

Submission to ETS Discussion Paper

IT Infrastructure Requirements for an Effective ETS



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1 Executive Summary

Logica welcomes the opportunity to make a submission to The Garnaut Climate Change Review (“the Review”) in relation to the Emissions Trading Scheme discussion paper, published by the Review in March 2008.

As operator of the registry that underpins one of the world’s first emissions trading schemes, the NSW Greenhouse Gas Reduction Scheme, Logica is in a key position to provide insight on the IT infrastructure requirements necessary for an effective Australian Emissions Trading Scheme.

This submission briefly summarises the IT infrastructure in place that facilitates the operation of emissions trading schemes domestically and internationally. The paper moves onto consider the IT requirements necessary for the establishment of an Australian Emissions Trading Scheme (AETS).

The key recommendations that Logica has in relation to the design and implementation of AETS are as follows:

Key Recommendations

- Logica recommends that industry consultation be undertaken to determine the IT infrastructure design requirements of the AETS prior to the Department of Climate Change entering into a tender process for a National Registry.
- Logica recommends that the implementation of a National Registry that supports the AETS should be coordinated in a way that involves all stakeholders.
- Logica recommends that the Registry Operator and associated Support Staff are suitably experienced in the operation of registries and in the operation of Emissions Trading Schemes both domestically and internationally.

2 Current Domestic Emissions Trading Framework

2.1 NSW Greenhouse Gas Reduction Scheme

Australia has operated one of the worlds first Emissions Trading Schemes since 2003. The NSW Greenhouse Gas Reduction Scheme, administered by the Independent Pricing and Regulatory Tribunal of New South Wales (IPART), aims to reduce greenhouse gas emissions associated with the production and use of electricity by establishing annual state-wide greenhouse gas reduction targets, and then requires individual electricity retailers and certain other parties who buy or sell electricity in NSW to meet mandatory benchmarks based on the size of their share of the electricity market.

To facilitate the operation of the scheme IPART established a web-based registry that is accessible to the Scheme Administrator, Scheme Participants and the general Public. The registry manages records of accredited abatement certificate providers and abatement certificates.

The basic functions of the Registry include:

- lists details of accreditations and projects in the Scheme;
- facilitates creation and transfer of abatement certificates;
- lists details and tracks ownership of abatement certificates;
- allows benchmark participants to surrender certificates to meet their obligations; and,
- allows other Scheme participants and members of the public to surrender certificates to meet personal offset schemes.

2.2 Related Mandatory Emissions Reduction Schemes

2.2.1. Mandatory Renewable Energy Target (MRET)

The MRET scheme is a Federal Government program to address climate change and to reduce greenhouse gas emissions.

MRET, administered by the Office of the Renewable Energy Regulator (ORER), required that a registry be established to track the creation, transfer and surrender of renewable energy certificates (RECs) created by renewable energy generators and surrender by electricity retailers and wholesale buyers as a means of contributing towards the generation of additional renewable energy.

2.2.2. Queensland's 13% Gas Scheme

The Queensland Government's 13% Gas Scheme was implemented to boost the Queensland gas industry and reduce greenhouse gas emissions. Administered by the Queensland department of

Mines and Energy the scheme requires Liable parties to surrender gas electricity certificates (GECs) to the Regulator equal to 13% of electricity sold or used in Queensland.

The Scheme required that a registry be established to track the electronic creation, transfer and surrender of GECs by Scheme Participants.

2.2.3. Victorian Renewable Energy Target (VRET) scheme

The Victorian Government's Renewable Energy Act 2006 established the VRET scheme which mandates Victoria's consumption of electricity generated from renewable sources be increased to 10% by 2016. Administered by the Essential Services Commission (ESC) of Victoria the scheme requires liable parties to surrender Victorian Renewable Energy Certificates (VRECs) in proportion to their acquisitions of electricity.

The Scheme required that a registry be established to track the electronic creation, transfer and surrender of VRECs by Scheme Participants. This is currently provided for via a series of spreadsheets accessible from the ESC's website. An online registry is currently under development and is expect to be operational during 2008.

3 Current International Emissions Trading Framework

3.1 Kyoto Protocol

The Kyoto Protocol requires developed countries that have ratified the Protocol to reduce their GHG emissions to an agreed target specified for each Party. Targets must be met within a five-year time frame between 2008 and 2012.

3.1.1. Flexibility Mechanisms

In order to give Parties a certain degree of flexibility in meeting their emission reduction targets, the Protocol developed three innovative mechanisms. These are the Clean Development Mechanism (CDM), Joint Implementation (JI) and Emissions Trading (ET). These market-based mechanisms allow developed Parties to earn and trade emissions credits through projects implemented either in other developed countries or in developing countries, which they can use towards meeting their commitments. These mechanisms help identify lowest-cost opportunities for reducing emissions and attract private sector participation in emission reduction efforts.

3.1.1.1. The Clean Development Mechanism (CDM)

The CDM provides for Annex I (developed countries) Parties to implement approved project activities that reduce emissions in non-Annex I (developing countries) Parties, in return for certified emission reductions (CERs). The CDM registry is used to issue CERs from registered CDM project activities into a Party's 'Pending Account'. Once an Annex I Party has established a National Registry that is connected to the UNFCCC International Transaction Log (ITL) the CDM Registry will transfer CERs to Party's National Registry.

3.1.1.2. Joint Implementation (JI)

Under JI, an Annex I Party may implement an emission-reducing project or a project that enhances removals by sinks in the territory of another Annex I Party and count the resulting emission reduction units (ERUs) towards meeting its own Kyoto target.

3.1.1.3. Emissions Trading (ET)

The Emissions Trading mechanism allows Annex I Parties to acquire units from other Annex I Parties and use them towards meeting their emissions targets under the Kyoto Protocol.

3.1.2. Kyoto Units

The Annex B Parties (developed countries) to the Kyoto Protocol must retire Kyoto emission units equivalent to each tonne of their greenhouse gas emissions from 2008 to 2012. Some Kyoto emission units are allocated to Annex B countries for free, and others can be acquired by Annex B countries through the three Kyoto flexibility mechanisms. Each Kyoto emission unit has a value of one metric tonne of CO₂ equivalent (CO₂^e) and are categorised into the following instruments:

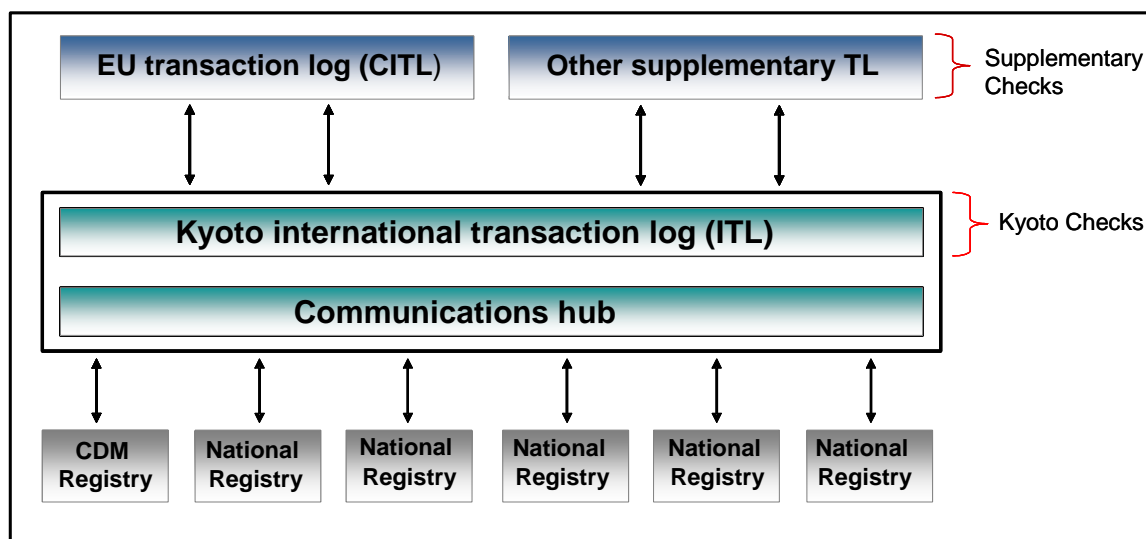
- **AAUs** (Assigned Amount Units) - freely allocated to Annex B countries to match the level of their emission reduction or limitation commitment. These units can be bought and sold by Annex B countries using the international emissions trading mechanism.

- **CERs** (Certified Emission Reductions) - generated by Clean Development Mechanism (CDM) projects that support sustainable development and reduce emissions or create forest carbon sinks in developing countries. Forestry CDM projects use special units reflecting the impermanence of forest sinks: temporary CERs (tCERs) and long-term CERs (ICERs).
- **ERUs** (Emission Reduction Units) - generated by joint implementation (JI) projects that reduce emissions or create forest sinks in Annex B countries.
- **RMUs** (Removal Units) - awarded to Annex B countries on the basis of net removals by sinks in the land use, land-use change and forestry sector.

All of the Kyoto instruments can be used interchangeably by Annex B countries to meet their commitments from 2008 to 2012.

3.1.3. International Transaction Log (ITL)

The UNFCCC ITL underpins the trade of Units described above between each Party's National Registry. The ITL validates all registry transactions to ensure they are consistent with rules agreed under the Kyoto Protocol.



Registries in live operation with the ITL (as at 16 April 2008) include the Clean Development Mechanism (CDM), Japan, New Zealand, Switzerland & Russian Federation National Registries.

The ITL performs 'real-time' transaction validation against the UNFCCC Data Exchange Standards (DES) for Registry Systems under the Kyoto Protocol Technical Specifications (Version 1.1) which incorporate the policy-related Kyoto rules. The ITL builds up records of holdings and transactions which mirror registries and uses this data to perform reconciliation with National Registries.

The ITL sends EU transactions to the Community Independent Transaction Log (CITL) for supplementary checking. National Registries are notified of required transactions (e.g. cancellation).

Each National Registry's System Administrator (RSA) attends an RSA forum convened by ITL Administrator with the objective of maintaining accuracy, transparency and efficiency in registry system operations.

3.1.4. Connecting a National Registry to the ITL

A National Registry that has been developed in line with the Data Exchange Standards must go through an Initialization process prior to commencing live operations with the ITL. This process ensures that the National Registry has all the required registry functions to the appropriate standard.

The initialization process has three phases:

1. Documentation review: a review is undertaken of the technical and operational documentation including Disaster Recovery Plan, Operational Plan, Security Plan, Application Logging, Time validation, Version change management plan, Test planning & Database & Application Backup plan;
2. Connectivity testing: the ability of the registry to connect to the ITL is assessed by verifying that VPN connectivity between registry and ITL, SSL connection and a basic Web service has been established.
3. Functional testing: the ability of the registry to carry out its required functions is assessed by verifying that it can undertake transaction, reconciliation and administrative processes, including for notifications, as specified in the data exchange standards.

The ITL operator provides a recommendation to the ITL Administrator for Initialization Authorisation, the results of which are contained in Independent Assessment Reports for each registry.

3.2 European Union Emissions Trading Scheme (EU ETS)

The EU ETS is the largest company level 'cap-and-trade' Greenhouse Gas Emissions Trading Scheme world-wide and has been in operation since 2005.

Each EU country has in place a National Registry that tracks of the change of ownership of allowances allocated under the scheme. All of these registries are overseen by the European Commission, through the Community Independent Transaction Log, which checks each transaction for any irregularities.

The EU ETS is open to linking with compatible Emissions Trading Schemes in other countries that have ratified the Kyoto Protocol. This may include Australia, New Zealand, Switzerland, California and the north-eastern US states.

All National Registries are going through the process of ITL initialisation with the aim of becoming operational with the ITL in the near future.

3.3 New Zealand Emissions Trading Scheme (NZ ETS)

The NZ ETS is a cap-and-trade scheme to reduce domestic emissions and achieve New Zealand's commitment under the Kyoto Protocol.

The NZ ETS will involve an obligation on participants to hold New Zealand Units (NZU) that match the emissions levels for which they are responsible. The NZ ETS will allow both sales to, and purchases from, international trading markets to aid liquidity in the market and act as a safety valve on price. The NZ ETS commenced operation in 2008 and will be expanded into full operation by 2013.

The New Zealand Emission Unit Register (NZEUR) was implemented to meet New Zealand's obligations under the Kyoto Protocol. The NZEUR went into live operation with the ITR in 2007.

4 Establishing the Infrastructure for an AETS

In the Australian Government's Initial Report under the Kyoto Protocol, published 11 March 2008, the Department of Climate Change (DCC) outlined Australia's intention to 'develop a national registry to support allowance trading under both the Kyoto Protocol and the Australian Emissions Trading Scheme, and to have the national registry operational in accordance with the timelines specified under the Kyoto Protocol.'

The report goes on to say that 'the DCC will conduct an open tender to procure a national registry in 2008. The necessary documents are currently being prepared and the funding being allocated. The registry will be a "best practice" electronic database that is publicly accessible through a web-based user interface. Following review of the registry by the UNFCCC and initialisation with the International Transaction Log, Australia plans to have the registry operational in 2009. The registry will be developed in accordance with the standards specified in the UN DES document, Version 1.1. Development of connection, initialisation and testing with the International Transactions Log will commence in the second half of 2008. Registry functionality and documentation will include back-up procedures and a disaster recovery plan. Information to be made public on the registry user interface will be specified in the tender requirements.'

In establishing a National Registry that underpins both an Australian Emissions Trading Scheme and Emissions Trading under the Kyoto Protocol the Department of Climate Change has two broad options available.

4.1 Option 1 – Utilisation of the GGAS Registry

One option would be to utilise the registry that has successfully supported the NSW Greenhouse Gas Reduction Scheme since 2003.

The benefits that this option provides are as follows:

- The registry contains all the core functionality required for the administration of an emissions trading scheme (regardless of whether it is a baseline-and-credit or cap-and-trade scheme) including instrument creation, transfer, surrender and Scheme Administration functionality;
- Robust registry software that has been refined over a period of 5 years;
- Intuitive user interface that is familiar to Industry participants;
- Extensive Scheme Administrator functionality that allows for efficient administration of the scheme.

- Software is readily able to be expanded to cater for the new requirements as demonstrated by the inclusion of ACT Australian Capital Territory into the NSW GGAS scheme.
- Support team experienced in the operation of the IT systems that underpin an emissions trading scheme.
- Support team that understand the business rules that underpin an emissions trading scheme.
- The registry provides role based access permissions. For example the Compliance Regulator role is deliberately separated from the Scheme Administrator role.
- Can be rolled out relatively short timeframe.
- Originally designed to link to an external trading platform (Green Electricity Market) during construction, albeit that this option was not pursued by IPART. This would allow a market trading system to clear trades without needing to seek approval from the registry or Regulator and the ownership changes would then automatically be reflected in the registry.

Should the option be considered, analysis needs to be undertaken to determine the extent to which the existing GGAS registry is able to be configured to comply with the UNFCCC Data Exchange Standards (DES) for Registry Systems under the Kyoto Protocol Technical Specifications (Version 1.1).

4.2 Option 2 – Utilisation of Registry Software developed in accordance with the DES

The second option would be to utilise existing registry software that has been developed in line with the UNFCCC DES.

There are several offshore registry solutions in this category that are available in the marketplace.

- The Greenhouse Gas Registries for Emissions Trading Arrangements (GRETA) registry software, developed by the UK Department for Environment Food and Rural Affairs (DEFRA) is licensed to Bulgaria, Cyprus, Estonia, Finland, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Romania, Slovenia & Sweden to facilitate their compliance with the EU ETS.
- The Greenhouse Gas Effect Electronic Registry System (SERINGAS) developed by the French Caisse des Dépôts et Consignations, CDC, Paris, France, is licensed to Belgium, the Czech Republic, France, Germany, Liechtenstein, Luxembourg, Monaco, Poland, Portugal, Slovakia and Spain to facilitate compliance with the EU ETS.
- New Zealand utilises a registry provided by an American consulting firm Perrin Quarles Associates (PQA). The New Zealand Emission Unit Register (NZEUR) is

based upon the Emissions and Allowance Tracking System (EATS), a emissions trading program software application sponsored by the U.S. Environmental Protection Agency and developed by PQA. PQA also developed the Clean Development Mechanism (CDM) Registry for the UNFCCC.

- Austria and Greece obtained their respective registries from the software vendor Smartech;
- Japan obtained its registry from the software vendor NTT;

Logica has been involved with the adaptation, implementation and operation of the GRETA and SERINGAS registry solutions and as operator of the ITL evaluated all these systems in accordance with the ITL Initialization process. From our experience Logica has identified the following key success criteria with respect to utilising Registry Software developed in accordance with the DES:

- Allow adequate time to implement and test a registry for connection to the ITL. This has taken most Parties between six to nine months;
- Technical staff that understand the Kyoto rules will be required to modify it accordance with the Kyoto requirements, as it is unlikely that the registry software packages available will deliver 100% of the requirements;
- Get skilled people that understand Kyoto and to support the application. Some countries have relied too heavily on developers for this;
- Get involved with Registry System Administrators Forum to learn what other Registries have tried.

4.3 Design Elements

In designing a registry that provides for an efficient means for the Scheme Administrator and Industry Participants to fulfil their legislative obligations several aspects needed to be considered. In summary these include usability, performance, availability, scalability, user access protocols, workflow functionality, architecture, import and export capabilities, reporting and settlement functionality, auditability, hosting, security, backup, disaster recovery, support services & training.

5 Comments / Recommendations

Australia is in a unique position in that we have a robust efficient registry solution that has operated one of the world's first emissions trading schemes.

The Review states that the scheme should be 'simple in design, efficient in operation and easily comprehended by industry participants and the public'.

The Review goes on to say that 'a review of an efficient Emissions Trading Scheme has been improved by discussion around GGAS and international applications of ETS.' It is Logica's view that this should also include a review of the systems that support these schemes. A significant amount of time and effort has been spent on enhancing these systems to increase the efficiency of these schemes to achieve their respective objectives. Should a new National Registry be developed without a detailed understanding of the lessons learned, both the Scheme Administrator and Scheme Participants will potentially be burdened with higher transactions costs which the Review notes 'are a deadweight loss to the economy'.

The Review also states that the singular objective an AETS should be to 'provide a transactional space that enables the transmission of permits to economic agents for whom they represent the greatest economic value'. In order to develop this 'transactional space' consultation needs to be undertaken as to what infrastructure needs to be put in place to facilitate the key aspects of the scheme, for example, it is expected that the National Registry will be independent from any trading exchanges in order to maintain integrity and transparency, however to facilitate price discovery and liquidity and for allowances / permits to be auctioned by the Regulator to Industry Participants, it is assumed that the National Registry will need to provide an appropriate interface with trading exchanges.

Consideration also needs to be made as to the necessary functionality required for a National Registry. To illustrate the GGAS, GEC and REC Registries have different levels of accounting functionality based on the objectives of each scheme and the needs of each scheme's Financial Controller. For example the NSW Greenhouse Reduction Scheme registry provides for the upload of a payment file into the registry, which is pre-prepared by the scheme's Financial Controller. This provides the scheme's Financial Controller with ultimate control over the financial aspects of the scheme while providing for an efficient mechanism to release certificates that have been settled. The benefits of this approach are that it removes the need for the registry to contain and run extensive settlement functions that are already in place external to the registry, thus freeing the registry up for core registry functions; and it removes the need for unnecessary duplication of account reconciliation.

Logica recommends that industry consultation be undertaken to determine the IT infrastructure design requirements of the AETS prior to the Department of Climate Change entering into a tender process for a National Registry.

The timetable indicated by the Department of Climate Change in the Australian Government's Initial Report under the Kyoto Protocol states that an open tender process will be conducted in 2008 to procure a National Registry, with connection, initialisation and testing with the ITL to commence in the second half of 2008, and to have the registry operational in 2009.

This would facilitate the creation of offsets and allocation or auction of permits prior to the commencement of the scheme in 2010.

Logica's view is that the implementation of a National Registry within this ambitious timeframe is achievable, however this will depend on the approach undertaken. Consideration need to be given to the following: level of Industry consultation; coordination of relevant parties (e.g. Registry developers, exchange operators, etc); the extent to whether this can be undertaken in a stage approach, and the experience of resources available to undertake this work.

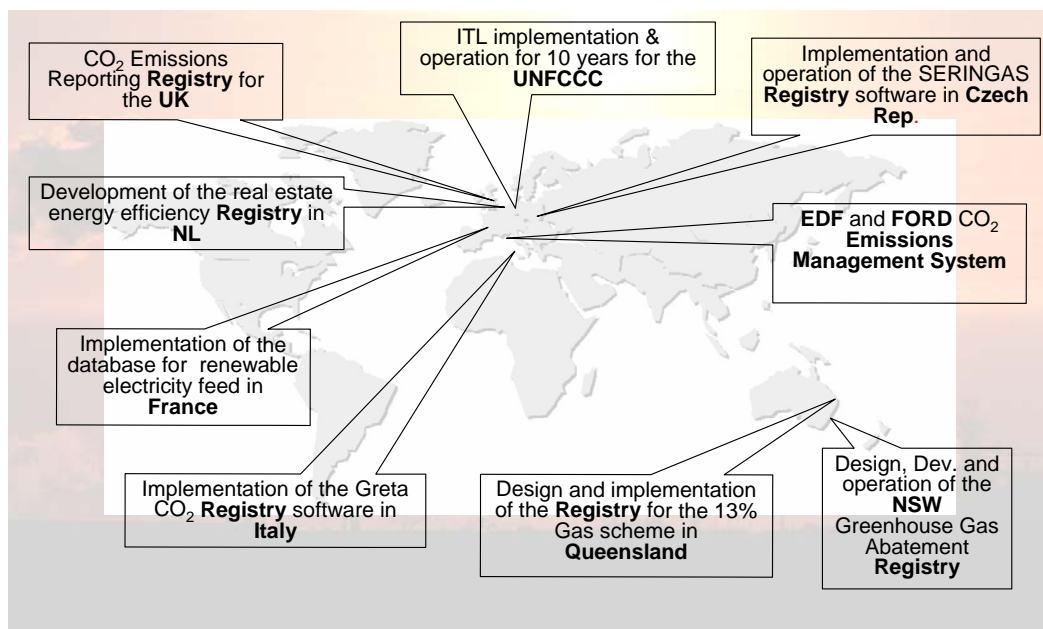
Logica recommends that the implementation of a National Registry that supports the AETS should be coordinated in a way that involves all stakeholders.

To ensure the efficiency of the scheme in operation the National Registry will need suitably experienced resources to support the system. The Support team should understand the nature of the transactions undertaken both from a national regional and international perspective. The Registry Administrator and Operator should have an understanding of the lessons learned both domestically and internationally through the RSA Forum.

Logica recommends that the Registry Operator and associated Support Staff are suitably experienced in the operation of registries and in the operation of Emissions Trading Schemes both Domestically and Internationally.

6 Logica CO2 reference stories

The picture below outlines some of the key Logica CO2 reference stories across the globe. These are discussed in more detail in the following sections.



6.1 New South Wales Greenhouse Gas Abatement Scheme Registry

In Australia the NSW Greenhouse Gas Abatement Scheme imposes mandatory greenhouse gas benchmarks on all NSW electricity retailers and certain other parties, including those who elect to manage their own benchmark (e.g. large energy users), to abate the emission of greenhouse gases from the consumption of electricity. These parties are referred to as “benchmark participants”. The Australian NSW government has appointed IPART as the central administration responsible for the set up and management of this GHG abatement scheme. In particular IPART had to set up the national registry for carbon quotas in a very short timescale. IPART commissioned Logica to design, develop and operate this Registry. Logica developed an Internet Web-based solution in order to satisfy the requirements of being a highly accessible and flexible registry service, which meets the needs of the Scheme Administrator, the range of providers and the general public. IPART awarded the contract to Logica in mid May 2003 with the solution going live on 11 September. This required the entire Registry to be designed, established and tested within 17 weeks. Apart from the tight deadline, the major issue confronting Logica was designing an interface that any member of the public could intuitively use (without training) that would seamlessly link to the complex Registry database application.

Behind the web-based interface, the designers used a Microsoft SQL Server hosted at Logica’s datacentre in Haymarket, Sydney, with a backup datacentre in Hawthorn, Melbourne, to provide full disaster recovery capability. For further information on the NSW abatement scheme see: www.greenhousegas.nsw.gov.au.

6.2 ITL implementation & operation for 10 years for the UNFCCC

The United Nations required an International Transaction Log (ITL) under the Kyoto Protocol. The purpose of the ITL is to demonstrate compliance with emission targets under Article 7.4 of the Kyoto Protocol.

The ITL verifies transactions proposed by external registries to ensure they are consistent with rules agreed under the Kyoto Protocol. The administrator of the ITL is the United Nations Framework Convention on Climate Change (UNFCCC) secretariat.

Each registry is to be connected to the ITL through secure communication channels established across the Internet. These connections will allow a registry to receive an immediate response from the ITL, typically within a matter seconds after sending the transaction information.

The ITL contract was awarded to Logica and Trasys based on their proven experience in developing and implementing transaction logs and national registries. Logica has experience in implementing three of the four generic national registry systems under the European Union Emissions Trading Scheme. These are the NSW Greenhouse Gas Abatement Scheme (GGAS) Registry, Seringas™ and the United Kingdom's electronic emissions trading registry software, GRETA (Greenhouse Gases Registry for Emissions Trading Arrangements).

The development and testing phase of the ITL was managed by Trasys, while the operation of the ITL was the responsibility of Logica. Operational, technical and service support has been provided by Logica's global service delivery team since the ITL became operational on 14 November 2007.

6.3 Queensland 13% Gas Scheme

Logica successfully designed, built and is now operating the gas electricity certificate registry for the Queensland State Government. The registry database and website supports the 13% Gas Scheme which requires Queensland electricity retailers and other liable parties to generate at least 13% of their electricity from gas-fired sources, resulting in a reduction of greenhouse gas emissions.

6.4 CO2 Emissions Reporting Registry for the UK

On 15 January 2007 Logica announced that it has been awarded a contract by Collabro, acting on behalf of the UK Department of Trade and Industry (DTI), to help the UK oil and gas industry manage CO2 emissions. The EUR500,000 contract covers the hosting, support and maintenance of a new internet-based, UK-wide Environmental Emissions Monitoring System (EEMS).

6.5 Czech Republic National Registry for the EU ETS

The Czech Republic as an EU member was obliged to implement a national registry for participation in the European Union Emissions Trading Scheme (EU ETS) pursuant to the

European Commission (EC) decree no. 2216/2004. The key operational deadline was scheduled for 1st January 2005.

The Czech Republic Energy Market Operator (OTE) was responsible for the implementation and ongoing administration of the Czech Registry. In December 2004 OTE contracted Logica to provide design, infrastructure set-up, application delivery, localization, implementation, integration with existing systems, testing & certification, training, documentation, extended trial run support, cutover services.

The application software delivered was Seringas™ registry software, which was developed by the French Caisse des Dépôts et Consignations, CDC, Paris, France. Logica is contracted to provide application management services until the end of 2009.

The project was delivered on time, to the required quality standard quality and meets all requirements of customer.

6.6 Italy National Registry for the EU ETS

In August 2005, Logica was selected by Agenzia per la Protezione dell'Ambiente e per i Servizi Tecnici (APAT) to support the Italian CO2 registry under the terms of the European Union's (EU) Emissions Trading Scheme (ETS). Logica, along with partner E3 International, was responsible for the adaptation of the GRETA software (developed by the DEFRA UK administration) to the Italian context, the translation and revamping of the web site, the drafting of a FAQ online help, the develop training materials such as courses and manuals for users of the registry and provide services including an email support centre. As this is the first such registry in Italy, the support given to companies will play a vital role in ensuring its success.

6.7 EMISSIONS logic for Ford Motor Company

The Ford Motor Company manufactures and distributes vehicles in more than 200 markets across six continents. Each manufacturing site produces vast amounts of data on carbon emissions which need to be standardised and collated for legislative compliance and emissions management purposes. The initial scope of the project was to collate data from across 54 sites throughout Europe and the USA.

The first phase of the project was completed using the implementation of Logica's EMISSIONS logic solution in partnership with CarbonSim. This enabled Ford to track their greenhouse gas emissions, monitor and manage their emissions compliance, manage their emissions allowances and credits and evaluate strategies and projects for emissions reduction assisted by the generation of internal and external reports.

Following the initial successes of the project, the solution was extended at Ford's request to cover a wider data set of environment metrics and it was deployed throughout Ford's manufacturing operations around the world, including 70 manufacturing sites in 17 countries. Ford is now able to globally manage CO2 and other emissions under a wide variety of regimes and methodologies to

comply with the EU Emissions Trading Scheme (ETS) and with other emissions reporting initiatives in North America.

6.8 Implementation Prevention Pollution and Control for EDF, France

Logica announced in November 2005 that it has implemented an IT system to provide EDF with an efficient, automated, means of collecting and reporting accurate and timely data on a wide range of atmospheric pollutants. This is needed in order to help EDF meet requirements from the EU directives on Integrated Pollution Prevention and Control (IPPC) and Emissions Trading (EU ETS). The objective with enhancing existing IT systems, rather than implement an entirely new solution, was to minimise the costs and time required. As part of the enhancement, detailed information on the composition of fuel batches, as well as on measured emissions, is input and shared via an intranet system, ensuring a consistent approach. This replaces some previous paper-based communications, leading to administrative cost-savings. A further important benefit, with estimates now performed on a daily basis rather than a monthly basis, is that EDF now has a much clearer view of its financial position.

6.9 REMCo & GMC

Logica has implemented and operates the central registries that support the business rules applying to the fully contestable NSW & ACT retail gas market on behalf of the Gas Market Company (GMC) and for West Australian and South Australian retail gas market on behalf of the Retail Energy Market Company (REMCo).

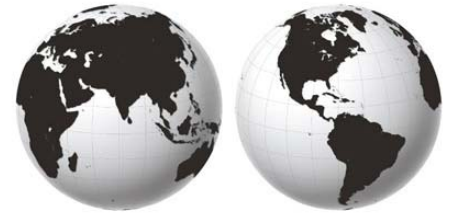


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