technology in the EITI reporting process to:

- Improve the efficiency of report submission;
- Store data in codified, electronic form in a single, secure location; and
- Make the data accessible to stakeholders and the public.

After our initial scoping assessment, we concluded that if Mongolia were to successfully establish a functional eReporting system the following benefits could be achieved:

- Improvements in the quality of reports submitted by companies i.e. fewer errors;
- Increased consistency and simplified reporting by companies i.e. standard data formats;
- Time-saving in the reconciliation process offering the potential for a large number of companies to be reconciled;
- Improvements in the timeliness of data and information being made publicly available;
- Reducing the administrative burden on the EITIM Secretariat by removing the need for manual data entry;
- Providing the electronic data/information from which the EITIM Secretariat could strengthen its communications function;
- Providing CSOs and other end-users with data/information that is easier to access and analyse and that is more relevant to their needs; and
- A successful system in Mongolia could be potentially replicated in other EITI candidate/compliant countries.

We also identified that the eReporting system could assist Mongolia in meeting some of the mandatory Requirements of the EITI Standard, which was later formally launched at the 2016 International Conference in Peru. These included:

- Making the EITI Report available in an open data format (xlsx or csv) online and to publicise its availability (7.1 c));
- Data accessibility (7.2); and
- Payments to subnational governments (4.6).

Assessing efforts in other countries

Mongolia was not the first country to consider implementing an electronic reporting system. We identified that Norway used Excel templates that while basic and on a small scale compared to Mongolia (80 companies reported in 2011), served to create electronic data. We also studied efforts in Ghana (where a system was operational) and Zambia (where a system had been scoped) to determine whether these systems could be replicated in Mongolia. Several issues were identified:

- Their cost far exceeded the budget the Mongolian government and its development partners could afford as they were based on packaged software configured by large technology companies;
- It appeared that the systems were owned by the technology companies that had created them and licensed to the host government for a fee, inevitably incurring recurrent costs and requiring subsequent modifications; and
- The scope of these systems was on front-end reporting and data storage, and not on the usage by the end-users.

The emerging solution and the principles underpinning it

With these issues in mind, we concluded that the eReporting system in Mongolia should be wholly owned⁵ by EITI and low cost, in terms of capital and recurrent costs. Hence making the data captured by the system useful in some way (i.e. turning data into information), without creating an expensive and proprietary system, would be essential. We therefore consulted with Mongolian IT and related companies to determine if local capacity was sufficient to design and implement the system in a more cost effective way than international companies.

Other activities we undertake during the initial scoping stage included:

- Communicating with the EITI International Secretariat to create awareness of the model being developed in Mongolia and to understand the relevance of the possible “EITI Data Standard”;
- Identifying and assessing relevant initiatives in the Government of Mongolia that relate to electronic reporting systems and data/information provision e.g. cadastral maps managed by MRPAM;
- Assessment of relevant aspects of the legal framework including data sharing agreements between government agencies and the use of electronic signatures;
- Assessment of free to use and low cost software and tools that could be used for data analysis and presentation; and
- Assessed the understanding of, and expectations for, an eReporting system in Mongolia amongst stakeholders through ongoing dialogue with the MSWG.

5 By wholly owned we mean the Intellectual Property Rights (IPR) are vested entirely in the EITIM

At the end of the scoping phase and with the endorsement of the MSWG, we made the following recommendations:

1. Mongolia should take a phased approach to the establishment of an eReporting system, with the outcomes of each of the three phases informing the next. This would provide the EBRD, the agency funding the project, with “stop-go” points to exit if necessary or to amend the scope.
2. The first phase of the implementation of the eReporting system – the pilot and “proof of concept” phase – should utilise Mongolian IT expertise by selecting a Mongolia service provider. The service provider would be selected via a tender process managed by the EITIM Secretariat and Adam Smith International.
3. An IT Manager should be hired through the ASI-EBRD project for a period of six to nine months to create specialist capability in the EITIM Secretariat to oversee and support implementation of the eReporting system and other data/information management responsibilities.
4. The system should be based upon a core of non-licensable royalty free open source software. All developed code will remain the intellectual property of EITIM.
5. The system should move towards submissions via fixed, ‘intelligent’ Excel or web templates – paperless reporting.
6. Training in data analysis should be provided to CSOs and other stakeholder groups, generally adopting a Train-the-Trainer approach or if sufficient ease of use could be achieved, by self-learning.

In technological terms, and compared to many other IT systems, the actual problem to be solved was relatively simple but different components had to be brought together to make an affordable, useable, accessible and locally maintainable solution. The system concept was to provide an open data solution in a standardised form and promoting the use of open source (free to use) tools.

Our vision for eReporting in Mongolia was based on the following four principles:

- Locally designed and developed at a lower cost than using a global IT company
- Open and free data: Publishing the data on the internet so that it is freely shareable in the public domain
- Public accessibility: Data can be accessible using desktop or web-based tools – with the ability to manipulate the data in multiple ways according to stakeholders needs.
- Self-service: Users of the data can, as they wish, build applications and analytical tools themselves by taking the data directly from the EITIM database.

How the eReporting system was established

Resourcing

Adam Smith International's role was to provide technical oversight and guidance, project management support and financial administration of the eReporting project. We were also responsible for managing reporting to the MSWG and ensuring their buy-in at each stage of process. This was critical as from the outset, the intention was for the system to be 'owned' by EITIM and not by us.

Adam Smith International was also responsible for contracting the EITIM's new IT Manager on an interim basis. The proposed model had been discussed and approved at a meeting of the EITIM National Council in December 2013. We publicly advertised for the position in Mongolian newspapers and a recruitment panel was formed comprising the EITIM National Coordinator, ASI's Mongolia Country Manager, and a representative from each of the stakeholder groups on the MSWG – government, private sector and civil society. From the 11 applications received, the recruitment panel was unanimous in its selection of Mr G.Ganbat who was subsequently contracted by Adam Smith International. Mr Ganbat started work in the EITIM Secretariat on 24th February 2014. He was contracted by Adam Smith International until the end of November 2014 and then successfully transitioned to full-time staff of the EITIM Secretariat.

A highly capable Mongolian IT company and software developer, Interactive LLC, was selected by EITIM and Adam Smith International to provide Mongolian expertise to develop the eReporting system. Interactive's knowledge of government IT systems, including design of the GDT's e-filing system knowledge (a forms-based submission engine) and therefore knowledge of financial accounting was an advantage.

Moreover, Mongolia's tax administration uses digital signatures for its own "e-filing" and will soon move to a national system of digital signatures for all individuals and legal entities. This national system will also be developed by Interactive. This capability made Interactive our partner of choice for the eReporting project.

Phase 1 achievements

The eReporting system was developed during Phase 1 of the project over a six-month period from April to September 2015. The main achievements over this period included:

- Establishment of a new internet domain for EITIM eReporting;
- New capability for online submission of EITIM reports by companies and government entities;
- Help-desk support to reporting entities during the 2014 reporting round (in 2015) to address problems and errors with the system;
- Online video tutorials and user guides to provide guidance to reporting entities;
- An electronic database, accessible through the eReporting domain, that contained all data from the 2014 reporting round;
- Provision of free to use demonstrator tools e.g. the presentation of data in graphs and using data from MRPAM, the cadastral coordinates of the mining areas were downloaded and shown as overlays on the free-to-use data Google Public Data Explorer and Google Maps;
- Testing of the system on user groups; and
- Training of user groups.

Table 2: Highlights of the 2014 reporting round via eReporting

It is interesting to note that all companies submitted their reports using the eReporting system. No reports were submitted via Excel or paper forms even though this was provided as an option, given that the eReporting system was being piloted.

The government entity that chose not to use the eReporting system was the Ministry of Finance. This relates to Template 6 which is the aggregated government report. In previous years the General Department of Taxation and the Ministry of Finance were responsible for collecting reports on behalf of government entities. But for 2014 the eReporting system collected the reports directly, the aggregate report was prepared by the Secretariat, and then sent to the Ministry of Finance for review. The Ministry then stamped and signed it and submitted it outside of the eReporting system.

Number of companies that submitted reports via the eReporting system	990
Number of companies that submitted reports via Excel or paper forms	0
Number of government entities that submitted reports via the eReporting system	35
Number of government entities that were due to submit reports for 2014	44
Number of government entities that submitted reports via Excel or paper forms	1

The IT Manager in the EITIM Secretariat solicited feedback from companies and government entities submitting EITI reports. Overall, the feedback was generally positive in terms of ease of use of the system, particularly as the end user interface is very similar to the tax “e-filing” system. A number of specific comments relating to functionality were received which were either corrected as part of the helpdesk function during the reporting round or were logged as areas for improvement for Phase 2.

Companies’ feedback

How easy is it to submitting your report to the EITI eReporting system?

Easy	90
Hard	1
Medium	38

Do you agree that EITI eReporting system is better than paper based reporting?

Yes	126
No	3

Government feedback

How easy and understandable is EITI Report template and guides to fill?

Easy	8
Hard	2

How easy is it to submitting your report to the EITI eReporting system

Easy	9
Hard	1

Phase 2 achievements

Phase 1 was successful in proving the functionality of eReporting in Mongolia but a number of additional activities were identified as being required to build on the outcomes achieved. Phase 2 is therefore being implemented from August 2015 to December 2017. The second Phase coincides with EITI's global move in the direction of seeking to 'mainstream' transparency, rather than the initiative being supplementary to existing government and company systems. Usefully, Phase 2 of the eReporting project is aligned with the "mainstreaming" agenda in important ways because it focuses on:

- Shifting from reported, aggregate data to administrative, "transactional" data;
- Data exchange between government systems;
- Mainstreaming company reporting with other reporting; and
- Availability of data through public online portals.

The following activities have been undertaken to date:

- Updates to the reporting templates to remove redundant fields and to add new required fields;
- Engagement with the 2014 Independent Administrator, KPMG, to solicit feedback and recommendations on the eReporting system;
- Use of data collected by the eReporting system by the Independent Administrator for the first time;
- Upload of all historical data to the eReporting platform so that users can access all EITI reports submitted from 2006 to 2014. This involved distinguishing 4,011 company reports and 1,010 reconciliation reports;
- Overlay of EITI information and data from MRPAM's cadastre system on Google Maps;
- Improvements to the administration module so that the EITIM IT Manager is able to manage the system without the support of Interactive;
- Data sharing agreement secured with GDT;
- Creation of sub-national reconciliation function which allows the EITIM Secretariat to reconcile sub-national payments;
- Data is downloadable in various open data formats and can be re-published by users;
- Graphical dashboards that dynamically generate interesting graphs, charts, tables and maps for various audiences;
- Help-desk support to reporting entities during the 2015 reporting round;
- Automated, dynamic data feeds established with relevant entities;
- Identification and upload of additional data-sets.
- Further development of presentation and analysis tools;
- Training material provided to data users, reporting entities and the 2015 Independent Administrator.



In June 2015, the EITI Chair, Claire Short, and staff of the EITI International Secretariat visited Mongolia, and provided strong endorsement of the system, whilst also identifying that there is more work to be done:

"What I saw this morning was your new eReporting system. I am very, very impressed with that and it seems to me it makes the data accessible and useable in a way that the very thick report would create difficulties in anyone using the data. So I think you're ahead of most other countries in what you've done here and it's the sort of thing we're trying to encourage all our members [to do].....So you're ahead and you're teaching lessons to others and you're to be congratulated for that. And I really think now, it should be easier for Parliamentarians, for local communities, for journalists, for academics, to use the data in order to have a more informed debate about the management of the sector and the best possible management for the benefit of the country, and the people and the future. So that's the challenge of the next phase.

I hope building on what you've achieved in this eReporting system you might be able to move to say, we don't have to always have separate EITI reports, we can make government systems so transparent and reliable that the figures can be obtained there permanently, and the reports can be more about: What are issues? What are the reforms we need? And the annual reporting would then be about: Did we implement our reforms? What was the impact of all this activity on our country?...

....Again I want to congratulate you enormously for building this e[reporting] system. I think you'll find that many other countries will want to come and have a look at what you've done, and I hope you'll be able to use that to really put the data to work to drive the reforms the country needs to make sure everybody gets the benefits they need, and that there are sustainable long-term benefits for the people of Mongolia. But well done so far; more to do for all of us."

System functions

System overview

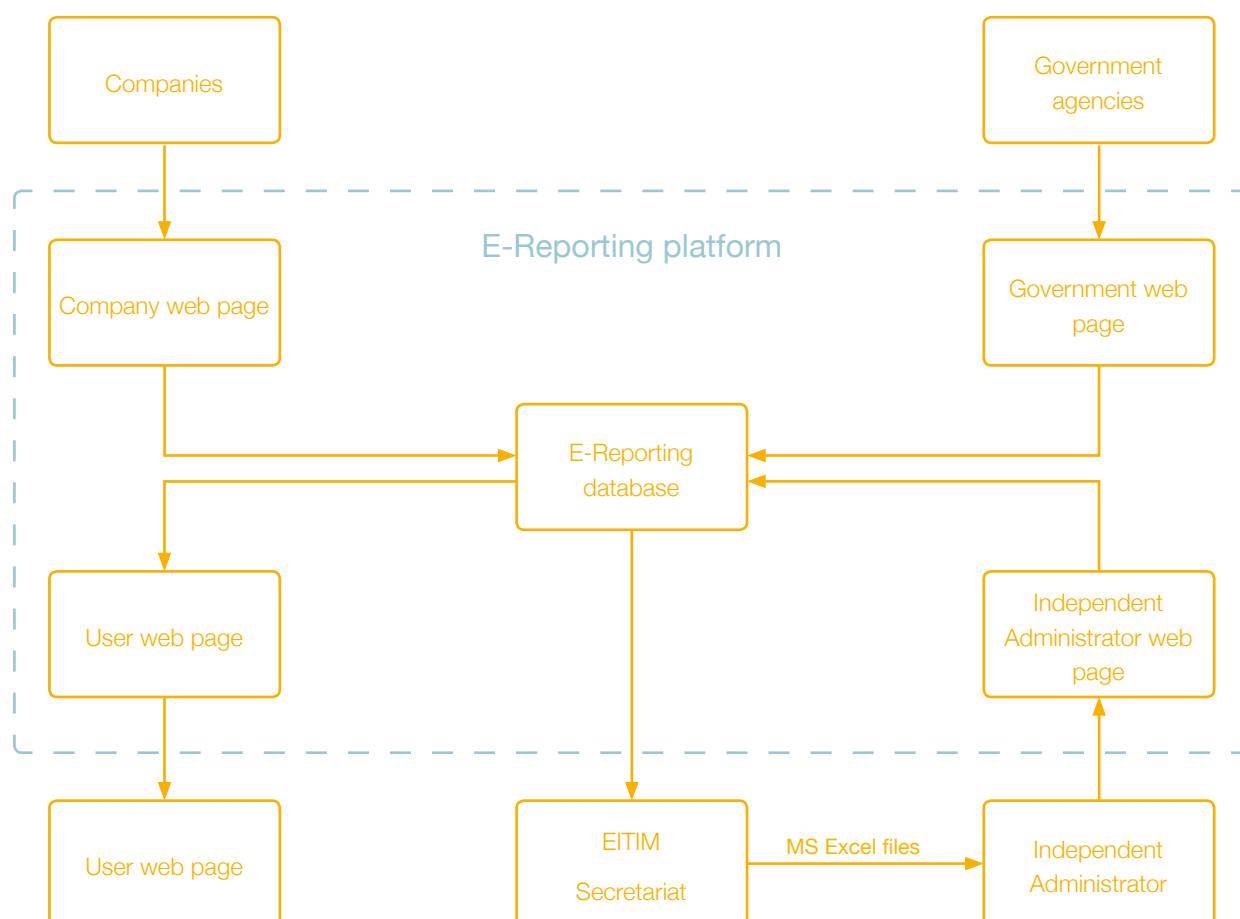
The full functionality of the eReporting cannot be described in this short case study. We would encourage readers to go to the EITIM eReporting website and explore the range of data that can be accessed and presented. In this section we explain a number of the highlights of the system functionality.

In Annex 1 we provide a description of the technical specification of the system.

All reporting entities, users of data and the EITIM IT Manager access the eReporting system via the homepage: **<http://e-reporting.eitimongolia.mn/>**. The website has English and Mongolian versions.

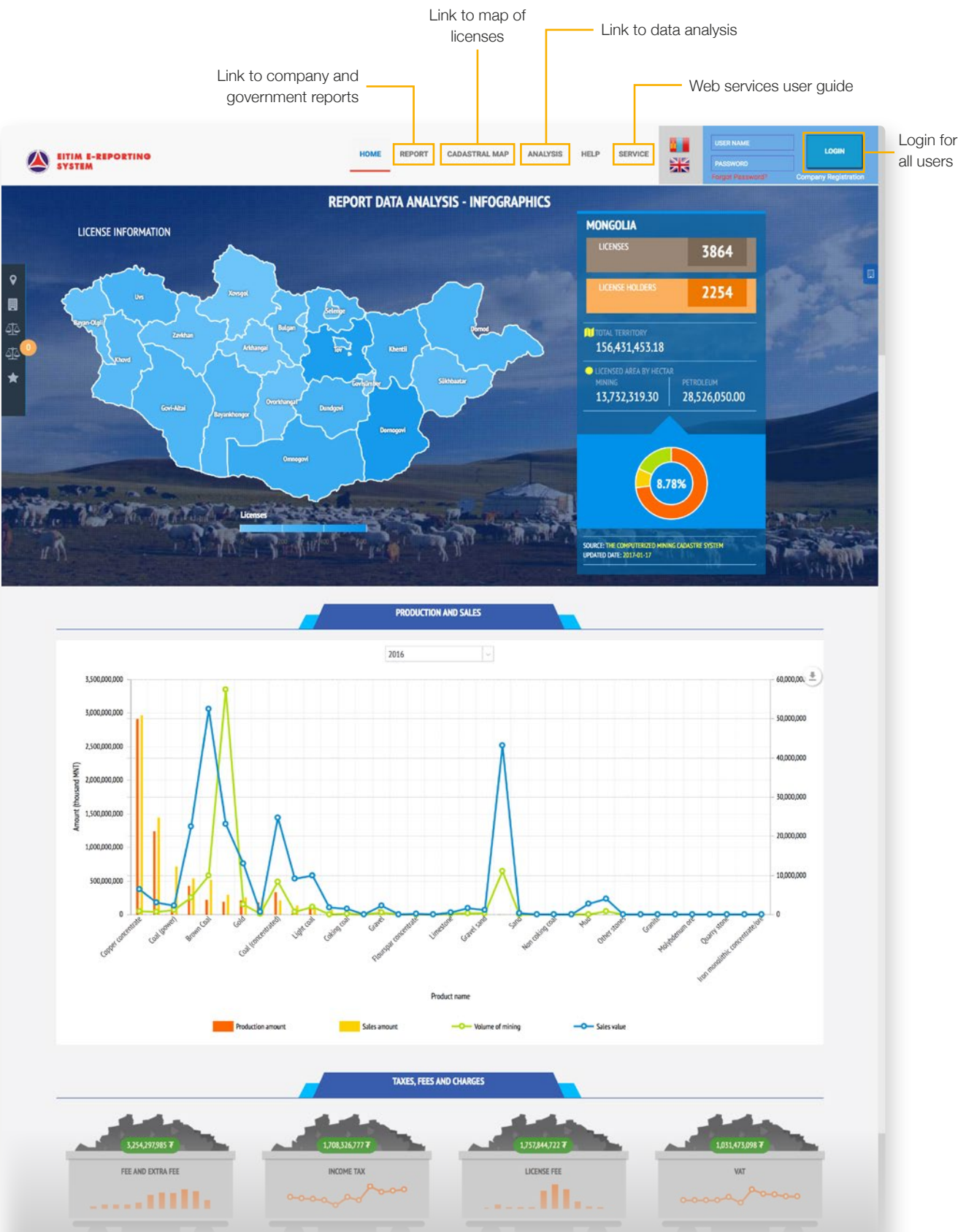
Only reporting entities (government and companies) are required to register. Users of EITI data can access it without registration.

The following diagram⁶ shows how data flows through the eReporting system:




⁶ Adapted from 2014 Reconciliation Report, KPMG

Homepage screenshot



Registration page for reporting entities

 EITIM E-REPORTING
SYSTEM

МОНГОЛ

Requested to register online reporting system

Name of Organization /Mongolian/*

Name of Organization /English/*

Type of Organisation/*

- Select -

Registration number/*

Aimag/City/*

- Select -

Soum/Duureg/*

- Select -

Address:

Belonged to Tax Authority/*

- Select -

Last name of authority:

First name of authority:

Property type/*

- Select -

Yin ахуйн хэрэгсэл үржлэл:

- Control -

Mobile phone number:

Mobile:

Факс:

Email address/*

Send

Back

Example company report template no.1-2

MOFID

Approved by joint order #1

REPORT TEMPLATE EITIM-1.2

The report of taxes and fees collected in local budget from minerals and petroleum extracting and exploring company (2015)-year

CONTACT ADDRESS

Registration number: 00009999
Name of business entity: Tetrakis expaners
Type of business entity: Limited liability company
Property type: Parastatal

Army city: Ulaanbaatar
Sour, district: Bayangol
Related taxation office: State budget revenue and inspection department
Mobile number: 9999999

Main Report

Supplement

Indicator	Value /MNT/
2. Production, Sales, Pilot extraction and rehabilitation	
2.1 Pilot extraction and sales	0.0
2.2 Production and Sales	0.0
2.3 Rehabilitation information	0.0
3. Taxes, payments, fees, dividends paid to state budget	
3.1 Taxes	
3.1.1 Corporate income tax	0.0
3.1.2 Customs tax	0.0
3.1.3 VAT	0.0
3.1.4 Excise tax on vehicle gasoline and diesel fuel	0.0
3.1.5 Tax on vehicle gasoline and diesel fuel	0.0
Sum total	0.0
3.2 Payments, fees, social insurance	
3.2.1 Fee and extra fee for exploitation and exploration of mineral resources	0.0
3.2.2 License fee for exploitation and exploration of mineral resources	0.0
3.2.3 Payment for deposit, exploration of which was carried out by the Government	0.0
3.2.4 Payment for recruiting foreign experts and workers	0.0
3.2.5 Air Pollution Tax (only coal mining companies)	0.0
3.2.6 Social and health insurance charges paid from entity	0.0
3.2.7 Customs service fee	0.0
3.2.8 Dividends on state property	0.0
3.2.9 Deposit payments paid to Government	0.0
3.2.10 Income per Government according to nuclear energy law	0.0
Sum total	0.0
3.3 Others	
3.3.1 Penalty	0.0
3.3.2 Recovery payment	0.0
3.3.3 In-kind contribution at rate of 50% to Environmental protection special account	0.0
3.3.4 Others	0.0
Sum total	0.0
4. Donation to Government organizations	
4.1 Donation to Government organizations	0.0
5. Taxes, payments, fees and dividends paid to local budget	
5.1 Taxes, payments, fees and dividends paid to local budget	0.0
VOLUNTARY BASIS INFORMATION	
6. Taxes, charges and service fees	
6.1 Withholding tax for individuals income	0.0
6.2 Stamp fee on licensing of construction, modification, renovation, decommissioning of nuclear equipment	0.0
6.3 Stamp fee for licensing import, export, transport of nuclear minerals, dumping and reclamation of nature after utilization	0.0
6.4 Stamp fee for licensing import, export, transport of nuclear minerals, dumping and reclamation of nature after utilization	0.0
6.5 Stamp fee for licensing process, utilization, sale, mortgage, place, rent, produce, decommission, demontage, store, transport, import, export of nuclear generator, dump treatment, deactivate and other-related activities, and revenues.	0.0
6.6 License fee for exploration natural resources except mineral resources	0.0
6.7 Stamp fee paid to local budget	0.0
6.8 Service charges paid to local administration	0.0
6.9 Stamp fees paid to state central administration and ministries	0.0
6.10 Service fees paid to state central administration and ministries	0.0
6.11 Service fee for foreign experts and workers	0.0
6.12 Fee for forestry use and fire wood	0.0
6.13 Discounted and lifted taxes according to specific conditions of the contract	0.0
6.14 Total investment	0.0
6.15 Expenditures for capacity building and staff training	0.0
6.16 Expenditures for geology and exploration	0.0
6.17 Expenditures for environment protection	0.0
6.18 Expenditures for preserving disasters	0.0
Sum total	0.0

Administration module

The screenshot displays the Administration module interface. On the left is a sidebar with a menu containing seven items, each with a numbered orange square icon:

- 1 Аудит
- 2 Хүсэлт
- 3 Тайлан удирдлага
- 4 Бүртгэл удирдах
- 5 Хяналт
- 6 Тохиргоо
- 7 Санал хүсэлтийн булан

The main content area is titled "ХҮСЭЛТИЙН ЖАГСААЛТ" (Request List). It features a search bar with the text "Хайлт" and a dropdown menu for "Хуудаслагын тоо" (Number of pages) set to 25. Below this is a table with the following columns:

№	Хүсэлтийн төрөл	Хүсэлтийн дугаар	Компанийн регистр	Илгээсэн байгууллага	Хүсэлтийн төлөв	Илгээсэн огноо	Шийдвэрлэсэн огноо
1	Хугацаа сунгуулах хүсэлт	2016022502033055	00009999	Тестийн хэрэглэгч	Илгээсэн	2016-02-25 15:18:03	
2	Бүртгэлийн хүсэлт	2016022302287476	7895748	ТестийнКомпани	Системд нэвтрэхийг завсавчирсан	2016-02-23 09:23:28	2016-02-23 09:25:47
3	Бүртгэлийн хүсэлт	2016021802271422			Илгээсэн	2016-02-18 13:19:27	
4	Бүртгэлийн хүсэлт	2016021602136587			Илгээсэн	2016-02-16 19:14:13	
5	Бүртгэлийн хүсэлт	2016020502336057			Илгээсэн	2016-02-05 13:54:33	
6	Бүртгэлийн хүсэлт	2016020302495248	5840716	Принципал инвестмент	Илгээсэн	2016-02-03 15:08:49	
7	Бүртгэлийн хүсэлт	2016020302379600	5183308	Чандганакул	Илгээсэн	2016-02-03 10:10:37	
8	Бүртгэлийн хүсэлт	2016020202537312			Илгээсэн	2016-02-02 15:37:53	
9	Бүртгэлийн хүсэлт	2016020202364427	5190118	Өнөржонш	Илгээсэн	2016-02-02 10:25:36	
10	Бүртгэлийн хүсэлт	2016020102458998			Илгээсэн	2016-02-01 21:14:45	
11	Бүртгэлийн хүсэлт	2016020102324870			Илгээсэн	2016-02-01 16:25:32	
12	Бүртгэлийн хүсэлт	2016020102382637			Илгээсэн	2016-02-01 16:21:38	
13	Бүртгэлийн хүсэлт	2016020102438710			Илгээсэн	2016-02-01 16:07:43	
14	Бүртгэлийн хүсэлт	2016020102543163			Илгээсэн	2016-02-01 09:52:54	
15	Бүртгэлийн хүсэлт	2016012701296195			Илгээсэн	2016-01-27 09:26:29	
16	Бүртгэлийн хүсэлт	2016012101418474			Илгээсэн	2016-01-21 13:24:41	
17	Бүртгэлийн хүсэлт	2016012001468636			Илгээсэн	2016-01-20 18:44:46	
18	Бүртгэлийн хүсэлт	2016012001268879			Илгээсэн	2016-01-20 14:38:26	
19	Бүртгэлийн хүсэлт	2016011901223279			Илгээсэн	2016-01-19 19:56:22	
20	Бүртгэлийн хүсэлт	2016011901142726			Илгээсэн	2016-01-19 09:23:14	
21	Бүртгэлийн хүсэлт	2016011801218905			Илгээсэн	2016-01-18 12:27:21	
22	Бүртгэлийн хүсэлт	2016011801395208			Илгээсэн	2016-01-18 12:00:39	
23	Хугацаа сунгуулах хүсэлт	2016011701244027	2568683	ЗБНЗ	Илгээсэн	2016-01-17 17:14:24	
24	Хугацаа сунгуулах хүсэлт	2016011701362515	2568683	ЗБНЗ	Илгээсэн	2016-01-17 17:13:36	
25	Хугацаа сунгуулах хүсэлт	2016011701034137	2568683	ЗБНЗ	Илгээсэн	2016-01-17 17:13:03	

At the bottom of the table, it says "1 ээс 25 харагдаж байна (Нийт 1,240)". Below the table are buttons for "Эхнийх", "Өмнөх", "1", "2", "3", "4", "5", "...", "50", "Дараах", and "Сүүлийнх".

At the bottom left of the interface, it says "2015 © Интерактив ХХК".

- 1 Reconciliation function
- 2 Requests
- 3 Report Management – creating templates, editing forms etc.
- 4 User registration management
- 5 Control Panel
- 6 Settings
- 7 Feedback

Reconciliation report

MOFIS

The Report of reconciliation year 2014

CONTACT ADDRESS

Registration number: 3657467
Name of business entity: Ege Tünel
Type of business entity: Limited liability company
Property type: Parcelled

Billing city: Muşbazar
Sorum, district: Muşbazar
Related taxation office: GDT, State budget revenue and inspection department

Exploration and exploitation license information

SP	Type of minerals	Code	License number	Total area (ha/c)	Date issued	Location
1	Mixed Metal	15	MV-006708	4,530.32	2003-12-29	Orneogon Karabogaz
1	Mixed Metal	15	MV-006710	1,762.79	2003-12-29	Orneogon Karabogaz
1	Mixed Metal	15	MV-006709	8,491.92	2003-12-29	Orneogon Karabogaz

Main Report

Indicator	Value, MHTK (Company)			Value, MHTK (Government)			Unresolved difference	Description
	Initial Report	Adjustment	Reconciliation after adjustment	Initial Report	Adjustment	Reconciliation after adjustment		
1. Taxes, payments, fees, dividends paid to state budget								
1.1 Taxes								
1.1.1 Corporate income tax	32,761,396.60	0.00	32,761,396.60	38,573,387.70	-5,811,991.07	32,761,396.63	0.03	
1.1.2 Customs fee	17,051,279.60	125,849.57	17,177,129.17	8,381,384.80	8,795,545.17	17,177,129.17	0.00	
1.1.3 vat	51,172,931.00	270,759.15	51,443,690.15	85,036,124.20	-33,592,434.05	51,443,690.15	0.00	
1.1.4 Excise tax on vehicle gasoline and diesel fuel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.1.5 Tax on vehicle gasoline and diesel fuel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2 Payments								
1.2.1 Fee and extra fee for exploration and exploitation of mineral resources	66,384,028.10	0.00	66,384,028.10	111,542,922.40	-44,758,494.31	66,384,028.09	-0.01	
1.2.2 License fee for exploration and exploitation of mineral resources	415,823.50	0.00	415,823.50	415,823.50	0.00	415,823.50	0.00	
1.2.3 Payment for deposit, exploration of which was carried out by the Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.4 Payment for recruiting foreign experts and workers	1,317,088.20	0.00	1,317,088.20	1,244,243.00	72,845.00	1,317,088.00	-0.20	
1.2.5 Bonus after signing contract (only year of contract)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.6 Bonus for commencement of production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.7 Bonus for training	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.8 Field deposit according to product sharing agreement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.9 Administration and service charges according to product sharing agreement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.10 Fee for supporting field office according to product sharing agreement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.11 As Pulver Tax (only vital mining companies)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.2.12 Social and health insurance charges paid from entity	32,174,503.80	-331,764.10	31,842,739.70	31,842,739.70	0.00	31,842,739.70	0.00	
1.3 Service fees and fees paid to state central administration and revenues								
1.3.1 Customs service fee	1,273,747.50	-385.94	1,273,361.56	1,238,387.80	35,274.00	1,273,361.60	0.04	
1.4 Dividends on state property								
1.4.1 Dividends on state property	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.5								
1.5.1 Deposit payments paid to Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.5.2 Income per Government according to nuclear energy law	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.5.3 Petroleum income per Government according to product sharing agreement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.5.4 Oil which Royalty	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.5.5 Payments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.6 Others								
1.6.1 Penalty	16,174,193.00	-16,174,192.97	0.03	0.00	0.00	0.00	-0.03	
1.6.2 Recovery payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.6.3 Woodfuel tax recovery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.6.4 Others	41,897.10	0.00	41,897.10	0.00	0.00	0.00	0.00	
2. Taxes, payments, fees and dividends paid to local budget								
2.1 Taxes paid to local budget								
2.1.1 Immovable property tax	8,302,457.20	0.00	8,302,457.20	8,868,175.60	-2,414,280.90	8,302,456.50	-0.70	
2.1.2 Tax on vehicles and earth-moving mechanisms	68,229.70	-23,776,200.60	0.00	10,714.80	0.00	0.00	0.00	
2.2 Payments								
2.2.1 Fee for land	1,804,609.00	0.00	1,804,609.00	1,749,208.90	55,399.90	1,804,608.80	-0.20	
2.2.2 Fee for water use	9,520,852.50	0.00	9,520,852.50	8,513,444.40	1,007,208.00	9,520,852.70	0.20	
2.2.3 Common mineral royalties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.2.4 Payment for recruiting foreign experts and workers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.2.5 Support activities to local (according to agreement)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.3 Dividends on state property of local budget								
2.3.1 Dividends on state property of local budget	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.4 Others								
2.4.1 Penalty	23,912.30	-23,912.30	0.00	1,883,940.00	-1,876,700.70	4,239.30	4,239.30	
2.4.2 Recovery payment	0.00	0.00	0.00	4,239.30	0.00	0.00	0.00	
2.4.3 In-kind contribution at rate 50% to Environmental protection special account	169,700.00	0.00	169,700.00	0.00	169,700.00	169,700.00	0.00	
2.4.4 Others	23,776,200.60	-23,776,200.60	0.00	0.00	0.00	0.00	0.00	
9 Donations to Government organizations	13,913,947.30	-478,965.00	13,434,982.30	364,805.00	13,073,127.22	13,434,982.22	-0.08	
3. VOLUNTARILY GAINED INFORMATION								
3.1 Service fees and fees								
3.1.1 Stamp fee paid to local budget	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.2 Service charges paid to local administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.3 License fee for exploitation natural resources except mineral resources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.4 Stamp fees paid to state central administration and revenues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.5 Service fees paid to state central administration and revenues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.6 Service fee for foreign experts and workers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.7 Stamp fee on licensing of construction, modification, renovation, decommissioning of nuclear equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.8 Stamp fee for licensing import, export, transport of nuclear minerals, dumping and reclamation of nature after utilization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.9 Stamp fee for licensing import, export, transport of nuclear minerals, dumping and reclamation of nature after utilization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3.1.10 Stamp fee for licensing process, utilization, sale, mortgage, place, rent, produce, decommission, demontage, store, transport, import, export of nuclear generators, dump treatment, decontaminate and other related activities, and revenues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Overlay of licence data points from cadastre system with EITI data on Google Maps

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Q SEARCH

Almag:

Soum:

Q SEARCH

CLEAR

Excel export

Show 25 entries

#	<input type="checkbox"/>	LICENSE NUMBER	AREA NAME	TOTAL AREA /HEC/	TYPE OF MINERALS	OWNER REGISTER NUMBER	OWNER COMPANY NAME	DATE ISSUED	EXPIRED DATE	IS VALID
1	<input checked="" type="checkbox"/>	MV-00006708	Manaxt	4533.3237	Mixed Metal	2657457	Oyu Tolgoi	2003-12-26	2033-12-26	Valid
2	<input type="checkbox"/>	MV-00006709	Oyu tolgoi	8439.9243	Mixed Metal	2657457	Oyu Tolgoi	2003-12-26	2033-12-23	Valid
3	<input type="checkbox"/>	MV-00006710	Xo'x xad	1762.6991	Mixed Metal	2657457	Oyu Tolgoi	2003-12-26	2033-12-23	Valid

Showing 1 to 3 of 3 entries

First

Previous

1

Next

Last

Description of map symbols:

River

Secured area

License

Show secured areas

Show rivers

Manaxt (MV-00006708)

Map

Satellite

Manaxt (MV-00006708)

Owner Organization: [Oyu Tolgoi](#)

Total size of area: **4533.3237**

Licenses Issue Date: **2003-12-26**

License Expiration Date : **2033-12-26**

+

-

22 Case Study on the eReporting System

Access to historical reports

[HOME](#) [REPORT](#) [CADASTRAL MAP](#) [ANALYSIS](#) [HELP](#)

[Forgot Password?](#)

[Company Registration](#)

Q SEARCH

01. BY LICENSE

License number:
Aimag:
Soum:
Type of minerals:

02. BY REPORT

Type of report:
Reporting year:

1. Ирсийн мэдээлэл

Show 25 entries

#	COMPANY REGISTER	NAME OF ORGANISATION	REPORTING YEAR	RECONCILED OR NOT	SHOW REPORT
1	2040239	AVDARBAYAN	2006	No	Show report
2	2040239	AVDARBAYAN	2007	No	Show report
3	2040239	AVDARBAYAN	2008	No	Show report
4	2040239	AVDARBAYAN	2009	No	Show report
5	2040239	AVDARBAYAN	2010	No	Show report
6	2040239	AVDARBAYAN	2011	Yes	Show report
7	2040239	AVDARBAYAN	2012	Yes	Show report
8	2040239	AVDARBAYAN	2013	No	Show report
9	2040239	AVDARBAYAN	2014	No	Show report
10	2040239	AVDARBAYAN	2015	No	Show report
11	2683857	Avdrantxainxan	2012	No	Show report
12	2683857	Avdrantxainxan	2013	No	Show report
13	2683857	Avdrantxainxan	2014	No	Show report
14	2683857	Avdrantxainxan	2015	No	Show report
15	4488954	Arzaganataix	2012	No	Show report
16	4488954	Arzaganataix	2013	No	Show report
17	4488954	Arzaganataix	2014	No	Show report
18	4488954	Arzaganataix	2015	No	Show report
19	2597977	Agixxangai	2009	No	Show report
20	2597977	Agixxangai	2010	Yes	Show report
21	2597977	Agixxangai	2012	No	Show report
22	2597977	Agixxangai	2013	No	Show report
23	2597977	Agixxangai	2015	No	Show report
24	5176727	AGM Mining	2010	Yes	Show report
25	5176727	AGM Mining	2011	Yes	Show report

Showing 1 to 25 of 9,735 entries

First

Previous

1

2

3

4

5

...

390

Next

Last

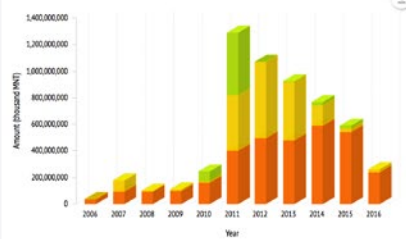
The EITI e-Reporting and Data portal project is funded by EBRD and implemented by Adam Smith International

Data Analysis Section

Data analysis section showing graphical representation of raw data from reports submitted by companies and government agencies over the years. Users can perform their own analysis and get the outcome in various graphical forms.



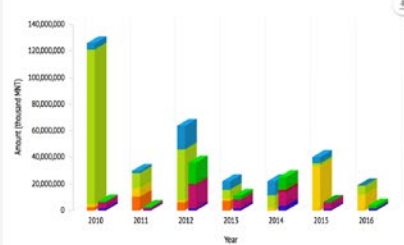
EXPLOITATION AND LICENSE FEE



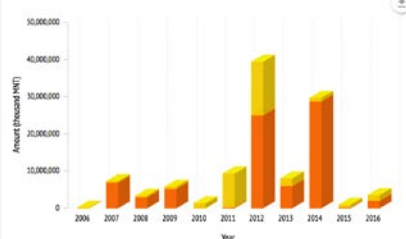
#	REPORTING YEAR	EXPLOITATION AND LICENSE FEE (THOUSAND MNT)	EXPLOITATION AND LICENSE FEE (THOUSAND MNT)
1	2006	38,323,190	51,778
2	2007	94,912,774	83,269,675
3	2008	93,173,741	7,753,008
4	2009	101,050,920	9,207,054
5	2010	165,566,001	82,743,606
6	2011	404,431,075	884,118,922
7	2012	494,101,215	574,567,775
8	2013	479,276,773	447,405,988
9	2014	591,468,546	174,892,764
10	2015	543,573,223	48,662,762
11	2016	240,485,783	22,763,771

DONATIONS

#	REPORTING YEAR	DONATION TO GOVERNMENT (THOUSAND MNT)	DONATION TO GOVERNMENT (THOUSAND MNT)	DONATION TO GOVERNMENT (THOUSAND MNT)	DONATION TO GOVERNMENT (THOUSAND MNT)	DONATION TO GOVERNMENT (THOUSAND MNT)	DONATION TO GOVERNMENT (THOUSAND MNT)	DONATION TO GOVERNMENT (THOUSAND MNT)	DONATION TO GOVERNMENT (THOUSAND MNT)
		MINISTERS AND PARLIAMENTS	APRIL AND CAPITAL CITY	STATE AND DISTRICTS	OTHER ENTITIES	MAJOR	OTHER ENTITIES	SUM	INDIVIDUALS
1	2006	0	0	0	0	0	0	0	0
2	2007	0	0	0	0	0	0	0	0
3	2008	0	0	0	0	0	0	0	0
4	2009	0	0	0	0	0	0	0	0
5	2010	2,694,864	1,991,273	116,601,059	4,433,267	1,770,450	691,224	100	478,410
6	2011	10,476,289	6,204,301	11,693,902	1,255,639	677,371	663,144	5,933	628,144
7	2012	6,013,803	2,610,762	32,922,552	12,877,316	1,630,823	9,604,290	82,200	16,298,771
8	2013	7,472,890	1,641,361	6,310,423	6,435,824	1,739,431	413,389	11,909	2,634,864
9	2014	144,163	2,331,019	8,786,750	10,561,922	3,491,579	1,459,979	1,542,146	9,474,054
10	2015	2,000	33,289,536	1,993,639	5,017,898	1,443,158	2,230,402	0	284,505

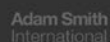


ENVIRONMENTAL REHABILITATION INFORMATION



#	REPORTING YEAR	EXPENDITURES FOR ENVIRONMENTAL PROTECTION (THOUSAND MNT)	EXPENDITURES FOR ENVIRONMENTAL PROTECTION (THOUSAND MNT)
1	2006	65,960	106,543
2	2007	6,867,551	411,603
3	2008	2,919,722	397,797
4	2009	5,200,923	557,263
5	2010	85,685	1,186,744
6	2011	110,166	9,192,267
7	2012	25,023,842	14,432,931
8	2013	5,964,496	1,997,027
9	2014	28,674,598	1,057,453
10	2015	114,306	765,256
11	2016	2,098,878	1,416,300

The EITI e-Reporting and Data portal project is funded by EBRD and implemented by Adam Smith International in partnership with Interactive LLC.

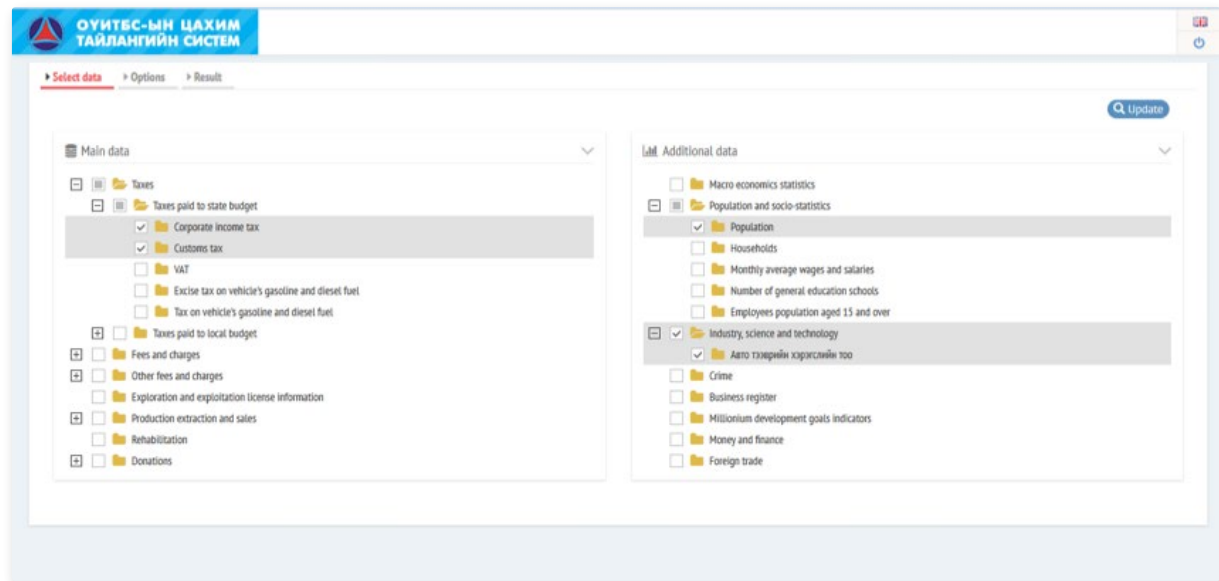


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Overlay of additional datasets

Data from National Statistical Office



User Guides

For use by reporting entities (companies and Government) and data users.



Issues to address and lessons learned

Extra reporting forms distributed by Independent Administrator

For the 2014 reconciliation, the Independent Administrator, KPMG, was required to distribute additional reporting forms to those companies included in the reconciliation (totalling 313). The need to send additional forms is regrettable as one of the intended benefits of the eReporting system was to create efficiency improvements for companies, by moving from a paper-based reporting system to an electronic one. The use of the additional reporting forms meant that 313 companies have been required to report electronically and also via paper, which might be perceived by some as increasing the burden that EITI places on them. Additional forms were required for two reasons:

- Firstly, the templates in the eReporting system do not capture all the information required by the EITI Standard to be included in the EITI Report e.g. production data and employment data; and
- Secondly, in KPMG's inception workshop with the MSWG, members requested further information to be collected e.g. for employment data to be disaggregated by foreign and Mongolian workers.

EITIM learned quickly from this lesson by changing the process for the 2015 reporting (in 2016). If implemented, this would mean that for the first time in Mongolia the Independent Administrator would be appointed before companies and government entities submit their reports. This is a welcome change as it means the reporting templates will be agreed between the Independent Administrator and the MSWG before they are updated on the eReporting system, thus removing the requirement for companies to report twice.

Fall in number of companies reporting

CSOs participating in EITI in Mongolia have voiced concern that the number of companies submitting EITI reports has actually fallen since the introduction of the eReporting system. CSOs are quite right to identify this issue, as the number of companies reporting in 2014 fell to 990 from 1,198 in the previous year. However, it is important to note that this trend pre-dates the introduction of the eReporting system because in 2012, 1,495 submitted EITI reports. This suggests that the fall in the number of companies is not caused by the eReporting system. It has been suggested that the fall is caused by the large number of mining projects that have been 'mothballed' in response to falling commodity prices and demand. The authors will seek to explore this issue further in the second edition.

Digital signatures

The eReporting system currently requires each company's Chief Financial Officer, Chief Executive Officer or a Director to sign a letter to confirm the report is official. On the government side, a similar letter signed by a Director, a Deputy Director or the Head of the Financial Division. The letters are scanned and uploaded as a PDF attachment to the EITI report. In this respect, the reporting system is not yet fully electronic because it still requires the submission of a letter. Digital submissions would overcome this problem, which in Mongolia, is now legally possible due to the enactment of the Law of Mongolia on Digital Signatures (2015). For some years the GDT has its own digital signature system for the submission of online tax reports but the enactment of the new Law creates the legal environment for digital signatures to be used for virtually all online submissions, including EITI reports. It is unlikely that the enabling software will be operational in Mongolia in the current timeframe of the eReporting project, but could be introduced in the future.

Easy to reconcile all companies – but can't investigate all discrepancies

One of the intended objectives of the eReporting system was to enable reconciliation of all companies participating in EITI, rather than the Independent Administrator selecting a smaller sample size. The reconciliation of all companies is now a relatively straightforward task and as highlighted earlier, the EITIM Secretariat is using the eReporting system to conduct its own sub-national reconciliations. However, the limiting factor remains the Independent Administrator's capacity to investigate all discrepancies because the Administrator is limited by the number of days it has in its contract, and the timeframe it is allocated to complete the reconciliation and to produce the EITI Report. It would not be possible to investigate all discrepancies with the resources it is allocated.

Data quality/integrity concerns

The EITI International Secretariat and the Independent Administrator have raised concerns regarding the integrity of the data collected by the eReporting system, which appear to be driven by the new EITI Standard Requirement 4.9 on Data quality and assurance. These concerns possibly arise because the EITIM Secretariat collects the data on behalf of the Independent Administrator, rather than Independent Administrator doing it directly. But this issue has not been caused by eReporting which simply takes the previous reporting templates and enabled submission via a web-based system. Hence it appears that the data integrity concerns do not directly relate to the eReporting system.

Data Quality Assurance

Government and company EITI reports do not currently have an established data quality assurance mechanism. Some reporting entities provide audited financial statements; however, it is not compulsory and not all entities do so. A potential way to establish standardised quality assurance across all EITI reports is for EITIM to involve the Mongolian National Audit Office (MNAO) through the following process:

1. Government entities (local government and agencies such as GDT, MRPAM and so forth) would prepare their EITI reports.
2. These entities would then send the already prepared reports to the MNAO.
3. MNAO would then check and provide quality assurance to the initial EITI reports through either: random sampling, full audit, and/or a second round of data collection amongst others. If reports are accurate, the MNAO would provide independent quality assurance by signing the report.
4. At the end of the process, government entities would receive back the MNAO audited EITI reports, input the figures to the eReporting website and upload a copy of the MNAO signed/stamped report.

The name “eReporting”

An important consideration for the EITIM MSWG in Phase 2 is whether to re-name the system to better reflect its primary purpose. As noted earlier, “eReporting” can be a misleading term as it implies the system created in Mongolia is focused only on the reporting end of the EITI process. A different term that is more inclusive of the free to use, publicly available information and data portal that the eReporting system creates, would perhaps more suitable for the end users of data. It would also better reflect the future direction of EITI globally. The lesson learned here is that if other countries wish to replicate Mongolia’s eReporting system, they should adopt a different name.

An opportunity to overlay environmental data

The creation of the functionality in the eReporting system to overlay additional datasets has opened up many opportunities for enhanced use of EITI data by end users. In particular, during Phase 2 we identified growing interest from development partners and CSOs in exploring the possibility of overlaying additional data from Mongolia’s national environmental database (www.eic.mn). In theory it would be possible, for example, to create interesting ‘mashups’ by overlaying EITI data with air pollution data or the locations of special protected areas. Discussions with the system developers suggest that technologically, overlay of these environmental datasets with EITI data would be relatively straightforward. However, concerns were raised that some of the environmental data currently available is out of date or in places, altogether absent. Nonetheless, there is clearly strong possibility adapting the eReporting platform to include environmental data – the feasibility of doing so will be explored further towards the end of Phase 2 of the project.

An opportunity to overlay beneficial ownership data

The eReporting system provides further opportunities to overlay additional datasets such as beneficial ownership data. Given the momentum beneficial ownership is gaining across EITI compliant countries, there is a real possibility for the e-Reporting platform to derive and host such data. This can only be achieved if stakeholders, particularly government and industry, ‘opt in’ and agree to provide such information and add it to the report templates, along with the rest of the transparency data required.

Annex: System Specification

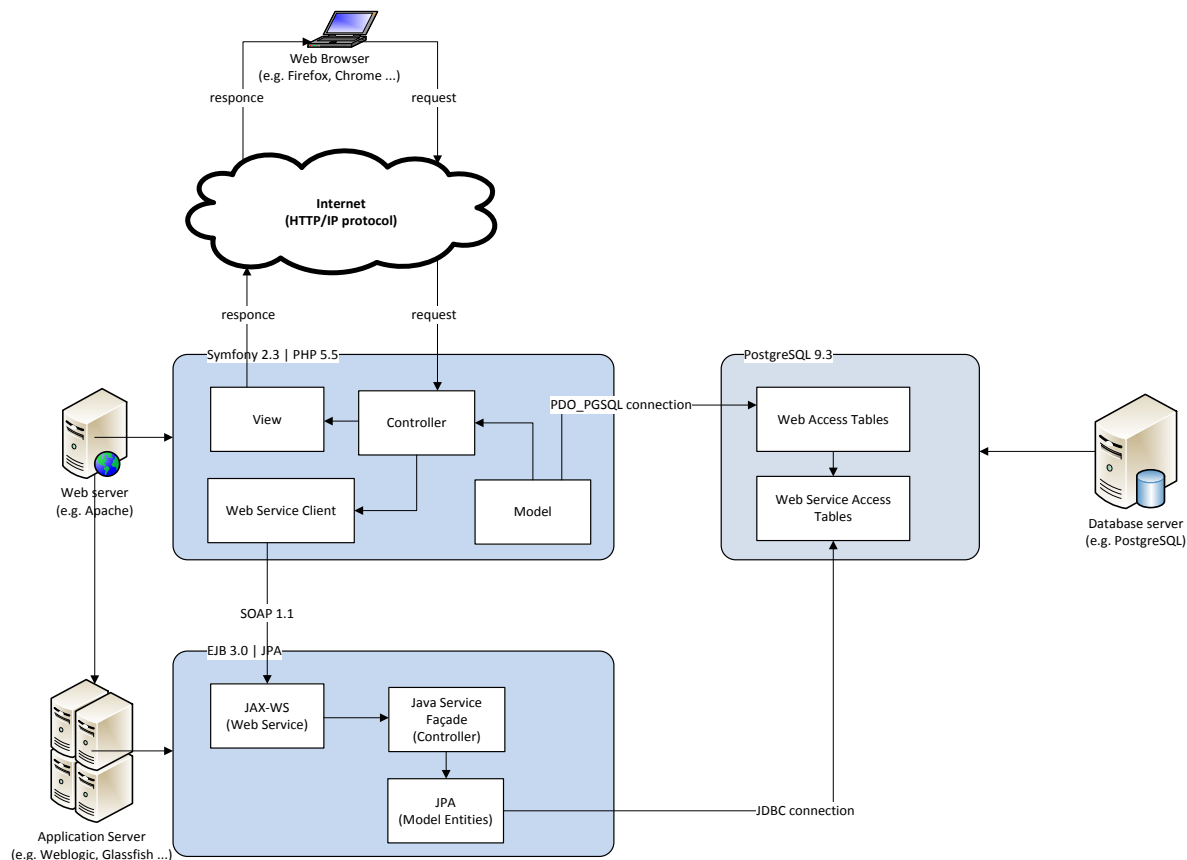
The eReporting information system consists of three layers of functionality:

- First is the web server layer that interacts with the end users;
- Second is the application server layer which contains web-services; and
- Third is the database server layer storing all the data.

By defining these layers, operation loads can be divided and allocated into separate levels. It also creates flexibility to communicate with other information systems using standard protocols and technologies.

Figure 1 below shows the general operational and connectivity of the system. Users access the system using web browsers. The web server receives user requests and if necessary calls upon web services to retrieve reports and related data. Then it transfers it to the user's web browser for display. The web server does not always rely on web-services to provide data to the user. However at application layer, every operation is through web services and follows its own business rules. The database layer stores all the data of the eReporting system.

Figure 1: Technological structure of eReporting system



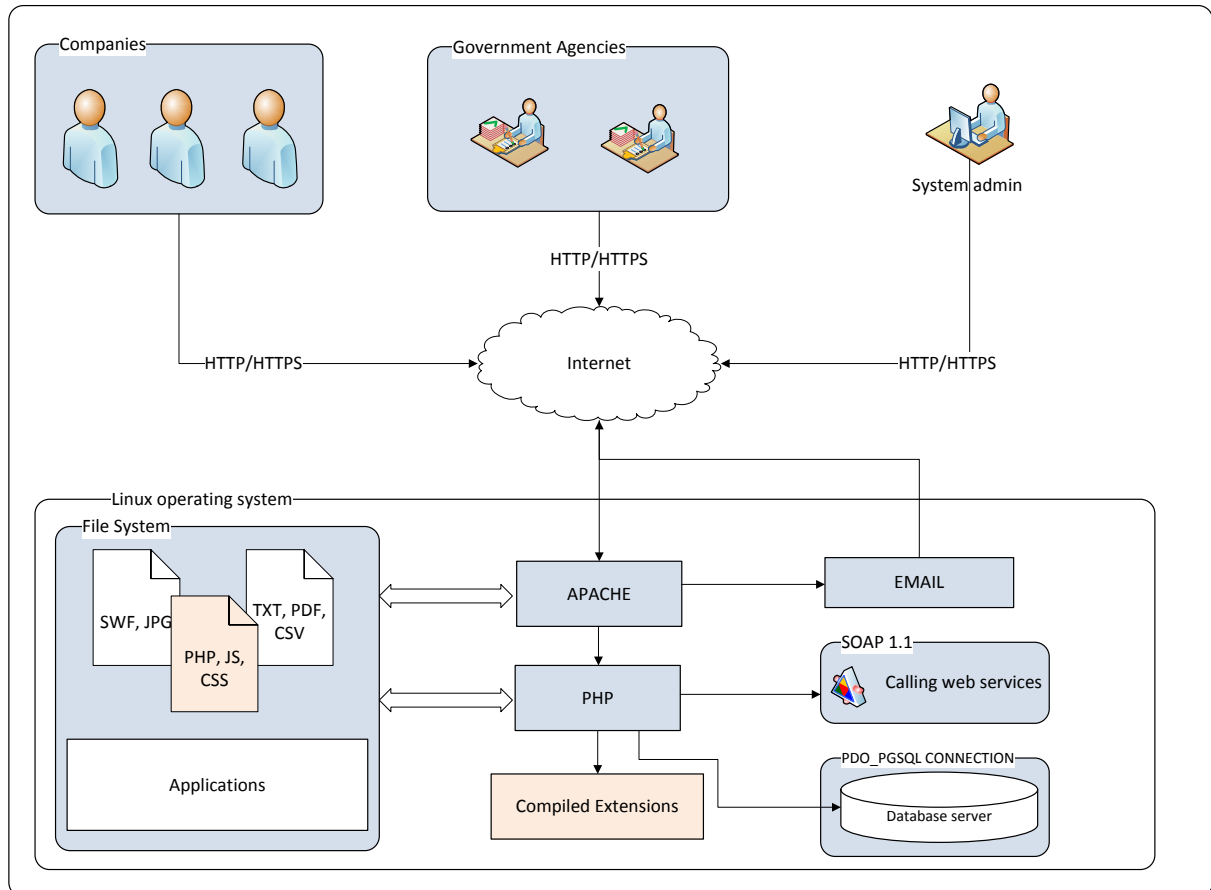
A method for the data transfer of structured information between systems is required. In this eReporting system – which is based upon web services – SOAP (Simple Object Access Protocol) is used to transfer data over a HTTP (Hypertext Transfer Protocol). The format of the transferred data is XML (eXtensible Markup Language).

The following diagram shows the design of the web server structure. Web server receives the client (e.g. end user) requests and processes them. The web server provides different interactions depending on the user levels.

The system is based upon the “LAMP” concept. LAMP is an informal term describing a standard set of software for making a web-based server. LAMP means Linux (operating system), Apache (web services), MySQL (database) and

PHP (web page programming language for the user experience). Variations on this scheme exist, usually replacing the database product where cost or compatibility part of an overall business justification. LAMP systems are open systems and mostly the software is free to use and does not usually require a paid license⁷. LAMP systems may also contain many other enabling and supporting functions such as email.

Figure 2: Web server structure



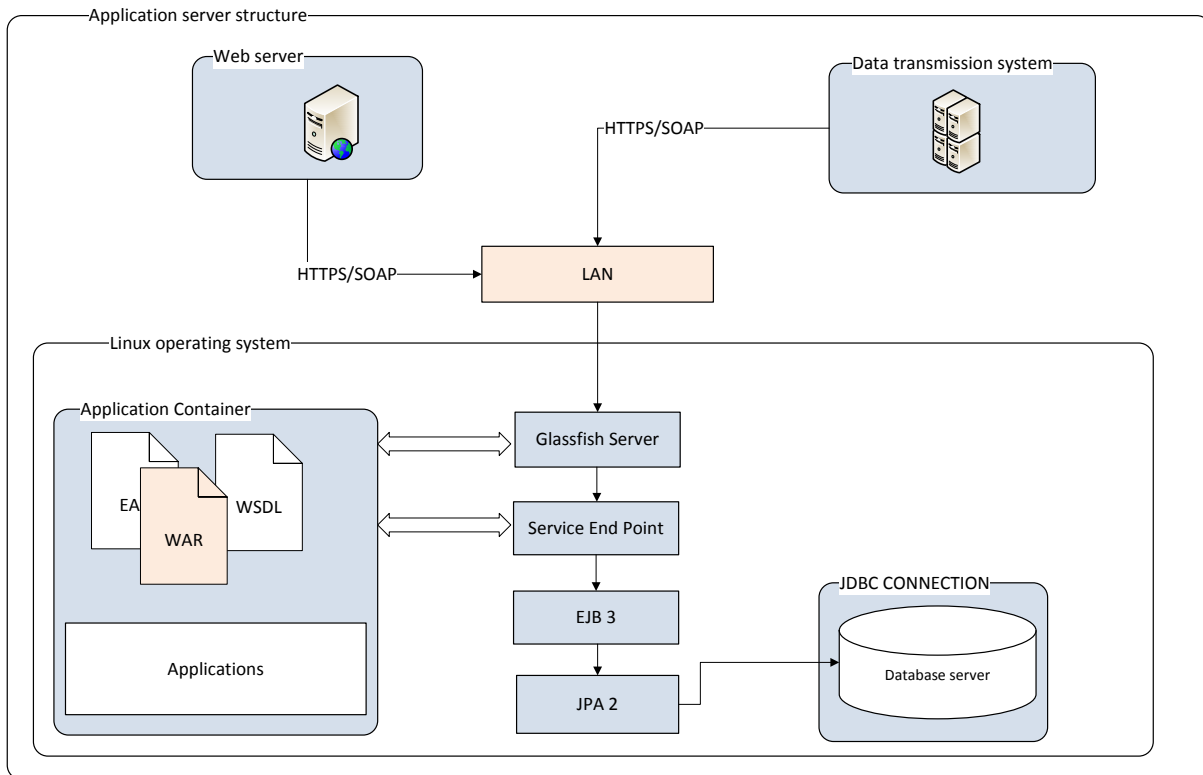
- Web servers use a Linux operating system.
- The Apache server receives user requests in HTTP protocol, processes the request, and provides the result in HTML format.
- User interface of the system is developed in PHP, which provides rich and dynamic user interface.
- Other support features can be enabled, such as providing for data to be sent via a mail service to the interested parties.
- The web system will create connections with the database server using PDO_PGSQL (PHP Data Objects PostgreSQL driver).
- When submitting or viewing reports, web services are called to communicate with the application server.

⁷ MySQL is now owned by Oracle and licensing has been introduced. Readers should consult Oracle for updates/news on MySQL.

Application Server Structure

Web services will be on application server and all requests will be received using SOAP protocol and data will be transmitted in XML format.

Figure 3: Application server structure



- Glassfish (application) server is suitable for developing web-services, EJB (Enterprise Java Beans – for business logic), JPA (Java Persistence API – Application Programming Interface – for relational data), and can be expanded further.
- EJB and JPA are used for storing and displaying data.
- Web services are deployed on a Glassfish server. End clients (web system) call web services using WSDL (Web Service Definition Language - in XML).
- Other information systems can also call web services to transmit data between the systems using standard protocols.

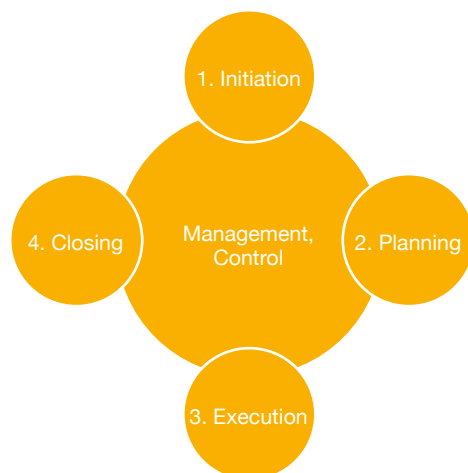
Software utilised in the eReporting system

Purpose	Software	Licensing Method	Notes
Web Server			
Operating system	CentOS-5.x	Open Source	Version of Linux. Other versions could be used.
Web server	Apache 2.2	Open Source	A ubiquitous web server
PHP Framework	Symfony2.3	Open Source	Symfony is a PHP toolkit/library for user interface development
Programming language	PHP 5.5	Open Source	Used for web page development
Application Server			
Operating system	CentOS-5.x	Open Source	Software that can handle J2EE applications with useful admin console for testing. The server is generally only required for larger numbers of sessions and connections.
Application Server	Glassfish 4.1	Open Source	
Development Framework	EJB 3, JPA 2	Open Source	
Programming language	Java	Open Source	Programming environment
Database Server			
Operating system	CentOS-5.x	Open Source	Database – where the basic EITI data is stored in tables
RDBMS (relational database server)	PostgreSQL 9.3	Open Source	

Project Methodology followed by Interactive while developing e-Reporting

The eReporting system was developed by Interactive in accordance to PMBOK (Project Management Body of Knowledge) principles. Figure 4 below depicts the basic project development phases.

Figure 4: Project development phases



These phases were further divided by Interactive into several sub-phases in order to provide management policy and control for them. Sub-phases are shown in *Figure 5* below.

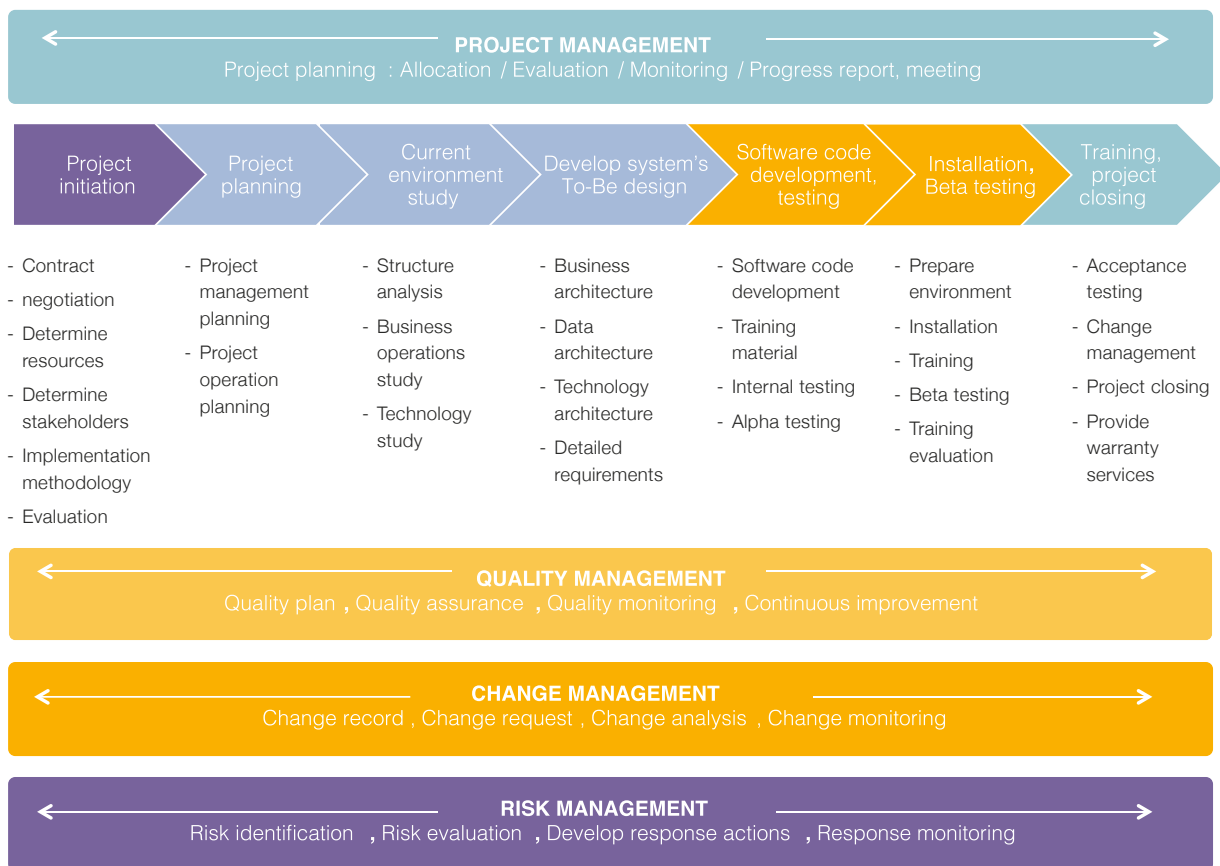
Figure 5: Project development sub-phases

Initiation	Planning	Execution	Closing
<ul style="list-style-type: none"> Initiate project 	<ul style="list-style-type: none"> AS-IS analysis GAP analysis. System TO-BE design development. Requirement Analysis. 	<ul style="list-style-type: none"> Coding, testing Installation, Beta testing 	<ul style="list-style-type: none"> Training, closing Warranty, support servicing

Project implementation is explained by the figure below. Interactive worked according this project implementation plan and successfully delivered the project on time.

Figure 6: Project Implementation Framework

Project Implementation Framework



Communication played a important in the success of the project and Interactive maintained an open transparent channel of communication with stakeholders. The following communication and reporting tools were used:

- **Reports** – Bi-Weekly status reports were used to update the client regarding ongoing activities. Interactive also sent reports at the end of each phase of work to key stakeholders for their approval and comments.
- **Video Conferences** – Interactive gave live demos to interested stakeholders regarding progress whenever there was a need for it.
- **Personal Contact** – Interactive worked closely with EITIM IT Manager throughout implementation.



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