Energy Management Information Systems (EMIS) Eligibility Requirements

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EMIS Eligibility Requirements

The Energy Management Information System (EMIS) Eligibility Requirements set out the scope and specifications for minimum eligibility compliance for funding within the Strategic Energy Management for Industry (SEMI) program. This guide specifies the documentation and other requirements necessary for EMIS application processing. Each EMIS funding application is individually assessed, and additional information may be requested during the approval process. The Facility Readiness Assessment (FRA) will help initiate your EMIS journey by identifying key infrastructure, data systems, and operational readiness needed to support a successful installation and implementation.

Required Credentials & Qualifications

The EMIS team must meet the following credentials and qualifications:

- At least one team member must hold a valid Professional Engineer (P.Eng.) license (preferably registered in Alberta) or recognized credentials such as Certified Energy Manager (CEM) or Certified Engineering Technologist (CET). This team member shall act as the project manager and primary contact to facilitate the EMIS application processing. The resume of this resource must be included with the application submission.
- All team members must comply with applicable regulatory requirements and industry practices in Alberta.
- Possesses a strong track record in energy management information system implementation, energy audits, benchmarking, and retrofit projects.
- (Optional asset): Certification as a 50001 Certified Practitioner in Energy Management Systems and experience with management systems, including standards such as ISO 9001 and ISO 14001.

Application Proposal Submission Requirements

The EMIS proposal or documentation of solution implemented should include the following sections:

	Required Items	Comments
1	**Existing Facility Metering Systems – Energy and Process Parameters**	Detail current energy and process monitoring systems, including: • **Core Components:** Meters, sensors, data storage, analysis tools, and reporting outputs. • **Visual Documentation:** Labeled instrumentation/architecture diagrams and inventory lists mapping all equipment and process lines. • **Evidence:** Screenshots or examples of current data analysis and reports. **Note:** If no internal systems exist, simply describe utility-provided meters.
2	**Proposed Energy Management Information System or EMIS**	Detail the planned system and any modifications to existing infrastructure: • **System Upgrades:** New meters, sensors, storage repositories, analysis tools, and reporting outputs. • **Infrastructure Changes:** Outline any removal, adjustment, or repurposing of existing equipment. • **Technical Documentation:** Labeled instrumentation/architecture diagrams and inventory lists mapping the system to specific equipment or process lines. • **Evidence:** Mockups or examples of proposed data analysis and reporting interfaces.
3	**EMIS Costs**	Provide a total overall budget required for the design and implementation of the EMIS. **Recommended Breakdown:** Detailed cost estimates for: • **Materials:** All hardware, sensors, meters, and communication infrastructure. • **Third-Party:** External costs segmented by design and implementation phases. • **Internal Resources:** Estimated time and costs for internal personnel supporting the project.
4	**EMIS Project Implementation Plan**	Define the roadmap for deployment, from kickoff to completion: • **Schedule:** Detailed timeline covering installation and commissioning phases. • **Milestones:** Clear list of key deliverables and progress markers (e.g., hardware arrival, system integration, final handover). • **Resource Allocation:** Defined roles for internal staff (Energy Champion, IT, Facilities) and external contractors/vendors.

	Recommended Items	Comments
1	**EMIS Project Objective**	Outline facility energy objectives, targets, action plans, and energy management policy that aligns with EMIS outputs and supports continuous improvement.
2	**EMIS Testing and Commissioning Plan**	Describe the approach for validating the EMIS through: • Site Acceptance Testing (SAT) • Performance testing criteria and procedures • Success metrics and sign-off process
3	**EMIS Training, Communication, Awareness and Support Plan**	Provide the training plan, communication and awareness and pre and post project technical support plan.
4	**EMIS Management Plan**	Outline the strategy for continuous energy improvement from design through long-term operation: • **Lifecycle Governance:** Define roles and responsibilities for internal staff across all phases: design, implementation, and O&M. • **Performance Metrics:** Procedures for identifying and reviewing Energy Performance Indicators (EnPIs) and targets at Site, EAC, and SEU levels. • **Operational Control:** Strategy for establishing operational criteria and control measures to improve energy performance. • **System Integrity:** Plans for ongoing maintenance, software updates, data governance, and quality assurance.

Eligible EMIS Minimum Requirements

According to the SEMI Program, the minimum requirement for an implemented EMIS is the ability to capture, store, and analyze data at both the site level and at any energy account center deemed a significant energy user and use the data to make ongoing improvements in energy performance, including consumption, efficiency, costs, and related greenhouse gas emissions. The EMIS system must include the following components, functionalities, and capabilities.

Category	EMIS Incentive Less or Equal to $50,000	EMIS Incentive Greater than $50,000
Data Source	1. At least one site-wide utility source submeter. 2. At least one process or production data source. 3. Submetering of Significant Energy Users (SEU) or Energy Account Centers (EAC), as required by the baseline modeling approach.	1. Submetering of all facility-wide utility source. 2. Multiple process or production data sources. 3. Submetering of Significant Energy Users (SEU) and establishment of Energy Account Centers (EAC).
Data Storage	**Historian Required:** On-prem or Cloud. **Retention:** Minimum **5-year** capacity.	
Analytics & Modeling	1. Time-series analysis. 2. Baseline modeling or Regression analysis of Energy vs. Production or other Independent Variables.	**Full Facility Energy Consumption Modeling including:** 1. Time-series analysis. 2. Baseline Modeling or Regression analysis vs. independent variables including 12-month contiguous baseline per energy source for SEU and EAC. 3. Facility-wide energy consumption forecasting.
Network & Security	1. **Data-in-Transit Protection + Cyber Controls:** At least one protection for data traveling over public networks (VPN, strong encryption, IPS) plus two cybersecurity technical controls (firewall, MFA, encryption, endpoint security, etc.). 2. **OT/IT Network Segmentation:** Clear segmentation or isolation between the Operation Technology (OT) network and IT/public networks to prevent direct exposure of OT systems. 3. **Secure Access Control for OT Systems:** Role-based access, strong authentication (e.g., MFA), and restricted privileges for anyone accessing EMIS or OT equipment, with activity logging.	
Viz & Reports	1. Time-series charting including the CUSUM of energy savings. 2. EnPIs for decision making. 3. Dashboards for operator planning. 4. Configurable reports (CSV/PDF).	
Other Features	*Recommended but not mandatory.*	**Alarms:** Log/diagnose process alarms and system events. **Actionable Insights:** Automated notifications for SEU/EAC optimization.

Post-Implementation Submission Requirements

The following deliverables must be submitted by the client after EMIS implementation for system assessment:

	Required Deliverable	Description
1	Design	**Network Architecture Diagram:** High-resolution diagram or screenshot showing hardware components, data flow paths, connectivity types, and integration points. **Security:** Access control and user authentication verification. **Cybersecurity:** Network integrity and vulnerability validation.
2	Performance Test Report	Signed Site Acceptance Test (SAT) report.
3	Data Integrity	Proof of historian configuration and functional backup/recovery systems (e.g., storage capacity confirmation or backup logs).
4	Dashboard Screenshots	**EnPIs:** Energy Performance Indicators. **Analytics and Modeling:** Active baseline models. **Note:** If the incentive is more than $50,000 the following are additional requirements: **Audit Trails:** Event and alarm logs. **M&V:** Energy savings reports. **Hierarchy:** Site-level vs. SEU/Departmental-level views.
5	Installation Costs	**Proof of Expenditure:** Final project invoices or Bank confirmations or receipts. **Co-funding:** Documentation of shared funding sources (if applicable).
6	Close-out Report	**Project Scope & Outcomes:** Brief overview of the EMIS implementation and key operational results. **Energy Management Process Improvements:** Summary of how monitoring, reporting, and operational control improved due to the EMIS. **Identified Energy Savings Measures:** List of the main energy-saving opportunities discovered through EMIS data and analysis. **Verified or Estimated Savings (Optional but recommended):** Short summary of measurable improvements resulting from implemented actions.

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EMIS Terms Definition

Data Analysis: The process by which energy consumption is compared with the utility drivers to arrive at a conclusion on energy performance. data analysis. This process may be summarized as the means of converting data into management information.

Data Historian: Software designed to capture and store time series data from facility operations. It collects sequential measurements, such as machinery temperature or pipeline pressure, recorded at high frequencies over defined periods.

Energy account center (EAC): The organizational level at which energy performance should be managed and, therefore, reflects both process and organizational responsibilities. Energy Account Centers may be process lines, unit operations such as furnaces or driers, or components such as air compressors or boilers.

Significant Energy User (SEU): Energy use accounting for substantial energy consumption and/or offering considerable potential for energy performance improvement. Significant Energy users are determined by the organization, and SEUs can be facilities, systems, processes, or equipment.

Energy Performance Indicator (EnPI) is a quantitative metric used to monitor, benchmark, and demonstrate improvements in energy efficiency by normalizing energy use against relevant factors (e.g., output, weather) to identify trends, reduce costs, and lower emissions. For example, kWh per unit of production or energy per square meter

EMIS Abbreviation

ERP   Enterprise Resource Planning

BAS   Building Automation System

DCS   Distributed Control System

RTU   Remote Terminal Unit

PLC   Programmable Logic Controller

CT   Current Transformer

EnPI   Energy Performance Indicator