Econoler Series

45 Years. 45 Projects.

A Collection of 45 Projects That Shaped a More Sustainable Future

Celebrating 45 Years of Energy Efficiency Expertise

ECONOLER
45 ANS/YEARS



Econoler Series

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45 ANS/YEARS

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A Word from the President

Dear reader,

It is my great honour to introduce this publication marking Econoler's 45th anniversary.

This booklet presents 45 landmark projects carried out in Canada and around the world. Together, these projects reflect not only the breadth of our expertise in energy efficiency and demand-side management, but also our enduring commitment to advancing the global energy transition since the early 1980s.

More than a retrospective, this collection tells the story of how Econoler has evolved over time. From our early leadership in energy performance contracting, we have grown into a globally recognized consulting firm that offers comprehensive solutions across all aspects of energy efficiency and demand-side management.

From our roots in Canada to projects spanning more than 180 countries, our work has touched every major sector, including residential, commercial, industrial, institutional, financial institutions, governments, and utilities. This global experience has shaped our perspective and strengthened our ability to deliver meaningful, lasting impacts.

This publication is, foremost, an expression of gratitude to our clients and partners — from energy users and governments to institutions and international financing organizations. Their trust has enabled us to contribute to a wide range of initiatives and has been fundamental to our success.

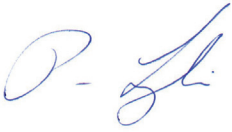
We also pay tribute to the exceptional people at Econoler, past and present, whose expertise, dedication, and collaboration have built the firm into what it is today. Their contributions extend far beyond our projects — they have shaped our culture and enriched our collective journey.

Over the past 45 years, Econoler has built a strong reputation for excellence among stakeholders across both developed and emerging markets. While we are proud of this legacy, we remain focussed on the future, continuing to adapt, innovate, and support our clients in addressing the evolving challenges of the energy transition.

We hope you enjoy discovering these projects, each representing a moment in our history and a step toward a more sustainable future.



Pierre Langlois
President, Econoler





Introduction

For 45 years, Econoler has been at the forefront of a quiet transformation — one that has reshaped how energy is used, managed, and valued across the world.

This publication tells that story.

Through 45 projects, we trace the evolution of energy efficiency from an emerging concept to a global imperative. What began as a pioneering effort in the early 1980s has grown into a multidisciplinary practice at the heart of the energy transition. Along the way, Econoler has contributed to this transformation, project by project, country by country.

Each case study featured herein captures more than a technical solution. It reflects a moment in time: a challenge faced, a partnership formed, an innovation applied, and an impact achieved. Together, the case studies illustrate not only the diversity of our work, but also the consistency of our purpose — to deliver practical, lasting solutions that reduce energy use, lower emissions, and create value for our clients and communities.

From local initiatives to large-scale international programs, these case studies reflect projects that span many sectors, geographies, and decades of change. They highlight how approaches have evolved, how technologies have advanced, how the expectations placed on energy systems have grown more complex, and how meeting energy demand has become more urgent.

As you explore these pages, you will see a common thread: progress driven by collaboration, expertise, and a shared commitment to a more sustainable future.

This is not only a look back at what has been achieved, but also a reminder of what is possible.

Outstanding Projects Celebrating 45 Remarkable Years

Here are 45 projects that stand out in Econoler's history. Spanning decades, sectors, and continents, they offer a glimpse into the breadth of our work and the milestones along the way.

Chapter 1:
The 1980s and 1990s



Hôtel-Dieu de Québec

1982–2019 | Centre hospitalier universitaire de Québec (CHUQ), Canada

How a pioneering partnership with CHUQ helped shape energy performance contracting in Canada

Context

In 1982, Econoler initiated its first energy performance contract (EPC) with Hôtel-Dieu de Québec, one of Canada's most significant hospitals and the oldest healthcare institution in the country. Located in a complex comprised of historic buildings, the hospital presented both significant energy efficiency potential and operational constraints.

At the time, EPCs were still an emerging concept in Canada, making this project a pioneering initiative in the field of energy performance contracting.

Mandate

The objective of the project was to identify, design, finance, and implement energy efficiency measures across the hospital facilities, with the requirement that the resulting energy savings serve to fully repay the investment within five years.

A key innovation of this project was the development of a rigorous measurement and verification (M&V) methodology enabling monthly tracking of savings — an essential requirement given that Econoler's remuneration depended directly on verified energy savings.

Following the initial project, the mandate was expanded to include additional project phases, operational support, staff training, and the development of tools to improve internal energy management.

Results

The project delivered energy savings exceeding 30% within the initial contract period and generated more than $CAD 10 million in energy cost savings, making it one of the most financially successful initiatives undertaken by the hospital.

In 1994, the project received the highest distinction in energy efficiency awarded by Canada's Ministry of Energy, Mines and Resources, along with additional awards of merit from provincial competitions and the Quebec Ministry of Health and Social Services.

Over nearly two decades of collaboration, three additional project phases were implemented, reinforcing operational performance and embedding energy efficiency practices within hospital operations. Econoler also contributed to the development of internal management tools and supported the optimization of building systems.

In 2010 under the Centre hospitalier universitaire de Québec (CHUQ), Hôtel-Dieu de Québec has entrusted Econoler with another technical assistance mandate related to the launch of an energy service company (ESCO), including procurement support, contract preparation, proposal evaluations, and savings verifications.

This long-term collaboration stands as a landmark example of sustained energy efficiency transformation that delivers both significant financial returns and lasting reductions in greenhouse gas emissions.

Energy Efficiency Program Management

1992–1995 | Hydro-Québec, Canada

A large-scale residential demand-side transformation initiative

Context

In the early 1990s, Hydro-Québec launched a major demand-side management initiative aimed at reducing electricity consumption and managing peak demand across the Province of Quebec. A central component of this strategy was the development of large-scale energy efficiency programs targeting multiple market segments.

One of the most significant initiatives was the creation of a residential dual-energy heating program combining electricity with alternative energy sources. The program offered financial incentives, including installation guarantees, subsidies to reduce upfront costs, and preferential electricity tariffs to participating customers.

The objective was twofold: improve the efficiency of residential energy systems across Quebec and reduce pressure on the electricity grid during extreme winter peak periods.

Mandate

Hydro-Québec mandated Econoler, as part of a consortium of three Quebec-based firms (including ADS, Econoler's parent company at the time), to design and manage the largest subsidy energy efficiency program ever implemented by the utility.

Econoler's mandate covered the full program lifecycle, from operational design to implementation and quality assurance. A comprehensive program delivery structure was established to ensure both high customer satisfaction and strict technical performance standards for dual energy systems.

Key components of the program included:

- A fully integrated customer service model covering all aspects of program participation
- A marketing and public outreach strategy to drive dual energy system adoption rates
- Training and certification for contractors and installers
- A structured system for managing subsidy applications
- A rigorous quality assurance framework for system installations

Results

Within two years of launch, the program had already exceeded its initial target of 60,000 residential installations. By the end of the Econoler mandate, more than 64,000 systems had been deployed across Quebec.

This large-scale deployment enabled Hydro-Québec to achieve significant reductions in peak electricity demand while improving the efficiency of residential heating systems province-wide.

The program is widely recognized as one of the most successful large-scale residential energy efficiency initiatives ever implemented in Canada, demonstrating the effectiveness of coordinated program design, financial incentives, and operational excellence in achieving mass market transformation.

Demand-Side Management Program Design

1996–1997 | Énergie du Mali (EDM), Mali

A national energy efficiency and demand-side assessment initiative

Context

In the mid-1990s, EDM, the national electricity utility, received support from the World Bank to improve the efficiency of its operations and strengthen the performance of the national power system.

A key component of this initiative was an ambitious effort to assess the potential for demand-side management (DSM) and energy efficiency across the country at a time when such approaches were still emerging in many Sub-Saharan African markets.

Mandate

The World Bank mandated Econoler to conduct a comprehensive assessment of electricity consumption in Mali to establish a robust foundation for future DSM strategies.

To ensure reliable and actionable results, Econoler developed a structured data-collection and analysis strategy that included:

- Carrying out audits of electricity transmission and distribution networks as well as the 15 largest energy-consuming clients

- Reviewing and validating EDM billing database information
- Conducting a nationwide survey of residential electricity consumers
- Analyzing data gathered during commercial and institutional site visits

This work served to accurately characterize electricity consumption patterns across end-use sectors and building types. Based on the findings, Econoler revised national electricity demand forecasts and conducted a forward-looking analysis of high-consumption customer segments.

The mandate also included the identification of strategic intervention areas to improve system efficiency, including technical, regulatory, and behavioural measures.

Results

Econoler identified multiple opportunities to control growth in electricity demand and promote more efficient consumption practices across all sectors. Key recommendations included:

- Reducing technical losses in transmission and distribution networks
- Mitigating non-technical losses and adjusting tariff structures
- Developing demand-side management programs supported by institutional and regulatory frameworks

This mandate was among the first comprehensive DSM assessments conducted in Sub-Saharan Africa, and it helped introduce a structured approach to evaluating national energy efficiency potential at scale.

Following Econoler's recommendations, EDM was able to design and launch initiatives that improved both system efficiency and end-user energy performance, thus laying the groundwork for future demand-side management programs in the country.

Energy Service Company (ESCO) Startup

1997–1998 | The World Bank, China

Launching China's first ESCO and enabling a new market model

Context

In the 1990s, China experienced rapid economic growth that led to a sharp increase in energy demand and mounting pressure on both energy infrastructure and the environment.

To address these challenges, the World Bank launched an initiative in collaboration with the China Policy Research Institute and the Beijing Energy Research Institute to promote energy efficiency through innovative market mechanisms. A key objective was to establish a new type of entity capable of financing and implementing energy efficiency projects: an ESCO.

This effort led to the creation of the Henan First Energy Service Company (HFESCO), the first ESCO in China and established as a subsidiary of the provincial electricity utility in Henan.

Mandate

The World Bank mandated Econoler to provide comprehensive technical assistance to support the creation and operational launch of HFESCO.

Under the mandate, Econoler first assessed the enabling environment for ESCO development, including:

- The regulatory and legal framework
- Utility management and administrative procedures
- Available financing mechanisms for end-user projects
- Technical capacity for conducting energy audits and implementing efficiency measures

Building on this analysis, Econoler then supported the development and operationalization of HFESCO by:

- Conducting a market study to assess demand for EPC services
- Evaluating energy savings potential across key sectors
- Designing and delivering training programs for senior management and technical staff, covering EPC concepts, ESCO operations, financial planning, and energy efficiency practices
- Providing technical support for international procurement processes, including equipment selection
- Developing a three-year business plan that outlines growth objectives as well as staffing, financing, and capability development needs

Results

The successful launch of HFESCO marked the introduction of the ESCO model in China, demonstrating the viability of performance-based energy efficiency financing in a rapidly evolving market.

The work of Econoler helped establish the institutional, technical, and financial foundations required for ESCO operations in China, thereby enabling HFESCO to initiate and deliver energy efficiency projects.

This initiative played a catalytic role in opening the Chinese market to ESCO development. In the ensuing years, the model was significantly expanded to contribute to the large-scale deployment of energy efficiency projects across the country.

Demand-Side Management Program Development and Implementation

1999–2001 | Ministry of Electricity and Water, Bahrain

Laying the foundation for large-scale energy efficiency through demand-side management

Context

During the 1990s in Bahrain, rapid economic growth led to a sharp increase in energy demand, placing significant pressure on the national electricity network and threatening its ability to meet consumption needs.

Mandate

Econoler was mandated to assess the country's energy situation and define the role that demand-side management (DSM) could play in reducing pressure on the grid and optimizing electricity consumption. Therefore, Econoler supported the development of a structured national DSM framework combining regulatory, technical, and market-based measures to improve system performance and manage peak demand.

The mandate of Econoler included:

- Analyzing national energy consumption patterns and load characteristics

- Identifying DSM potential across key sectors and end-use categories
- Developing strategic recommendations for DSM policy and program design
- Defining technical and market-based measures to improve energy efficiency
- Supporting the design of implementation pathways for DSM measures
- Identifying priority end-use technologies for efficiency improvements
- Developing the foundations for awareness and market transformation initiatives

Results

Econoler conducted energy audits across 25 representative facilities and developed detailed consumption profiles by sector and end use, thereby enabling the design of a comprehensive DSM strategy combining policy, technical, and market-based measures.

The resulting framework supported:

- The introduction of enabling legislation for DSM initiatives
- The development of energy efficiency standards for equipment
- The implementation of energy labelling programs
- Electricity pricing adjustments to encourage efficiency
- Reductions in network technical losses
- Awareness campaigns and demonstration projects on the implementation of efficient technologies

The first implementation phase, completed in 2000, delivered significant energy savings and improved load management. This work laid the groundwork for long-term energy efficiency efforts in Bahrain and led to renewed collaboration with the World Bank in 2016.

Energy Efficiency Building Code Design and Implementation

1999–2001 | Ceylon Electricity Board (CEB), Sri Lanka

Establishing one of Sri Lanka's first frameworks for energy-efficient buildings

Context

At the end of the 1990s, Sri Lanka faced a sharp rise in energy demand that threatened the country's energy security. In response, the World Bank launched a major initiative that included the development of an energy efficiency building code.

Mandate

Econoler was mandated to support the Ceylon Electricity Board and the Ministry of Urban Development in the design and implementation of Sri Lanka's first energy efficiency building code. The objective was to establish a technically robust regulatory framework adapted to local conditions while building the institutional capacity required for long-term code development, adoption, and enforcement.

The mandate of Econoler included:

- Structuring the institutional process to develop building codes and foster stakeholder engagement
- Supporting alignment of national requirements with international building energy efficiency best practices

- Developing technical methodologies to define performance requirements for buildings
- Integrating socio-economic, climatic, and technical parameters into building code design
- Supporting code performance validations through technical analysis and modelling
- Facilitating consultation and capacity-building processes to ensure code adoption and institutional ownership

Results

Econoler contributed to the development of Sri Lanka's first energy efficiency building code through a structured and collaborative process that included:

- The establishment of technical and training committees involving stakeholders from academia, the engineering field, and the construction industry
- Benchmarking of international best practices, using the Malaysian building code as a foundation
- Comparison with ASHRAE 90.1 standards to ensure alignment with global references
- Adaptation of code requirements to Sri Lanka's socio-economic and climatic context
- Energy modelling of a reference building in Colombo to validate performance levels
- Integration of local meteorological data into code development

The building code was subsequently refined through public consultations and supported by capacity-building initiatives, awareness campaigns, and a competition of the best building designs to generate interest among the public, architects and engineers about the content and application of the code.

This initiative marked one of the first large-scale efforts to curb energy demand in Sri Lanka and contributed to long-term reductions in building energy consumption.

Energy Service Company (ESCO) Operation

1999–2005 | The Tunisian Company of Electricity and Gas (STEG), Tunisia

Launching and operating Tunisia's first ESCO to enable performance-based energy efficiency

Context

At the end of the 1990s, demand for energy efficiency services was growing globally. In Tunisia, collaboration agreements between Hydro-Québec International (HQI) and local utilities created an opportunity to develop new delivery models for energy efficiency projects.

Mandate

Econoler, in partnership with HQI and STEG, was mandated to establish and operate Tunisia's first ESCO under Tunisian law as a utility-linked entity with a mixed ownership structure (Econoler 51%, Tunisian banks 49%). The ESCO was intended to act as a national platform for energy performance contracting (EPC) deployment.

The mandate was focussed on building the institutional, operational, and financial foundations required to launch a fully functional ESCO model, including integration of the ESCO model into the national energy efficiency market and financial system.

The mandate of Econoler included:

- Structuring and operationalizing the ESCO governance and ownership structure as well as institutional setup
- Developing an EPC-based business model using shared savings and guaranteed savings mechanisms
- Defining operational procedures, project development workflows, and implementation processes
- Developing measurement and verification (M&V) protocols to quantify energy savings
- Structuring financing mechanisms in collaboration with local financial institutions
- Providing capacity building to technical teams and institutional stakeholders
- Developing market development strategies to promote EPC adoption across sectors
- Supporting regulatory and institutional alignment to enable ESCO operations

Results

From 1999 to 2005, Econoler managed the ESCO and supported the deployment of the EPC model across Tunisia, resulting in:

- The implementation of more than 40 EPC projects across multiple sectors
- The establishment of EPC as a recognized mechanism for energy efficiency project delivery
- The development of standardized M&V protocols for energy savings verification
- Increased adoption of EPC-based approaches in both the public and private sectors
- The emergence of a structured ESCO market in Tunisia

This initiative contributed to the institutionalization of performance-based energy efficiency in the country. Econoler subsequently phased out its operational role to enable full local ownership of the ESCO model.

Chapter 2: The 2000s



Minimum Energy Performance Standard Designs

2000–2003 | Ministry of Industry and Commerce, Vietnam

Introducing Vietnam's first energy efficiency standards to transform appliance markets

Context

During the 1990s, strong economic growth combined with low penetration rates of energy-efficient equipment led to rapidly increasing electricity demand in Vietnam. In response, the World Bank supported a national load management program implemented through the Ministry of Industry and Commerce (MOIT), with a focus on improving appliance efficiency.

Mandate

The MOIT mandated Econoler to support the development of Vietnam's first minimum energy performance standards (MEPS) as part of a broader national program to manage electricity demand and improve end-use efficiency. The objectives were to establish a regulatory framework for energy-efficient products and to build the institutional and technical foundations required for long-term MEPS development and enforcement.

The program was initially targeted at lighting systems and electric motors as priority equipment categories to launch the first MEPS in the country.

The mandate of Econoler included:

- Designing the MEPS development framework, including procedures and technical approaches
- Defining institutional roles, responsibilities, and implementation schedules for stakeholders
- Assessing market conditions, including usage patterns, efficiency levels, and penetration rates of target equipment
- Conducting technico-economic analysis to define appropriate efficiency thresholds and assess market impacts
- Developing institutional capacity to support MEPS design and implementation
- Preparing a structured market introduction strategy for new MEPS

Results

Econoler developed the technical, institutional, and market foundations required to introduce the first MEPS covering lighting and electric motors in Vietnam.

The implementation framework enabled:

- The establishment of a structured process for MEPS design and deployment
- The development of technical and institutional capacity for future MEPS development
- The creation of a market introduction plan that includes laboratory validation, capacity building, and awareness activities

Introducing these first two MEPS in Vietnam enabled the assessment of the broader benefits of efficiency standards for the country. Over time, this initiative served as a precursor to subsequent programs, in which Econoler also participated, reinforcing existing MEPS and supporting the development of new standards for additional products.

Energy Efficiency Sector Institutional Review

2002–2003 | Ministry of Energy and Mines (MEM), Peru

Laying the groundwork for Peru's national energy efficiency policy and market framework

Context

Throughout the 1990s, Peru's energy sector expanded rapidly without integrating demand-side management principles or ensuring that infrastructure capacity kept pace with rising electricity demand. This imbalance placed increasing pressure on both the government and the electricity utility.

Mandate

The MEM initiated a national program to improve the efficiency of electricity use and optimize the overall energy system. In this context, Econoler was mandated to conduct a sector-wide institutional review to support the development of a coherent policy, regulatory, and market framework for energy efficiency in Peru.

The mandate was part of a broader effort to structure the emerging energy efficiency sector, strengthen institutional capacity, and enable the implementation of sustainable demand-side management measures at the national level.

The mandate of Econoler included:

- Conducting comprehensive assessments of Peru's national energy context and system performance
- Reviewing and validating previously implemented energy efficiency initiatives in the electricity sector
- Identifying energy efficiency improvement potential across production and end-use sectors
- Developing policy and regulatory recommendations to enable market development
- Structuring the institutional roles required for a national energy efficiency framework

Results

Econoler produced strategic policy, regulatory, and market recommendations that included:

- A legal framework for cogeneration (steam and electricity generation)
- Draft regulations supporting a national energy efficiency law
- A proposal for structuring an energy services market, including ESCO development for the commercial, industrial, and institutional sectors
- A financing strategy aligned with Peru's national financial system to support energy efficiency investments
- Legislative adjustments to support:
  - Reduced selective taxes on fuels for cogeneration and auto-generation
  - Integration of electricity producers into the electricity market

The results enabled the MEM to establish its first national energy efficiency policy framework promoting efficient electricity use and cogeneration development while also laying the foundations for a structured and growing energy efficiency market in Peru.

Demand-Side Management (DSM) Program Design and Implementation

2002–2005 | Canadian International Development Agency (CIDA), India

Pioneering large-scale DSM and carbon-financed energy efficiency in India's public and agricultural sectors

Context

Under Canada's commitments to the Kyoto Protocol, the Canadian Climate Change Initiative was established to support projects aimed at reducing greenhouse gas emissions in developing countries. In India, high levels of electricity subsidies and inefficiencies in key sectors created strong potential for DSM interventions.

Mandate

Econoler was mandated by CIDA to design and implement a large-scale DSM program targeting energy-intensive and highly subsidized sectors in India. The objectives were to demonstrate measurable energy savings while strengthening the institutional capacity of electricity utilities and to introduce innovative financing mechanisms, including carbon financing.

An agreement was signed with the Madhya Pradesh Electricity Board (MPSEB) to launch the program on its territory. Another agreement was signed with the India Renewable Energy Development Agency (IREDA) to finance the implementation of the measures.

The mandate of Econoler included:

- Selection of agricultural pumping stations and public lighting in which to implement the developed measures, reduce energy consumption and generate savings
- Designing DSM interventions for public lighting and agricultural pumping systems
- Developing utility-based implementation structures, including dedicated DSM units
- Structuring financing mechanisms that combine utility participation and carbon finance
- Providing capacity building to local intermediaries involved in energy efficiency program delivery
- Developing measurement approaches and mechanisms to quantify and monetize energy savings
- Designing repayment structures that enable end-users to finance efficiency investments through realized savings
- Supporting the institutionalization of DSM practices in utility operations

Results

The DSM program delivered significant technical, institutional, and financial outcomes, including:

- The creation of a DSM capacity-building program integrating carbon financing mechanisms
- The establishment of three DSM units within MPSEB
- Reductions of up to 39% in electricity consumption through public lighting projects
- Payback periods of 27 months for urban lighting upgrades, with structured sharing of municipal savings
- Energy efficiency improvements of 25% to 49% in agricultural pumping systems through electric pump replacements
- The introduction of a repayment mechanism enabling farmers to reimburse 35% of investment costs through savings over 24 payments
- The creation of a carbon financing mechanism to support the scaling and replication of interventions

This initiative was among the first large-scale DSM programs in India targeting agriculture and public lighting, and it contributed to the development of replicable models that supported the expansion of similar programs in subsequent decades.

Energy Service Company (ESCO) Technical Assistance

2004–2009 | HEP ESCO, Croatia

Supporting the start-up and scale-up of Croatia's first ESCO

Context

In collaboration with the national electricity utility HEP, the World Bank launched an initiative aimed at reducing energy consumption in Croatia and establishing an economically and ecologically sustainable market for the implementation of energy efficiency projects. The first ESCO was founded as a subsidiary wholly owned by HEP. The ESCO was mandated to promote, develop, and finance energy efficiency projects using a turnkey energy performance contracting (EPC) approach that enables clients to benefit from installation upgrades without upfront investment while reimbursing costs through guaranteed savings.

Mandate

HEP ESCO mandated Econoler to provide comprehensive technical assistance for the start-up and early development of the ESCO over a four-year period. The assignment was focussed on establishing the operational, financial, and institutional foundations required to launch and scale the ESCO.

The mandate of Econoler included:

- Assessing the ESCO enabling environment, including regulatory and legal frameworks, utility procedures, financing mechanisms, and technical capacity for energy audits and project implementation

- Developing an initial business plan that defines strategic objectives, staffing needs, and financial projections
- Designing the operational procedures, tools, and internal workflows required for ESCO operations
- Structuring organizational roles and departments, including recommendations to support future growth
- Developing a partner program for preferred ESCOs
- Designing a demand-side management program to support ESCO market development
- Providing capacity building and training to ESCO staff on EPC concepts, project development, engineering, sales, marketing, and financial structuring
- Supporting sales, contract negotiation, project management, and technical implementation processes
- Developing energy savings measurement and verification (M&V) protocols
- Providing support in structuring project financing mechanisms and assessing ESCO profitability
- Providing recruitment support and developing partnerships with local stakeholders
- Providing strategic advisory support for ESCO scale-up and market positioning

Results

HEP ESCO successfully initiated operations and implemented more than 20 energy efficiency projects by its third year while building a strong pipeline for continued growth. The ESCO model was successfully established within the Croatian market and gained institutional and commercial traction.

With Econoler support, HEP ESCO was awarded the Best Energy Service Provider Award in 2007 by the European Energy Service Award, recognizing its excellent performance results and contribution to energy efficiency development in Europe.

National Energy Efficiency Fund Management

2005 – 2026 | Ministry of Energy of Bulgaria

Establishing and operating a pioneering financial mechanism to accelerate energy efficiency investment in Bulgaria

Context

With support from the World Bank, the Government of Bulgaria established the Energy Efficiency and Renewable Sources Fund (EERSF) in 2004. Seed capital included a USD 10 million subsidy from the Global Environment Facility, EUR 1.5 million from the Government of Austria, and USD 170,000 from private donors. The EERSF was created to address financing barriers and stimulate the development of a national energy efficiency market.

Mandate

A consortium led by Econoler, in partnership with two Bulgarian enterprises, was mandated to manage the EERSF under a public-private partnership structure. The mandate covered full operational responsibility for the design, launch, and long-term management of the EERSF, a national financial institution dedicated to energy efficiency investment.

Under the mandate, Econoler ensured the financial sustainability, market relevance, and catalytic impact of the EERSF while developing a pipeline of bankable energy efficiency projects and strengthening local financial sector engagement.

The mandate of Econoler included:

- Establishing and operationally managing the EERSF as a financial institution for energy efficiency
- Designing and deploying financial products adapted to market needs (loans, guarantees, and risk-sharing mechanisms)
- Structuring operational procedures, governance systems, and investment decision frameworks
- Developing partnerships with local financial institutions and market actors
- Developing project pipeline origination and appraisal systems
- Delivering capacity building to local teams and financial intermediaries
- Continuously developing and adapting financial instruments to support market evolution
- Supporting ESCO market development through the provision of tailored financing solutions

Results

Beyond its operational performance and investment volumes, the EERSF played a structuring role in the development of Bulgaria's energy efficiency market.

The EERSF strategic positioning was focussed on developing a dedicated niche for energy efficiency financing rather than competing solely on volume or financial survival. Through continuous market analysis and adaptation, Econoler identified and addressed strong demand from municipalities, small and medium enterprises, hospitals, and universities.

In a market already served by international credit lines, the EERSF successfully differentiated itself by targeting segments and project types that were underserved by existing financial instruments, particularly small-scale and decentralized energy efficiency investments.

Key strategic outcomes included the:

- Establishment of a self-sustaining financial institution dedicated to energy efficiency and renewable energy investments
- Development of tailored financial products, including loans, guarantees, and technical advisory services
- Creation of a dedicated market for financing energy efficiency projects across the municipal, industrial, commercial, residential, and public sectors
- Demonstration of a replicable financing model serving to overcome market barriers and stimulate private investment
- Integration of technical and financial expertise within a single financing facility to support project development and implementation

Between 2006 and the end of 2024, the EERSF:

- Financed 218 energy efficiency projects representing more than USD 59.8 million in project investments
- Supported 33 guarantee contracts representing an additional USD 14.7 million in project investment
- Catalyzed more than USD 74.5 million in total energy efficiency investments using the initial USD 15 million in capitalization
- Achieved annual energy savings of 130,889 MWh
- Avoided 94,229 tCO_2e in greenhouse gas emissions annually

Although limited in financial scale, the EERSF demonstrated that innovative fund structures can play a catalytic role in unlocking energy efficiency markets and that carefully designed public-private financing mechanisms can deliver sustainable and scalable impacts.

Building on two decades of success, the Bulgarian government launched the transformation of the EERSF into the **National Decarbonization Fund (NDF)** in 2022. This transition was formalized through the adoption of a new Energy Efficiency Act in 2025, positioning the NDF to expand financing beyond energy efficiency into renewable energy, energy storage, and broader decarbonization initiatives while continuing the EERSF legacy of market transformation.

As of September 2024, the energy efficiency investments financed or guaranteed by the EERSF had achieved 130,889 MWh/year in energy savings and had avoided 94,229 tCO_2e in emissions.

Energy Efficiency Program Designs

2006–2007 | United Nations Development Programme (UNDP), Brazil

Designing an integrated financial and technical framework to unlock energy efficiency investments in Brazil's building sector

Context

Through the UNDP, the Government of Brazil requested that the Global Environment Facility (GEF) and the Montreal Protocol combine efforts to launch a program aimed at eliminating barriers to energy efficiency investments in buildings across both the public and private sectors. These barriers were mainly related to decision-making processes and financing constraints. The program was also intended to support compliance with the Montreal Protocol by facilitating the replacement of centrifugal chillers containing chlorofluorocarbons (CFCs) with new high-efficiency, non-CFC units.

Mandate

The UNDP mandated Econoler to design an integrated and innovative programmatic approach to remove key barriers to energy efficiency investment in Brazil's commercial building sector. The objective was to develop a scalable intervention framework combining technical assistance, financing mechanisms, and institutional support to enable large-scale project implementation.

The assignment required close coordination with national stakeholders and international financing partners to ensure both the technical feasibility and financial viability of the proposed program.

The mandate of Econoler included:

- Identifying and analyzing market and institutional barriers to energy efficiency investments in the building sector
- Designing a comprehensive technical assistance program for the development, structuring, and implementation of EE projects
- Developing mechanisms to support ESCO deployment in public buildings
- Designing a co-financing facility to support replacements of inefficient chillers with high-efficiency units
- Structuring a partial technical performance guarantee mechanism to reduce investment risk for banks and end-users
- Integrating program components aligned with GEF and Montreal Protocol financing requirements
- Developing an overall program framework to support UNDP negotiations with national and international funding entities

Results

Econoler delivered a complete program design package that enabled the UNDP to secure technical approval and financing support from international funding partners, including the GEF and the Montreal Protocol.

The program served to establish a multi-instrument approach combining technical assistance, financing support, and risk mitigation mechanisms to accelerate energy efficiency adoption in Brazil's building sector.

Key components included:

- A technical assistance program for the identification, structuring, implementation, and management of EE projects in buildings
- An initiative to promote ESCO deployment in public buildings
- The creation of a co-financing mechanism for the replacement of CFC-based chillers with efficient alternatives
- The development of a partial performance guarantee mechanism for ESCO projects to reduce risk for financial institutions and end-users

This integrated framework enabled the removal of key financial and institutional barriers to energy efficiency investment and provided the basis for the implementation of a program supported by both national and international funding donors.

Energy Service Company (ESCO) Startup Support

2007–2008 | Union Fenosa, Spain

Supporting the creation and rapid scale-up of Spain's leading utility-driven ESCO model

Context

In 2007, Union Fenosa was one of the largest electric utilities in Spain. To diversify its operations and offer value-added services, the utility created an ESCO with the ambition of developing it into the largest ESCO in the country, delivering energy efficiency solutions across multiple end-use sectors.

Mandate

Union Fenosa mandated Econoler to support the start-up and early operational development of the ESCO, with the objective of structuring a scalable business model based on energy performance contracting (EPC) and enabling rapid market penetration across Spain.

The assignment was focussed on building the technical, financial, and operational foundations required to launch a competitive ESCO capable of delivering turnkey energy efficiency projects in the commercial, municipal, industrial, and hospitality sectors.

The mandate of Econoler included:

- Developing an ESCO business development and growth strategy
- Designing project development and implementation planning frameworks

- Structuring marketing and client acquisition strategies
- Strengthening internal capacity for EPC-based project development
- Preparing contractual templates adapted to different client segments
- Developing risk assessment and mitigation strategies for ESCO projects
- Designing energy savings measurement and verification plans
- Conducting financial and technical feasibility analysis of energy efficiency projects
- Supporting project structuring under different client and sector conditions
- Providing onsite capacity reinforcement through a full-time expert embedded in the ESCO team

Results

With Econoler support, the ESCO rapidly developed a strong commercial pipeline, including an initial portfolio of 33 hotel pilot projects. These projects enabled the validation and deployment of the ESCO operating model in real market conditions.

Key outcomes included:

- Turnkey design and implementation of energy efficiency measures across pilot projects
- The deployment of tailored financing structures based on energy savings
- The implementation of maintenance and performance monitoring systems
- Continuous measurement and verification of achieved energy savings
- The rapid expansion of the project pipeline across multiple sectors

Within less than two years, more than 30 projects were implemented, establishing the ESCO as the most active energy service company in Spain at the time. A strong sales backlog was also secured, ensuring continued growth beyond the initial ESCO implementation phase.

Daylight Saving Time and Work Time Reduction to Manage Electricity Demand

2008–2009 | Ministry of Water and Electricity of Saudi Arabia, Saudi Arabia

Assessing demand-side measures to reduce peak electricity consumption

Context

Saudi Arabia was experiencing rapid growth in electricity demand driven by population and economic expansion. National generation capacity stood at 32,240 MW in 2008 and was projected to reach 66,400 MW by 2023 under a business-as-usual scenario.

The commercial and institutional sectors accounted for 25% of total electricity consumption and approximately 60% of air-conditioning demand, a situation that significantly contributed to peak load challenges during summer months.

Mandate

The Ministry of Water and Electricity mandated Econoler to assess the potential impacts of the following two demand-side measures aimed at reducing peak electricity demand in the short term:

- Implementation of Daylight Saving Time (DST)
- Reduction of working hours during peak summer periods

The objective was to evaluate the feasibility, economic impacts, and implementation conditions of these two measures to support informed decision-making at the national level.

The mandate of Econoler included:

- Assessing electricity production, transmission, and distribution costs during peak summer periods
- Analyzing electricity demand patterns segmented by activity sector
- Evaluating the technical and institutional feasibility of both measures
- Assessing stakeholder receptiveness and implementation constraints
- Analyzing the benefits and operational implications of adopting Daylight Saving Time
- Evaluating and optimizing the economic impacts of both measures
- Developing implementation recommendations and coordination strategies

Results

Econoler demonstrated that both measures could deliver measurable reductions in national electricity demand, particularly during peak periods, at relatively low implementation costs.

Key outcomes included:

- Estimated energy savings ranging from 0.3% to 1.5% of total national electricity consumption
- The identification of optimal implementation scenarios based on sectoral demand patterns and working hour adjustments
- The demonstration of strong cost effectiveness and return on investment for the government
- The provision of clear and actionable recommendations to support policy implementation

This work provided the Ministry of Water and Electricity with a practical, low-cost strategy to manage peak demand growth and defer investments in additional generation capacity.

Water Treatment Plant Energy Efficiency Program Design and Implementation

2009–2010 | Inter-American Development Bank (IDB), Caribbean and Central America

Designing and deploying a regional program to improve energy efficiency in water utilities

Context

In the late 2000s, many Caribbean and Central American countries were highly dependent on imported fuels and face elevated energy costs due to limited domestic resources and geographic dispersion. Meanwhile, demand for water and sanitation services was increasing, which placed additional pressure on aging and inefficient infrastructure.

Water treatment plants were particularly affected, resulting in high energy consumption, operational inefficiencies, and limited access to technical and financial resources to implement improvements.

Mandate

The IDB mandated Econoler to assess the energy efficiency potential of water treatment plants and develop a regional action plan to support project implementation across multiple countries, including in The Bahamas, Barbados, Costa Rica, Guyana, Haiti, Honduras, Panama, Suriname, Jamaica, as well as Trinidad and Tobago.

The objective was to create a structured, scalable program that would enable utilities to identify, prioritize, and implement energy efficiency measures.

The mandate of Econoler included:

- Reviewing existing energy efficiency studies in the water treatment sector
- Identifying energy efficiency opportunities at the facility level
- Designing a comprehensive program to unlock energy savings potential, including:
  - Capacity building activities
  - The implementation of energy management practices
  - The deployment of energy efficiency measures
  - Establishing preventive maintenance programs
- Developing a self-assessment methodology for utilities to evaluate performance and identify suitable technologies
- Organizing a regional workshop to disseminate findings and foster knowledge sharing among participating countries

Results

The program enabled water utilities to quickly identify and implement cost-effective energy efficiency improvements to strengthen both operational performance and investment readiness.

Key outcomes included:

- The identification of no-cost and low-cost measures the generated immediate energy savings
- The development of structured investment programs for high-impact efficiency improvements
- Strengthened technical capacity across participating utilities
- Increased knowledge sharing and collaboration through regional engagement

- The mobilization of financing, with several countries securing loans and financial support to implement recommended measures

This initiative laid the foundation for sustained improvements in energy efficiency across the water treatment sector in the region, contributing to reduced operational costs and enhanced service delivery.

National Energy Efficiency Program Design and Demonstration Project Implementation

2009–2011 | Asian Development Bank (ADB), Pacific Islands

Supporting the development of national energy efficiency frameworks and project pipelines

Context

Pacific Island countries are highly dependent on imported oil, making them particularly vulnerable to global price fluctuations. In the late 2000s, rising energy costs placed significant strain on national economies, highlighting the urgent need to reduce energy consumption and improve energy security.

To address these challenges, ADB launched an initiative in five countries — Cook Islands, Papua New Guinea, Samoa, Tonga, and Vanuatu — to promote energy efficiency as a key strategy for reducing costs, mitigating environmental impacts, and strengthening economic resilience.

Mandate

ADB mandated Econoler to provide technical assistance in the design and implementation of national energy efficiency programs and demonstration projects across the target countries.

The objectives were to establish enabling frameworks, develop project pipelines, and support the implementation of energy efficiency initiatives across multiple sectors.

The mandate of Econoler included:

- Assessing national energy efficiency potential
- Developing and strengthening energy efficiency policies and regulatory frameworks
- Identifying and designing energy efficiency projects
- Providing structuring and implementation support for priority projects

In addition, Econoler:

- Reviewed and enhanced existing national policies, strategies, and programs
- Identified and addressed fiscal, financial, regulatory, technical, and informational barriers
- Strengthened local capacity to support long-term program sustainability
- Developed a portfolio of bankable projects for potential financing
- Supported the implementation of priority projects in each country

To maximize impacts, Econoler also established a regional presence in Fiji and deployed a full-time project director over a two-year period.

Results

Through this assignment, Econoler enabled participating countries to build strong foundations for energy efficiency while mobilizing significant investment for project implementation.

Key outcomes included:

- Strengthened national energy efficiency policies and institutional frameworks
- The development of a pipeline of bankable energy efficiency projects
- Successful mobilization of co-financing, including USD 5.2 million from the Global Environment Facility (GEF) and USD 5.5 million from local partners
- The implementation of priority projects across multiple sectors
- Enhanced local capacity to sustain and scale energy efficiency initiatives

This initiative significantly advanced energy efficiency adoption in the Pacific Islands and contributed to reduced energy costs, improved energy security, and lower greenhouse gas emissions.

Energy Efficiency and Renewable Energy Credit Line Implementation Support

2009–2012 | KfW / Export-Import Bank of China, China

Supporting the structuring and implementation of a national green credit line for energy efficiency and renewable energy investments

Context

In the late 2000s, China was facing rapidly increasing energy demand, heavy reliance on fossil fuels, and growing greenhouse gas emissions linked to industrial expansion. Hence, strengthening investment in energy efficiency and renewable energy became a national priority to support energy security and the achievement of climate objectives.

To accelerate this transition, the German Development Bank (KfW) established a dedicated credit line to finance clean energy investments in China. The initiative was aimed at reducing carbon intensity and supporting the development of a sustainable financing ecosystem for energy efficiency and renewable energy projects.

A EUR 75 million credit line was structured to co-finance eligible projects, with funds provided by the Ministry of Finance of China and implemented through the Export-Import Bank of China (EximBank of China) that acted as the financial intermediary. In addition, EUR 800,000 was allocated for technical assistance to strengthen institutional capacity and ensure the effective deployment of the credit line.

Mandate

KfW mandated Econoler to deliver technical assistance to support the implementation of the credit line and reinforce EximBank capacity to manage and scale energy efficiency and renewable energy investments.

Econoler deployed two senior experts in Beijing for two years to support program design, operationalization, and capacity building.

The mandate of Econoler included:

- Designing additional credit products tailored to energy efficiency and renewable energy investments
- Developing financing application and project evaluation tools to support investment decision-making
- Creating a monitoring, reporting, and verification (MRV) framework for financed projects
- Pre-screening loan applications based on eligibility and technical criteria
- Conducting technical and financial evaluations of investment proposals

In addition, Econoler:

- Delivered targeted training workshops to strengthen EximBank staff capacity in project appraisal and risk assessment
- Supported borrowers in identifying energy savings opportunities and structuring viable investment proposals
- Assisted in conducting preliminary and detailed energy audits to improve project design quality
- Developed measurement and verification (M&V) savings plans for financed projects
- Produced an operational manual to guide fund managers in program implementation

To enhance local implementation capacity, Econoler also established and supervised a team of 14 local energy efficiency and renewable energy experts to support project developers and bank clients.

Results

The technical assistance contributed to the successful operationalization of the credit line and significantly strengthened China's institutional capacity for green financing.

Key outcomes included:

- The development of a structured pipeline of bankable energy efficiency and renewable energy projects
- Strengthened EximBank capacity to assess, finance, and monitor clean energy investments
- High leverage of public funds, with approximately 95% of financing mobilized through the EximBank and 30% of co-financing provided by project developers
- Successful selection, evaluation, and financing of projects totalling approximately USD 1.8 billion, exceeding initial program expectations
- The establishment of robust tools and methodologies for project appraisal, MRV, and portfolio management

This initiative played a key role in scaling up green finance in China by strengthening institutional capabilities and enabling large-scale investment in energy efficiency and renewable energy projects through a sustainable credit line.

Chapter 3: The 2010s



Energy Conservation Law Design and Adoption

2010–2011 | Ministry of Energy and Mineral Development, Uganda

Establishing Uganda's first legislative framework for energy efficiency and demand-side management

Context

Uganda faced a growing imbalance between electricity supply and demand, driven by rapid population growth, economic development, and limited generation capacity. This imbalance placed increasing pressure on the national grid and constrained economic productivity.

To address these challenges, the Government of Uganda prioritized energy efficiency and demand-side management as strategic tools to reduce consumption and improve system reliability. With support from the World Bank, the government initiated the development of a national energy conservation bill to formalize energy efficiency policy and enable long-term implementation mechanisms.

This initiative represented a foundational step toward establishing a structured energy efficiency framework in the country.

Mandate

The Ministry of Energy and Mineral Development mandated Econoler to provide technical assistance for the design and drafting of Uganda's first energy conservation law, including the associated institutional and regulatory framework.

The work of Econoler combined legal analysis, stakeholder engagement, and legislative drafting to support the full development of the bill.

Key activities included:

- Reviewing international legal principles relevant to energy conservation legislation
- Analyzing Uganda's existing legal and regulatory framework, including comparisons with neighbouring countries
- Assessing the national energy efficiency strategy to ensure alignment with policy direction
- Identifying barriers and enabling conditions for the effective implementation of energy conservation measures
- Conducting consultations with key government and sector stakeholders to gather inputs and validate priorities
- Preparing the initial draft of the energy conservation bill
- Facilitating a national stakeholder workshop to present the draft and collect feedback
- Revising and strengthening the draft legislation based on stakeholder input, including explanatory notes and implementation rationale
- Finalizing the legislative package for submission to Parliament
- Providing support throughout the bill review and adoption process

Results

The assignment resulted in major institutional milestones for Uganda's energy sector, as follows:

- The first energy conservation law drafted and advanced for parliamentary approval
- The establishment of a formal legal foundation for energy efficiency and demand-side management

- Improved coordination and understanding among national stakeholders on energy conservation policy
- Increased awareness about energy efficiency as a national development priority
- Strengthened institutional capacity in government for future policy and regulatory development

This initiative laid the groundwork for Uganda's long-term energy efficiency framework and marked the beginning of a more structured national approach to reducing energy consumption and improving system reliability.

National Public Building Energy Efficiency Program Technical Assistance

2010–2020 | Natural Resources Canada (NRCan), Canada

Supporting the implementation of energy performance contracting (EPC) in federal buildings across Canada

Context

The Government of Canada's Federal Buildings Initiative (FBI), administered by Natural Resources Canada (NRCan), is a voluntary program designed to improve energy performance in public buildings through EPC. The program enables federal organizations to reduce energy and water consumption, lower greenhouse gas emissions, and achieve cost savings by partnering with energy service companies (ESCOs) to implement turnkey retrofit projects.

Since its launch in 1995, the FBI has supported thousands of federal buildings in improving operational efficiency and environmental performance without requiring upfront capital investments from departments.

Over time, as project volume and complexity increased, additional technical support was required to assist federal organizations in effectively structuring, procuring, and managing EPC projects.

Mandate

NRCan mandated Econoler to provide technical assistance under the FBI to support the design and implementation of energy performance projects across multiple federal departments and agencies.

The role of Econoler was focussed on supporting project development, procurement processes, and contract negotiations for ESCO-based energy efficiency projects.

Key activities included:

- Supporting Health Canada facilities in preparing requests for proposals (RFPs) for ESCO services
- Assisting in the evaluation of bids, selection of preferred proponents, and negotiation of EPC agreements
- Assessing the potential for ESCO-based energy efficiency projects across Environment Canada-managed sites
- Providing technical support to the Royal Canadian Mounted Police for RFP development, contractor selection, and contract negotiation
- Advising federal organizations throughout the EPC project cycle, from procurement strategy to implementation readiness

Results

Econoler technical assistance contributed to the successful implementation of numerous EPC projects under the FBI framework:

- Expanded deployment of EPC projects across multiple federal government departments
- Improved capacity in public institutions to structure and manage ESCO procurement processes
- Strengthened procurement outcomes through more effective RFP design, evaluation, and contract negotiation
- Enabled the realization of significant energy savings, cost reductions, and greenhouse gas emission reductions across federal buildings

This long-term collaboration supported NRCan in scaling energy efficiency investments in the public sector while reinforcing the FBI as a key mechanism for sustainable infrastructure improvements in Canada.

Municipal Incinerator Heat Recovery Initiative Design

2011–2015 | City of Quebec, Canada

Assessing and structuring waste heat recovery options for municipal incinerator district energy applications

Context

For over two decades, the City of Quebec operated a municipal waste incinerator whose heat recovery system supplied vapour to a nearby pulp and paper facility. However, a significant decline in facility production led to a sharp reduction in steam demand, leaving a large portion of incinerator energy output underutilized.

This change created an opportunity for the city to reassess how surplus thermal energy could be recovered and repurposed to maximize economic, environmental, and social value. In 2011, the city launched a study to evaluate potential solutions for optimizing the use of incinerator heat and reducing energy losses.

Mandate

The City of Quebec mandated Econoler, as consortium lead, to conduct an opportunity study followed by a detailed feasibility assessment to determine the most effective strategy for recovering and reusing excess incinerator heat.

The assignment was structured into two main phases:

1. Conducting an opportunity study:

- Reviewing and consolidating the content of previous technical and feasibility studies
- Defining contextual scenarios to evaluate different recovery options
- Identifying and assessing technical, economic, environmental, and social opportunities
- Recommending the most promising solution for further development

2. Econoler concluded that a district energy system represented a viable pathway for maximizing heat recovery potential:

- Feasibility study (district energy system)
- Identified and characterized potential heat consumers within the target area
- Estimated capital and operating costs for infrastructure development
- Reviewed applicable regulatory frameworks and implementation barriers
- Developed and assessed potential business and ownership models
- Structured a commercial framework for the sale of surplus vapour
- Evaluated project profitability, including tariff structures, risks, and expected savings
- Estimated environmental benefits, including GHG emissions and water consumption reductions
- Assessed overall implementation risks and project acceptance factors
- Formulated recommendations to support final decision-making on project direction

In 2015, Econoler was again mandated to update the feasibility study to reflect evolving regulatory and market conditions, including regional waste management planning, product recovery regulations, and new commercial, residential, and institutional developments in the field of district heating. The updated analysis led to the integration of revised system configurations, including vapour distribution, hot water networks, and cogeneration options.

Results

The study provided the City of Quebec with a comprehensive decision-making framework to evaluate the long-term recovery of incinerator heat and the potential transformation of the incinerator into a district energy system.

Key results included:

- Clear assessments of the technical, economic, and regulatory feasibility of heat recovery options
- The identification of district energy as a viable solution for optimizing surplus thermal energy
- Structured evaluations of business models and governance structures to be implemented
- Improved understanding of market demand and potential energy users within the service area
- The quantification of environmental benefits, including greenhouse gas and water savings potential
- Recommendations to help the City choose the optimal solution

This initiative enabled the city to move from concept exploration to an evidence-based evaluation of a large-scale urban energy recovery system to support more efficient use of municipal infrastructure and advancing sustainable energy planning in the City of Quebec.

Annual Evaluation of Nova Scotia's Energy Management Program Portfolio

2011 – Ongoing | EfficiencyOne, Nova Scotia, Canada

Annual impact, process, and market evaluations of demand-side management (DSM) programs and pilots

Context

Since 2011, Econoler has performed annual evaluations of the EfficiencyOne DSM program portfolio in Nova Scotia. The portfolio includes programs and selected pilots aimed at improving energy efficiency, reducing energy consumption, and lowering greenhouse gas (GHG) emissions across sectors.

The evaluation work is designed to assess program performance and support continuous improvement in DSM program design and delivery.

Mandate

Econoler provides annual evaluation services covering impact, process, and market evaluations for EfficiencyOne's DSM program portfolio.

Each year, the assignment is focussed on determining whether program design and delivery are effective and operating as intended as well as quantifying energy savings and emission reductions.

Key activities include:

- Conducting annual impact, process, and market evaluations of DSM programs and selected pilots
- Quantifying program gross and net energy savings as well as GHG emission reductions
- Assessing the effectiveness of program design and delivery
- Evaluating innovative programs and pilots, including Home Energy Assessment, Custom New Construction, Strategic Energy Management, and Energy Management Information Systems
- Developing new analytical approaches and tools to evaluate emerging program designs
- Quantifying the effects of enhanced building codes and appliance standards on energy consumption and demand in the province
- Refining evaluation methodologies based on industry best practices, including sampling, building simulations, and billing analysis
- Collecting market data using instruments such as participant surveys, mystery shopper visits, and metering studies

Econoler continuously refines its evaluation methodologies based on evolving program needs and industry standards.

Results

Econoler provides EfficiencyOne with detailed evaluation findings and recommendations on an annual basis, including the following:

- Verified quantifications of program energy savings and GHG emission reductions
- Assessments of program performance across the DSM program portfolio
- The identification of opportunities to improve program design, delivery, and evaluation
- Recommendations to increase participation rates and maximize energy savings
- Improved understanding of market impacts, including the effects of codes and standards on energy consumption

Econoler evaluation services provide the following added value to EfficiencyOne:

- Regulatory certainty: All annual savings claims have been accepted by the Nova Scotia energy regulator.
- Stronger portfolio performance: Evaluation findings have helped identify opportunities to improve program uptake, savings realization rates, and the overall customer experience.
- Support for innovation: The evaluation has helped provide information to validate new program concepts, such as demand response, and to scale them successfully.
- Improved decision-making: Annual insights support portfolio planning and program decisions.

Through this long-term engagement, Econoler has supported the ongoing optimization of Nova Scotia's DSM programs and strengthened the evidence base for energy efficiency policy and program decision-making.

Bioenergy Market Assessment

2012–2013 | Ministry of Natural Resources (MRN), Quebec, Canada

Assessment of the technico-economic potential of the bioenergy sectors in Quebec

Context

In 2006, the Government of Quebec adopted an energy strategy for the 2006–2015 period aimed at ensuring, among other objectives, provincial energy independence. In this strategy, Quebec emphasized the development of the energy efficiency and renewable energy sectors.

To support reductions in greenhouse gas (GHG) emissions by replacing fossil fuels with bioenergy, the Ministère des Ressources naturelles (MRN) initiated a study on the technico-economic potential of various bioenergy subsectors in the Province of Quebec.

Mandate

The MRN mandated Econoler to assess the market, technico-economic, and environmental potential of the Quebec bioenergy subsectors.

Key activities included:

- Identifying reliable information sources from which to collect the data required for the study

- Identifying bioenergy production and conversion technologies and determining their respective stages of development
- Determining short and medium-term market opportunities for each bioenergy subsector
- Analyzing the market potential of each subsector
- Assessing the potential environmental impacts in the bioenergy subsectors
- Estimating the required investments, annual operating costs, as well as potential revenues in the studied sectors to determine profitability and payback periods
- Determining the potential GHG emission and water consumption reductions, as well as evaluating the risk of the project being rejected
- Conducted a comparative analysis of the bioenergy subsectors and existing bioenergy subsectors outside the province to characterize the competitive environment
- Provided recommendations for deploying bioenergy solutions to replace fossil fuels in Quebec's economic sectors
- Provided recommendations for all studied bioenergy sectors on actions to be taken to facilitate their emergence or establishment

Econoler presented the results to the MRN through reports and an oral presentation.

Results

The study provided the MRN with a structured overview of the development potential of the bioenergy subsectors in Quebec. The results included:

- The characterization of bioenergy technologies and their development stages
- The identification of short, medium, and long-term market opportunities

- Estimations on investment needs, operating costs, revenues, and payback periods
- The quantification of potential GHG emission reductions and associated costs
- Comparative analysis of Quebec's bioenergy subsectors with international benchmarks
- Scenario-based recommendations to support the deployment of bioenergy solutions

The findings supported the MRN in informing future initiatives related to emerging renewable energy sources in Quebec.

Regional Energy Efficiency Building Code and Energy Label Project for Lighting Products and Appliances

2013–2017 | Renewable Energy and Energy Efficiency Partnership, Organisation internationale de la Francophonie (OIF), and West African Economic and Monetary Union (WAEMU), Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo

Development and implementation of regional frameworks for building energy efficiency and appliance energy labelling in West Africa

Context

Given its many activities in West Africa and the experience gained thereof, Econoler launched a broad initiative to implement two projects:

- A regional energy labelling project for lighting products and appliances
- The design and implementation of a regional building code

Econoler presented both projects to several intervenors to secure their support, namely the WAEMU, the Renewable Energy and Energy Efficiency Partnership, and the Institut de la Francophonie pour le développement durable. All three intervenors approved the initiative and concluded an agreement with Econoler to carry out the projects.

Mandate

Over a four-year period, Econoler implemented two regional projects across eight WAEMU member states and carried out the tasks outlined below.

Building Code

- Analyzed barriers and possible improvements to energy efficiency in buildings
- Evaluated existing institutional frameworks
- Established optimal design criteria of buildings and evaluated the economic viability thereof
- Elaborated a model regional energy efficiency code for new buildings
- Structured and delivered regional training workshops for project leaders, public agencies, and other actors in the construction sector
- Supported the launch of an awareness campaign on the use and benefits of the code

Energy Label

- Established regional standards and drafted national texts for appliance energy labelling
- Created a national network of experts and decision-makers to translate regional directives into national legislation
- Conducted market studies on appliances and quantified the social, economic, and environmental impacts
- Conducted national studies on the implementation of monitoring, verification, and enforcement programs as well as complementary policy and incentive mechanisms
- Developed a training program for commercial inspectors, customs officers, importers, and appliance distributors

Results

The initiative enabled the development of harmonized regional tools to improve energy efficiency across the eight WAEMU member states, as follows:

- The development of a model regional energy efficiency code for buildings
- The establishment of regional energy labelling frameworks for appliances and lighting products
- Strengthening of institutional and technical capacity across WAEMU member states
- The creation of expert networks to support national-level legislation adoption and implementation
- Improved awareness among stakeholders about energy efficiency standards and practices

Once adopted and implemented, the regional energy efficiency code and labelling program resulted in sustainable reductions in energy consumption and greenhouse gas emissions across the eight WAEMU member states.

Energy Efficiency Program Process, Impact, and Pilot Evaluations

2014–2016 | Independent Electricity System Operator (IESO), Canada

Process, impact, and pilot evaluations of industrial energy efficiency programs in Ontario

Context

Approximately 200 companies account for over 50% of total electricity consumption in Ontario's industrial sector. These large electricity consumers are either connected to the province's high-voltage transmission system or to local distribution networks.

To support industrial energy efficiency, the IESO launched a suite of programs, including the Industrial Accelerator Program (IAP), the Process and Systems Upgrades (PSU) program, the Energy Managers program, and the Monitoring and Targeting (M&T) program. Econoler was mandated to conduct process and impact evaluations of these for the 2013 to 2015 program years, with pilot program evaluations added to the 2015 evaluation cycle.

Mandate

Econoler conducted both process and impact evaluations of IESO's industrial energy efficiency programs.

Key activities included:

- Conducting interviews with program staff responsible for IESO initiatives
- Designing survey questionnaires, interview guides, and sampling plans for data collection
- Collecting data from participants, non-participants, partial participants, trade allies, technical reviewers, and local power distributors
- Analyzing the collected data to evaluate program design and identify opportunities for process improvement
- Benchmarking against similar programs in other Canadian provinces and U.S. jurisdictions
- Calculating gross and net energy savings, including additional savings from enabling activities
- Estimating the total resource cost (TRC) and program administrator cost (PAC)
- Assessing additional program effects, including direct employment impacts and socio-economic benefits
- Evaluating the potential alignment of IESO industrial programs with ISO 50001 requirements

Results

Econoler provided the IESO with the following comprehensive assessment results of program performance and outcomes:

- Verified estimates of energy and demand savings from industrial energy efficiency programs
- The identification of program design and delivery improvement opportunities
- The provision of benchmarking insights to support comparisons with similar programs in other jurisdictions
- Quantification of economic and socio-economic benefits, including employment effects
- Cost-effectiveness analysis through TRC and PAC metrics
- Strategic insights on alignment with the ISO 50001 standard

The results enabled continuous improvement of IESO's industrial energy efficiency programs and strengthened evidence-based program design and evaluation practices.

Residential Efficient Lighting and Appliance Project Impact Assessment

2015 | SENER, Mexico

Impact evaluation of the Efficient Lighting and Appliance Project (PEE) in the residential sector

Context

In the mid-2000s, the World Bank supported numerous activities aimed at encouraging innovation and the deployment of energy-efficient technologies in the residential sector. In this context, the Government of Mexico established the Efficient Lighting and Appliance Project (PEE) as part of Mexico's Clean Technology Fund investment plan.

The PEE included two main components:

1. Component 1 (May 2011 to September 2012): Distribution of 40 million self-ballasted compact fluorescent lamps in the residential sector

2. Component 2 (April 2009 to January 2013): Refrigerator and air-conditioner replacement program through subsidies and financing

SENER mandated Econoler to conduct a detailed assessment of the benefits achieved through the implementation of the PEE.

Mandate

Econoler designed and applied an evaluation methodology adapted to the specific program context in collaboration with program intervenors.

Key activities included:

- Designing an impact evaluation methodology adapted to program implementation conditions
- Applying the methodology in collaboration with program stakeholders
- Assessing program outcomes for both program components

Results

Through the assessment, Econoler identified significant environmental, economic, and social impacts associated with the PEE, as follows:

- Approximately 13.6 million tonnes of CO_2 emissions reduced through Component 1 over the useful life of installed lamps
- Approximately 1.6 million tonnes of CO_2 emissions reduced through Component 2 over the useful life of replaced appliances
- Direct job creation associated with PEE implementation
- Energy cost savings for the Mexican economy
- Reduced electricity bills for end-users
- Decreased government subsidies in the energy sector

Econoler provided recommendations to improve the design and implementation of similar programs in Mexico, including:

- Integrating evaluation requirements at the program design stage (including data collection and database preparation)
- Strengthening procedures for the disposal of retired appliances
- Improving stakeholder training prior to implementing new programs
- Enhancing overall program design and operational processes for future initiatives

National Energy Efficiency Action Plan Design

2015 | Armenia Renewable Resources and Energy Efficiency Fund (R2E2 Fund), Armenia

Development of Armenia's second National Energy Efficiency Action Plan (NEEAP)

Context

The Government of Armenia has long prioritized the implementation of economically viable energy efficiency measures to increase power supply stability and achieve energy security. To establish an institutional framework that supports energy efficiency improvements, the government created the R2E2 Fund in 2006 and adopted its first National Energy Efficiency Action Plan (NEEAP) in 2010.

Subsequently, the Ministry of Energy and Natural Resources, with support from the World Bank, initiated the development of a second NEEAP to define updated objectives and energy saving measures for the 2015–2017 period.

Mandate

The R2E2 Fund mandated Econoler to develop the second NEEAP in collaboration with national stakeholders.

Key activities included:

- Analyzing Armenia's legal and institutional energy efficiency frameworks as well as existing evaluation reports to support program and regulatory development under the NEEAP
- Identifying gaps and shortcomings in existing energy efficiency policies
- Evaluating market sectors with potential for energy efficiency investments and identifying key barriers to project implementation
- Assessing the results of the first NEEAP to inform improved approaches to achieving energy savings targets under the second NEEAP
- Preparing a draft of the second NEEAP, including:
  - A detailed list of energy efficiency measures and programs generating primary and final energy savings as well as the selection of priority measures
  - The definition of energy savings targets for each measure or group of measures
  - The definition of the institutional framework, implementation strategy, and promotion approach, including the roles and responsibilities of public institutions

Results

The second NEEAP developed by Econoler was well received by national stakeholders and the World Bank. The results included:

- Recognition of the second NEEAP as a high-quality strategic energy efficiency planning document
- The establishment of a structured framework for energy efficiency measures and programs for the 2015–2017 period
- The definition of quantified energy savings targets across priority sectors

- Clarifications on institutional roles and implementation responsibilities
- Use of the second NEEAP as a guiding document for government energy efficiency activities

The second NEEAP subsequently served as a key reference for the implementation and coordination of Armenia's national energy efficiency initiatives.

National Energy Service Company (ESCO) Training Program Design and Delivery

2015–2016 | Ministry of Industry and Trade (MOIT), Vietnam

Design and delivery of an advanced national training program for ESCOs and Energy Performance Contracting (EPC) stakeholders

Context

Under the Global Environment Facility Clean Production and Energy Efficiency Project, the MOIT in Vietnam recommended launching a broad advanced training program for existing and aspiring ESCOs, government organizations, financial institutions, and other stakeholders involved in EPC.

The advanced training program was intended to strengthen technical and institutional capacity across the EPC value chain to support the national development of energy service markets.

Mandate

Econoler was mandated to design and deliver an advanced training program to reinforce and certify the capacity of ESCOs and to strengthen the ability of government and financial institutions to support the implementation of EPC.

Key activities included:

- Preparing the overall training program structure and curriculum outline
- Developing training materials adapted to the Vietnamese context and EPC market needs
- Elaborating a six-month delivery plan for training program delivery
- Delivering multiple training sessions for different stakeholder groups, including:
    - Three 15-day training sessions for ESCOs and energy service providers
    - One three-day training session for financial institution representatives
    - One two-day training session for civil servants
    - One five-day train-the-trainer session to enable Vietnamese experts to independently deliver the training

Econoler adapted its Certified Professional in EPC training and certification program to the Vietnam context, developed didactic materials aligned with MOIT expectations, and worked in collaboration with experts from multiple disciplines.

CIET, a subsidiary of Econoler, delivered certifications to participants who successfully completed the training.

Results

The program significantly strengthened national capacity in EPC and ESCO development. The results included:

- Training more than 70 professionals qualified to work as ESCO experts
- Capacity building of additional stakeholders from government and financial institutions
- The establishment of a certified training pathway for EPC professionals in Vietnam

- The development and delivery of high-quality EPC training materials adapted to the national context
- Strengthened institutional and technical foundations for ESCO market development

This initiative contributed to building a pool of qualified professionals capable of supporting the implementation and expansion of EPC in Vietnam.

Energy Sector Monitoring and Evaluation System Design and Implementation Support

2015–2016 | The World Bank, Guinea

Design and implementation of a centralized monitoring and evaluation system for the energy sector

Context

In the early 2010s, the Government of Guinea recognized energy as a primary driver of socio-economic development and expressed its commitment to strengthening the energy sector. With financial support from the World Bank and the Agence Française de Développement (AFD), the government conducted a comprehensive energy sector study to identify priority measures aimed at improving overall sector performance, particularly that of public electric utilities.

The results of this study led to the development of a stimulus plan for the electricity energy sector. In parallel, the Sustainable Energy for All (SE4All) initiative was launched in 2014 to prepare an investment prospectus guiding project implementation in the sector.

In this context, the Government of Guinea planned to design and implement a monitoring and evaluation (M&E) system for energy sector projects and electrification access programs.

Mandate

In February 2015, the World Bank mandated Econoler to design a centralized M&E system to support the implementation and monitoring of the electricity sector stimulus plan and electrification programs.

The objective was to enable government stakeholders to continuously track the progress, outputs, and impacts of energy sector initiatives.

Key activities included:

- Establishing key quantitative and qualitative indicators and parameters to monitor and evaluate the energy sector stimulus plan
- Conducting a national comprehensive study of residential energy consumption in nearly 4,000 households to develop a detailed baseline energy profile, namely the creation of a database and a map in a geographic information system
- Designing an online M&E system to enable the government to collect data and track input, output, result, and impact indicators across energy sector projects
- Implementing the M&E system in government ministries, agencies, and rural electrification entities
- Delivering training sessions for government personnel on M&E system use and maintenance

Results

This assignment resulted in not only the deployment of a functional national M&E system for the energy sector, but also:

- The establishment of a centralized system for monitoring energy sector and electrification programs
- The creation of a national baseline energy consumption database and mapping for residential users
- Improved capacity of government institutions to monitor project implementation and sector performance

- Enhanced government ability to track inputs, outputs, results, and impacts of energy sector initiatives
- Strengthened coordination and data management across ministries and energy agencies

The M&E system enabled government stakeholders in Guinea to more effectively monitor and evaluate the implementation of energy sector reforms and electrification access programs.

Energy Efficiency Microfinance Program Design and Delivery

2015–2017 | Multilateral Investment Fund, Inter-American Development Bank (IDB), Paraguay

Design and implementation support for green microfinance and energy efficiency credit products

Context

The EcoMicro program is a technical cooperation initiative co-financed by the Multilateral Investment Fund and the Nordic Development Fund with a budget of USD 7 million. The program helps finance and implement green finance projects through microfinance institutions in Latin America and the Caribbean.

Under this framework, Econoler was selected to support a participating microfinance institution, namely Fundación Paraguaya (FP), in Paraguay in the development and implementation of energy efficiency and green finance activities.

Mandate

Econoler supported FP in the design and implementation of energy efficiency-related financial products and internal sustainability measures.

This assignment consisted of three main components, each with their own activities as follows:

1. Institutional environmental integration

- Developing and implementing a new internal environmental and energy policy for FP
- Conducting an awareness-raising campaign on the new policy among FP staff
- Establishing a baseline of energy consumption and a carbon footprint for FP operations
- Identifying and implementing energy saving measures within FP facilities

2. Climate and portfolio risk assessments

- Assessing the vulnerability of the FP loan portfolio to climate change
- Developing a methodology to manage climate-related risks in portfolio operations

3. Energy efficiency finance product development and rollout

- Conducting market research to identify suitable energy efficiency technologies for financing
- Designing a tailored energy efficiency finance product and operations manual
- Training FP staff on energy efficiency concepts and the new financial product, including marketing and implementation aspects
- Training FP clients on energy efficiency, high-efficiency cooking stoves, and the new finance product
- Supporting the launch of a pilot phase for the new product
- Developing a rollout strategy, including iterative adjustments to product design

Results

Under this assignment, Econoler enabled the operationalization of a green finance product offered by FP in Paraguay. Results also included:

- The development and deployment of an energy efficiency finance product targeting end-user technologies such as high-efficiency cooking stoves
- Strengthened FP institutional capacity on energy efficiency and climate risk management
- The establishment of internal environmental and energy management practices, including baseline measurement and mitigation measures
- The integration of climate vulnerability considerations into portfolio risk assessment methodologies
- Successful finance product pilot implementation and preparation for broader rollout of the finance product
- Increased awareness about energy efficiency among both FP staff and clients

A project case study was prepared and presented to stakeholders at the conclusion of the assignment.

National Electricity Utility Climate Change Adaptation and Mitigation Program Designs

2016 | Caribbean Electric Utility Services Corporation (CARILEC), Barbados, Belize, Dominica, Saint Kitts and Nevis

Development of climate change adaptation and mitigation strategies for Caribbean electric utilities

Context

Electric utilities in the Caribbean region depend heavily on imported fossil fuels, resulting in high electricity prices for end-users and significant exposure to international oil price fluctuations. The region is largely composed of Small Island Developing States that are particularly vulnerable to the adverse effects of climate change.

CARILEC, an association of electric utilities, suppliers, manufacturers, and other stakeholders in the Caribbean electricity sector, actively promotes sustainable energy initiatives in the region.

With financing from the Inter-American Development Bank, CARILEC commissioned Econoler to support five electric utilities in Barbados, Belize, Dominica, as well as Saint Kitts and Nevis in the development of climate change adaptation strategies and sustainable energy programs.

Mandate

Econoler was mandated to develop, in collaboration with CARILEC and CARIBSAVE, supply-side and demand-side energy management strategies for each participating electric utility. Key activities included:

Supply-side component

- Performing detailed energy assessments for the five utilities
- Developing a supply-side management plan based on collected data
- Preparing a strategy for the deployment of smart grid technologies

Demand-side component

- Conducting onsite data collection at major energy consumers, including water treatment plants, public lighting systems, hotel industry facilities, and public buildings
- Developing a demand-side management strategy including:
    - A mechanism for establishing energy service companies (ESCOs) in the utilities
    - A model energy performance contract, including a utility bill repayment scheme
    - An analysis of regulatory and financing strategies for recovering investments in energy efficiency programs

Results

Econoler supported the development of structured approaches for climate resilience and energy efficiency in the five target Caribbean utilities. Results also included:

- The development of supply-side management plans for participating utilities
- The definition of strategies for smart grid deployment in the Caribbean context
- The identification of demand-side management opportunities across key end-use sectors
- The design of ESCO implementation mechanisms within utility structures
- The preparation of a model energy performance contract framework
- Analysis of regulatory and financial mechanisms for the recovery of energy efficiency investments

This initiative strengthened the capacity of Caribbean electric utilities to design and implement sustainable energy and climate change adaptation measures in support of the transition toward more resilient and efficient electricity systems.

Road Vehicle Fleet Energy Management Intervention Plan Design

2016–2017 | Ministère de l'Énergie et des Ressources naturelles du Québec, Canada

Design of an energy management intervention program for heavy vehicle fleets

Context

Between 1992 and 2011, the transportation sector experienced the largest increase in energy consumption in Quebec (37%). To address this issue, the Ministère de l'Énergie et des Ressources naturelles du Québec (the ministry) designed a program aimed at improving energy management practices in the road transportation sector, particularly for heavy vehicle fleets such as trucks and buses. The program offers energy efficiency and greenhouse gas (GHG) reduction measures for fleet managers and owners to reduce dependence on fossil fuels.

Mandate

The ministry mandated Econoler to define the content of an energy management intervention program for heavy vehicle fleets, intended for both fleet managers and specialists who support in optimizing energy consumption.

The mandate included:

- Conducting a market assessment to analyze the energy efficiency situation across fleet operations in the following five assessment areas:
  - Management practices
  - Vehicle technologies
  - Driving practices
  - Vehicle maintenance
  - Logistics
- Comparing current practices with an optimal reference scenario to identify potential reductions in energy consumption and GHG emissions
- Devising an intervention approach for support specialists to improve fleet energy management practices
- Testing the intervention approach in three fleets to gather data for energy analysis reports and feasibility studies
- Developing documentation tools to support techno-economic analysis across the five assessment areas
- Designing a training program for support specialists
- Delivering training to support specialists on the intervention approach and use of documentation tools

Results

Econoler provided the ministry with the necessary framework and tools to implement a structured energy management program for road vehicle fleets in Quebec. The results included:

- The definition of a structured intervention approach for fleet energy management
- The development of analytical tools to conduct techno-economic evaluations of fleet efficiency measures
- The identification of energy and GHG reduction opportunities across fleet operations
- A validation of the intervention approach through pilot implementation in three fleets

- Training of support specialists to support program deployment and scaling

This assignment enabled the ministry to establish the foundations for a comprehensive energy management program targeting energy efficiency improvements in heavy vehicle fleets across the Province of Quebec.

Morocco Public Lighting Transformation Program

2016–2018 | The World Bank, Morocco

Design of a national public lighting energy efficiency program using a public-private partnership (PPP)/energy service company (ESCO) approach

Context

The Word Bank provided assistance to Morocco in improving its energy efficiency, as reflected in the 2014-2017 World Bank Country Partnership Strategy (CPS). The CPS identified enhancing energy efficiency in Morocco as a strategic objective to ensure that scarce resources are invested more sustainably in the energy sector. This objective was in line with both reducing poverty and boosting shared prosperity. The Morocco City Energy Efficiency Technical Assistance provided support to cities in building local capacity for developing and implementing transformative energy efficiency investments. The Morocco Public Lighting Transformation Program (the Program) was aimed at encouraging the application of energy efficient practices to public lighting in Morocco, thereby contributing to the shift toward inclusive green growth. The main objectives of the assignment were to assist the Government of Morocco in designing a sustainable Morocco Public Lighting Transformation Program using a public-private partnership (PPP) approach such as the ESCO business model.

Mandate

Econoler supported the Government of Morocco in designing a sustainable public lighting transformation program based on a PPP approach, including ESCO-based business models.

Key activities included:

- Reviewing the national public lighting sector, including market size, energy demand, framework conditions, and implementation models
- Designing the Morocco Efficient Public Lighting Program and covering institutional, legal, financial, and technical components
- Developing a comprehensive operational package covering the institutional, legal, financial and technical aspects of the Program; this package was used to implement the Program at both the national and local levels
- Developing a results-oriented funding scheme for international financial institution financing, including economic and financial analysis and a program business plan
- Implementing outreach activities with the Government of Morocco, including workshops to share international, regional, and national best practices and support stakeholder capacity building

Results

The assignment resulted in the development of a structured implementation model for transforming Morocco's public lighting sector. The results included:

- The definition of a comprehensive public lighting energy efficiency program framework
- The development of a results-oriented financing structure for program deployment
- Strengthened institutional and technical capacities at the national and municipal levels

- Enhanced stakeholder awareness through targeted outreach and knowledge-sharing workshops

The resulting program design provided a foundation for scaling energy-efficient public lighting investments in Morocco in a manner aligned with international best practices and national priorities.

Carbon Neutral Plan Preparation for the Transport Canada and Environment and Climate Change Canada (ECCC) Building Portfolio

2018–2019 | Natural Resources Canada (NRCan), Canada

Preparation of carbon neutral roadmaps for federal building portfolios and government operations

Context

The 2016–2019 Federal Sustainable Development Strategy established 13 goals to support Canada's sustainable development planning, including a Government of Canada commitment to develop low-carbon operations.

Through its Greening Government Services initiative, Natural Resources Canada (NRCan) supports federal organizations in reducing greenhouse gas (GHG) emissions from their real estate property portfolios in accordance with emission reduction targets of 40% by 2030 and 80% by 2050, both compared to 2005 emission levels.

Transport Canada and Environment and Climate Change Canada (ECCC) were each required to prepare departmental roadmaps to achieve these targets.

Mandate

NRCan mandated Econoler to develop carbon neutral roadmaps for the Transport Canada and ECCC building portfolios and government operations.

Key activities included:

- Reviewing existing energy and GHG project delivery mechanisms and tools used by Transport Canada, ECCC, and other organizations
- Reviewing renewable energy certificate and carbon offsetting opportunities
- Analyzing applicable energy efficiency and renewable energy measures
- Assessing potential initiatives and modelling the corresponding GHG emission reduction potential
- Developing carbon neutral portfolio roadmaps for Transport Canada and ECCC
- Ensuring the carbon neutral roadmaps identify implementation pathways by asset type and region

Results

Econoler developed a departmental carbon neutral roadmap by asset type and region. The results included:

- Prioritized initiatives to reduce GHG emissions across buildings and operations
- Identified the role of carbon offset mechanisms in achieving carbon neutrality
- Evaluated energy efficiency and renewable energy opportunities across the building portfolios
- Modelled the GHG reduction potential of proposed initiatives
- The provision of a structured framework to support long-term achievement of Greening Government Service objectives

The roadmaps identified the factors and measures required to support GHG emission reductions across the building portfolios and vehicle fleet of Transport Canada and ECCC.

Building Energy Challenge: Accelerating the Energy Transition in Quebec's Commercial Real Estate Sector

2018–2026 | BOMA, Canada

Design and implementation of a sector-wide building energy performance challenge

Context

Commercial buildings represent a significant opportunity for reducing energy consumption and greenhouse gas (GHG) emissions. While building owners increasingly recognize the importance of improving energy performance, the commercial real estate sector requires a practical, collaborative approach to encourage voluntary action and prepare for evolving regulatory requirements.

Inspired by successful benchmarking initiatives and working closely with BOMA Quebec, Econoler helped develop the Building Energy Challenge (BEC), a province-wide program designed to mobilize commercial building owners through performance benchmarking, knowledge sharing, and industry recognition.

Mandate

Econoler was mandated to design, structure, and support the implementation of the BEC by providing the technical expertise required to ensure program credibility and long-term success.

Key activities included:

- Developing the program concept, business model, and operational framework
- Securing program financing
- Designing the performance benchmarking methodology and evaluation process
- Validating annual participant data and analyzing energy performance results
- Evaluating building performance and supporting the annual recognition process
- Providing ongoing technical expertise to ensure program integrity and credibility
- Supporting BOMA Quebec in promoting continuous energy performance improvement across the commercial real estate sector

Results

Over the last decade, the BEC has become one of Quebec's leading voluntary energy performance initiatives for commercial buildings. The results include:

- More than 300 commercial buildings participate annually
- Participation of building owners from 50 municipalities across Quebec
- 73% of participating buildings reduced GHG emissions between 2018 and 2022
- Average 9.5% reduction in energy intensity between 2018 and 2022
- Mobilized $1.6 million in financing to support program implementation

- Established a culture of energy benchmarking, transparency, and continuous improvement in the Quebec commercial real estate sector
- Helped building owners anticipate evolving energy performance and carbon reduction requirements while reducing operating costs and GHG emissions

The BEC demonstrates how voluntary collaboration, credible performance benchmarking, and industry recognition can successfully accelerate the adoption of energy efficiency practices and support the transition toward low-carbon commercial buildings.

Technical Assistance for the Implementation of the SUNREF Palestine Project

2018–2026 | Agence Française de Développement (AFD), Palestine

Building financial and technical capacity for renewable energy and energy efficiency investments

Context

SUNREF (Sustainable Use of Natural Resources and Energy Finance) is an innovative green finance initiative developed by Agence Française de Développement (AFD) to mobilize private sector investment in renewable energy, energy efficiency, and environmental performance through local financial institutions.

Energy insecurity, economic volatility, and limited access to finance create significant barriers to sustainable investments in Palestine. Hence, SUNREF was designed to build a green finance ecosystem that enables financial institutions, businesses, and households to adopt clean technologies and improve energy resilience.

Implemented with the support of AFD, Proparco, and the European Union, SUNREF combines a dedicated credit line with technical assistance to strengthen institutional capacity, stimulate green lending, and accelerate investments in sustainable energy.

Mandate

Econoler, in partnership with the local firm ESCOM, was appointed as the technical assistance provider and coordination unit for SUNREF Palestine.

The assignment was focussed on strengthening the technical and institutional capacity of partner financial institutions while supporting the successful implementation of SUNREF Palestine.

Key activities included:

- Supporting partner banks in developing dedicated SUNREF lending products for small and medium enterprises, corporate clients, and households
- Developing and implementing the SUNREF Palestine communication and marketing strategy
- Organizing awareness-raising campaigns, outreach events, and training workshops on renewable energy and energy efficiency financing
- Assisting borrowers in identifying viable energy efficiency and renewable energy investment opportunities and preparing financing proposals
- Developing a SUNREF Palestine operations manual
- Supporting partner banks in establishing environmental and social policies and dedicated project appraisal teams
- Strengthening the institutional capacity of the Palestinian Energy and Environment Research Centre (PEC) to serve as the project implementation unit and support future national sustainable energy programs
- Developing methodologies for the technical assessment of complex energy efficiency and renewable energy projects
- Conducting technical assessments for large investment projects and preparing approval reports
- Developing monitoring and verification plans and supporting the verification and incentive disbursement process for financed projects

Results

Econoler technical assistance served to establish the institutional, technical, and financial foundations required to implement and expand sustainable energy financing in Palestine.

SUNREF Palestine contributed to:

- Strengthening the capacity of Palestinian financial institutions to identify, evaluate, and finance renewable energy and energy efficiency investments
- Establishing technical procedures, project assessment methodologies, as well as monitoring and verification processes
- Building the institutional capacity of the PEC to coordinate sustainable energy financing initiatives
- Increasing market awareness through communication campaigns, stakeholder engagement, and specialized training activities

By combining financial innovation with long-term capacity building, SUNREF Palestine has helped create an enabling ecosystem for renewable energy and energy efficiency investments, thereby supporting greater energy resilience and sustainable economic development despite a challenging operating environment.

Roadmap Development for Designing and Piloting an Energy Efficiency Certificate (EEC) Scheme

2019–2020 | The World Bank, Argentina

Development of a roadmap for the design and implementation of an EEC scheme

Context

Under the framework of the World Bank Partnership for Market Readiness, Argentina developed a Market Readiness Proposal to evaluate the feasibility of implementing carbon pricing instruments in the country. The Market Readiness Proposal outlined a roadmap, implementation timeline, and budget for developing market-based approaches to reducing greenhouse gas (GHG) emissions.

As part of the Partnership for Market Readiness Argentina Project, Econoler was mandated to support the design of an EEC scheme as a potential carbon pricing instrument to promote the rational use of energy and contribute to national GHG mitigation actions.

Mandate

Econoler focussed on identifying the policy context and mitigation potential for energy efficiency in Argentina and developing a roadmap for designing and piloting an EEC scheme.

The assignment consisted of four strategic objectives:

1. Draft a proposal for an EEC scheme
2. Propose an institutional framework for implementing the EEC scheme
3. Develop a roadmap for EEC implementation
4. Strengthen the capacity of national policymakers

Key activities included:

- Assessing international experience with EEC schemes, including design and implementation approaches, key parameters, impacts, and lessons learned
- Preparing and delivering a capacity-building workshop on international EEC experience
- Developing eight implementation scenarios for the EEC scheme based on international best practices
- Evaluating the selected scenario, including possible EEC scheme interactions with existing sectoral policies and other carbon pricing instruments, implementation barriers, and potential direct and indirect benefits
- Developing a draft design framework for a potential Argentine EEC scheme to support government dialogue
- Mapping relevant ministries and agencies and assessing their respective roles and capacities for EEC scheme implementation and operation
- Organizing a final dissemination event to present the study findings, proposed EEC design, and recommendations for next steps

Results

The assignment provided the Government of Argentina with a structured framework for evaluating the implementation of an EEC scheme.

The results included:

- An assessment of international best practices and their applicability to the Argentine context
- The development and analysis of alternative implementation scenarios
- A proposed EEC scheme institutional framework and implementation roadmap
- Strengthened capacity of national policymakers through technical workshops and stakeholder engagement
- Recommendations to support government decision-making on the implementation of an EEC scheme as part of Argentina's energy efficiency and GHG mitigation strategy

The assignment provided the Government of Argentina with the technical basis to make an informed decision on the potential implementation of an EEC scheme.

Chapter 4: The 2020s



Gender Inclusion in the Elaboration of Urban Public Lighting Projects

2020–2021 | Agence Française de Développement (AFD), Sub-Saharan Africa

Development of gender-sensitive methodologies for urban public lighting projects

Context

In the early 2020s and on behalf of the European Union, the Agence Française de Développement (AFD) supported the Covenant of Mayors in Sub-Saharan Africa (CoM SSA) in addressing the interconnected challenges of climate change and sustainable energy. The initiative was intended to attract climate finance for the planning and implementation of municipal projects across the region.

Recognizing the need to better address gender inequality and the needs of vulnerable individuals in urban infrastructure planning, AFD commissioned Econoler to develop practical tools and methodologies to support gender-sensitive public lighting projects in Sub-Saharan Africa.

Mandate

Under the third phase of the CoM SSA, Econoler was mandated to develop gender-sensitive tools and methodologies to support municipalities and other stakeholders involved in the identification, preparation, implementation, monitoring, and evaluation of urban public lighting projects.

The objective was to formulate practical recommendations that reflects the needs of women, men, and vulnerable individuals and that public lighting stakeholders could directly apply when designing and implementing infrastructure.

Key activities included:

- Conducting a situational analysis of gender issues in the public lighting sector and reviewing AFD project experience in CoM SSA signatory cities, including Kisumu (Kenya), Accra (Ghana), Dakar (Senegal), and Nouakchott (Mauritania)
- Developing recommendations to strengthen stakeholder participation processes and promote greater procedural justice in urban public lighting projects
- Elaborating a methodology that integrates gender considerations into project planning and implementation
- Conducting in-depth diagnostics and case studies of public lighting projects in Nouakchott (Mauritania) and Kampala (Uganda) to formulate practical recommendations
- Preparing a user guide presenting the methodology and key project findings for municipalities, cooperation agencies, non-government organizations, and other stakeholders involved in public lighting projects

Results

The assignment provided municipalities and project stakeholders with practical tools to integrate gender considerations into urban public lighting projects. The results also included:

- The development of a gender-sensitive methodology for urban public lighting planning and implementation
- The preparation of practical recommendations based on case studies and field experience
- Strengthened stakeholder participation approaches in project development
- The publication of a user guide to support municipalities and development partners in applying gender-sensitive practices
- Enhanced capacity to plan, monitor, and evaluate public lighting projects that better address the needs of women, men, and vulnerable individuals

The assignment equipped municipalities in Sub-Saharan Africa with practical guidance to support more inclusive public lighting infrastructure planning and implementation.

Super Energy Service Company (Super ESCO) Design, Establishment, and Management

SOFIAC, Canada (2020-2031)

Context

Energy efficiency projects can deliver lasting cost and emissions reductions, yet many private-sector organizations struggle to move them forward. High upfront costs, perceived financial risk, and complex transactions often prevent technically sound projects from reaching implementation. SOFIAC was created to remove these barriers by combining long-term financing, technical expertise, and performance-based contracting in a single, scalable platform.

SOFIAC was launched in fall 2020 as the first Super ESCO in Canada and one of the first initiatives of its kind in North America. Its creation followed an Econoler study for the Government of Quebec, which identified a lack of financing mechanisms adapted to private-sector energy efficiency investment.

Econoler and Fondaction Gestion d'Actifs, Fondaction's asset management subsidiary, jointly structured the initiative, with financial support from Quebec's Ministry of Energy and Natural Resources and Natural Resources Canada.

The project aimed to create a financial and operational platform capable of accelerating energy efficiency investment in Canada's commercial, industrial, and multi-residential sectors. Through a shared-savings approach, SOFIAC provides a unique point of access to turnkey projects that are 100% financed, maximize value, protect clients from financial risk, and allow clients to preserve their financing capacity.

Mandate

Econoler initially designed SOFIAC as an investment fund, acted as co-manager during its first five years of operation, and has served as a strategic partner since its launch. Its mandate has included developing and implementing SOFIAC's technical and financial framework and supporting project origination and execution. Econoler's contribution has focused on:

- Designing and structuring the first and only Super ESCO initiative in Canada
- Developing financial and operational mechanisms based on shared savings and energy performance contracting (EPC) principles
- Supporting the establishment of standardized procurement, project bundling, and delivery frameworks

Concept and Operational Model

SOFIAC was developed based on the Super ESCO model structured to address long-standing market barriers by combining long-term financing, technical expertise, and performance-based EPC. SOFIAC provides the following integrated service offering designed to remove barriers to energy efficiency investment:

- Turnkey project development with minimal client involvement
- 100% non-recourse financing structured under shared-savings arrangements (without impacting client financing capacity)
- Long-term contracts of up to 15 years

- Subsidy request management and optimization
- Open-book approach for cost optimization
- Independent measurement and verification management
- Coordination of ESCOs and third-party experts across project stages

The Super ESCO model is based on the following guiding principles:

- Carry out innovative energy efficiency projects under long-term agreements (10 to 15 years) to foster deep retrofits and significant decarbonization
- Foster an efficient, profitable, and inclusive energy transition for the benefit of private sector Canadian enterprises, the government, and the economy
- Increase the profitability and competitiveness of Canadian private sector commercial and industrial enterprises by lowering energy costs

Key structural features include:

- Initial financing capacity of CAD 150 M
- Financial debt/equity leverage of 4:1
- Risk spread over a portfolio of projects ranging from CAD 1 M to CAD 20 M in investment needs
- Projects bundled, as necessary, into calls for tenders to enable economies of scale

Results

Following its initial years of operation, SOFIAC has established itself as a leading platform for private sector energy efficiency investment in Canada.

By 2025, SOFIAC had:

- Committed over CAD 100 M in energy efficiency investments
- Developed a project pipeline of approximately CAD 100 M in additional opportunities

Through SOFIAC, Econoler has played a central role in designing and operationalizing one of the first Super ESCO models in North America. This initiative demonstrates Econoler's capacity to innovate in energy efficiency financing, adapt EPC models to mature markets, and design scalable mechanisms that mobilize private capital for deep decarbonization projects.

The success of SOFIAC Canada has paved the way for its replication in other markets and sectors. SOFIAC stands as a pioneering example of how integrated financial and technical platforms can transform energy efficiency from isolated projects into a structured investment market.



Advancing Ontario's Energy Workforce

2022–2023 | Independent Electricity System Operator (IESO), Canada

Assessing market needs to design targeted capacity-building initiatives for energy efficiency professionals and organizations

Context

Ontario's transition toward a more energy-efficient and low-carbon economy requires a skilled workforce capable of identifying, developing, and implementing energy efficiency projects across diverse sectors.

In 2022, the IESO launched its Capability Building Initiative to strengthen Ontario's energy efficiency ecosystem and support greater participation in energy efficiency programs. Given the diversity of Ontario's economy — including the commercial building, manufacturing, healthcare, education, and municipal sectors — a clear understanding of market needs was essential to ensure training and support activities addressed real-world challenges.

Mandate

Through its subsidiary CIET, Econoler was mandated to conduct a province-wide capacity-building needs assessment to establish a data-driven foundation for the design and delivery of the IESO Capability Building Initiative.

The objective was to identify knowledge gaps, training priorities, and preferred learning approaches among energy professionals, businesses, and sectoral stakeholders.

Key activities included:

- Conducting a comprehensive assessment combining stakeholder consultations and secondary research
- Completing more than 30 in-depth interviews with businesses, public institutions, utilities, industry associations, and energy professionals
- Analyzing priority energy efficiency technologies, project opportunities, and implementation barriers
- Identifying existing training resources and information gaps across key sectors
- Evaluating preferred learning formats, including in-person training, virtual delivery, and knowledge resources
- Developing recommendations and a multi-year roadmap to guide the activities of the Capability Building Initiative

Results

The needs assessment provided the IESO with the insights required to design a targeted and impactful capacity-building program aligned with market realities.

The results included:

- The development of an evidence-based roadmap to guide capacity-building investments
- The identification of priority skills, knowledge gaps, and training needs across Ontario's energy ecosystem
- Improved alignment between energy efficiency programming and stakeholder needs
- Support for the delivery of the multi-year Capability Building Initiative that has strengthened Ontario's energy workforce
- 2,000+ professionals trained in 2023–2024
- 66% of participants reported completing or actively developing at least one energy efficiency project as a direct result of the training

Through its continued support, Econoler is helping ensure that Ontario's energy workforce has the knowledge and tools needed to accelerate energy efficiency action and contribute to the province's decarbonization objectives.

Establishing WEN-Africa: Advancing Gender Equality in the Energy Sector

2023–2024 | World Bank Energy Sector Management Assistance Program, Sub-Saharan Africa

Creating a regional network to promote gender equality, knowledge sharing, and women's empowerment in the energy sector

Context

Women remain significantly underrepresented in the energy sector across Africa, thus limiting the diversity of perspectives and expertise needed to address the evolving energy challenges on the continent.

Recognizing the importance of gender-inclusive approaches, the World Bank Energy Sector Management Assistance Program launched the Women in Energy Network-Africa (WEN-Africa) initiative to gather public, private, and non-profit organizations committed to advancing gender equality and women's participation in the energy sector.

Building on successful regional models such as RENEW-MENA and WePOWER, WEN-Africa was established as a sustainable platform for collaboration, knowledge exchange, and capacity development across the continent.

Mandate

The World Bank mandated Econoler to support the establishment of WEN-Africa as a regional network promoting gender equality and women's empowerment in the energy sector.

The objective was to create the foundation for a long-term platform that would connect stakeholders, strengthen capacity, and support the integration of gender considerations into energy policies and projects.

Key activities included:

- Mapping key stakeholders across 14 African countries, including government institutions, private sector organizations, and non-profit organizations
- Developing a roadmap to guide the establishment, governance, and long-term sustainability of WEN-Africa
- Supporting the organization and launch of WEN-Africa to gather energy sector leaders, policymakers, and gender experts
- Assessing capacity-building needs related to gender mainstreaming in energy initiatives
- Designing and delivering training-of-trainers programs in both English and French to equip professionals with practical tools and approaches for integrating gender considerations into energy projects

Results

Under the assignment, Econoler established the foundation for a regional network dedicated to strengthening gender equality and social inclusion in Africa's energy sector. The results included:

- The creation of WEN-Africa, connecting organizations and professionals committed to advancing women's participation in energy
- The development of a strategic roadmap to support the sustainability and future growth of WEN-Africa

- Strengthened capacity among energy professionals to integrate gender considerations into programs and projects
- The delivery of bilingual training activities reaching professionals across the region
- Enhanced knowledge sharing and collaboration opportunities among stakeholders working at the intersection of gender and energy
- Training feedback demonstrating strong participant engagement, with nearly 100% of participants in the English sessions identifying the training content as relevant, particularly regarding gender mainstreaming and gender analysis

By establishing a platform for collaboration, advocacy, and knowledge exchange, WEN-Africa contributes to building a more inclusive energy sector in which women participate, lead, and shape the future of energy development across Africa.

Understanding Quebec's Residential Heat Pump Market

2024–2025 | Hydro-Québec, Canada

Assessing the residential heat pump market to support energy efficiency program design

Context

Heat pumps play a central role in Hydro-Québec's strategy to improve residential energy efficiency and reduce electricity demand. As financial assistance for residential heat pumps was expanded across the Province of Quebec in the early 2020s, Hydro-Québec required a comprehensive understanding of market conditions, adoption trends, and remaining opportunities to optimize program design and maximize energy savings.

Econoler was commissioned to conduct the first comprehensive assessment of Quebec's efficient residential heat pump market since the launch of Hydro-Québec's financial assistance program in 2021.

Mandate

Econoler was mandated to independently evaluate and characterize Quebec's residential heat pump market between 2021 and 2024.

The objectives were to assess heat pump adoption rates, identify barriers and opportunities, and provide evidence-based recommendations to strengthen Hydro-Québec's energy efficiency programs.

Key activities included:

- Assessing heat pump adoption levels, market potential, and remaining growth opportunities
- Conducting interviews with Hydro-Québec program managers and industry experts
- Surveying program participants to understand adoption drivers, customer satisfaction, and equipment use
- Engaging with distributors, installers, and builders to evaluate market readiness, capabilities, and challenges
- Analyzing Hydro-Québec program data to assess installation trends, technology performance, and market evolution
- Developing recommendations to optimize program design and maximize energy savings

Results

Econoler provided Hydro-Québec with a comprehensive picture of Quebec's residential heat pump market and a solid evidence base for future program planning. The results included:

- Improved understanding of heat pump adoption rates, barriers, and opportunities across Quebec
- The identification of opportunities to enhance program design, customer participation, and market engagement
- An assessment of market readiness among manufacturers, distributors, installers, and builders
- The development of recommendations to support future program implementation and long-term energy savings
- An established baseline for ongoing market monitoring and evaluation

The assignment strengthened Hydro-Québec's ability to make data-driven decisions, refine its residential heat pump programs, and support Quebec's long-term energy efficiency objectives under its 2035 Action Plan.

Strengthening Energy Efficiency Capacity and Measurement Practices in Cuba

2024–2026 | United Nations Industrial Development Organization (UNIDO), Cuba

Building institutional capacity to support energy efficiency regulations, project evaluations, and verified energy savings

Context

Effective energy efficiency policies and programs require strong institutional capacity, reliable technical frameworks, and the ability to accurately measure results.

As part of an energy efficiency component of a support program for the energy sector in Cuba financed by the European Union, UNIDO supported Cuban institutions in strengthening their ability to develop energy efficiency regulations, evaluate projects, and measure energy savings.

To support these efforts, Econoler provided technical expertise, capacity building, and internationally recognized methodologies to help national stakeholders enhance their energy efficiency practices and decision-making processes.

Mandate

UNIDO mandated Econoler to provide technical advisory services, capacity building, and measurement and verification (M&V) expertise to strengthen Cuba's energy efficiency regulatory frameworks and project evaluation capabilities. The objective was to equip national institutions with the knowledge, tools, and methodologies required to support future energy efficiency initiatives.

Key activities included:

- Providing technical recommendations to support the development and review of frameworks for energy efficiency labelling and minimum energy performance standards (MEPS)
- Reviewing regulatory approaches for priority technologies, including lighting systems, industrial refrigeration, steam systems, and pumping systems
- Delivering specialized training on energy efficiency project evaluation, energy performance analysis, and M&V methodologies
- Training more than 40 professionals from Cuban institutions and technical organizations
- Conducting M&V assessments of five demonstration projects using internationally recognized protocols, including the International Performance Measurement and Verification Protocol
- Providing training and tools, including RETScreen Expert software licenses, to support continued project evaluation and analysis

Results

The assignment served to strengthen Cuba's institutional and technical capacity to design, evaluate, and implement energy efficiency initiatives. The results included:

- Strengthened knowledge about international best practices for energy efficiency standards, labelling programs, and project evaluation
- Enhanced capacity of national stakeholders to develop energy efficiency baselines, quantify savings, and assess emission reductions
- Supported the improvement of draft MEPS and energy efficiency labelling frameworks through technical recommendations
- Through rigorous M&V assessments, verified annual energy savings totalling 648,588 kWh across five demonstration projects
- Quantified associated energy cost savings and greenhouse gas emission reductions to support evidence-based decision-making
- Equipped Cuban stakeholders with tools and knowledge to continue evaluating energy efficiency opportunities beyond the project period

Through targeted knowledge transfer, regulatory support, and robust measurement practices, Econoler helped establish a stronger foundation for sustainable energy efficiency implementation in Cuba.

Implementation of an Energy Management System

2025 | CGC Montréal, Canada

Supporting an industrial facility in establishing a structured approach to energy management and decarbonization

Context

CGC Montréal (CGC) operates a manufacturing plant specialized in gypsum board production in which energy performance plays a key role in operational efficiency and emission reductions.

Following a techno-economic potential study conducted with Econoler to identify decarbonization opportunities, CGC identified the implementation of an ISO 50001-certified energy management system as a strategic step to strengthen energy management practices, engage employees, and support its long-term greenhouse gas reduction objectives.

Mandate

Econoler was mandated to support CGC in implementing a structured energy management system aligned with ISO 50001 requirements and to prepare the plant facility for certification.

The objective was to establish a sustainable framework enabling plant operators to monitor energy performance, identify improvement opportunities, and integrate energy management into daily operations.

Key activities included:

- Conducting kickoff workshops to introduce ISO 50001 requirements and define an implementation roadmap
- Supporting plant teams in adopting energy management system practices across the operations, engineering, maintenance, and shipping departments
- Providing ongoing guidance through regular progress meetings and strategic reviews with management
- Reviewing and structuring energy management system documentation to support certification requirements
- Assisting with internal audit preparation and continuous improvement processes
- Helping to establish energy performance indicators and management practices to track progress over time

Results

The implementation of the energy management system provided CGC with a structured approach to improve energy performance and support its decarbonization goals.

Key outcomes included:

- The establishment of a formal energy management framework integrated into plant operations
- Increased employee engagement and ownership of energy performance objectives
- The identification of high-impact energy efficiency opportunities
- The development of performance indicators to monitor and improve energy use
- Improved readiness to meet ISO 50001 certification requirements
- The creation of a long-term roadmap to support the achievement of CGC's target of reducing greenhouse gas emissions by 30% by 2030 compared with 2019 levels

By embedding energy management into its operational practices, CGC is strengthening its ability to achieve sustained energy savings, reduce emissions, and enhance industrial competitiveness.

Operationalizing Kenya's First Utility-Led Super Energy Service Company (Super ESCO)

2025-2026 | Kenya Power and Lighting Company (KPLC), Kenya

Supporting the development of a national Super ESCO to accelerate energy efficiency investments in the public sector

Context

To reduce rising public sector energy costs, improve energy efficiency, and strengthen the country's energy services market, the Government of Kenya is establishing a utility-led Super ESCO within the Kenya Power and Lighting Company (KPLC).

Supported by the African Development Bank through the Sustainable Energy Fund for Africa, the initiative is intended to create a sustainable model for implementing energy efficiency projects across public facilities, including hospitals, schools, government buildings, and municipalities.

Mandate

KPLC mandated Econoler to provide technical assistance for the operationalization of the Super ESCO by developing its institutional capacity, operational framework, and project delivery model.

The objective is to establish a scalable organization capable of leading energy efficiency investments, mobilizing financing, and supporting the growth of Kenya's energy services market. Key activities included:

- Supporting the procurement and supervision of energy audit firms in accordance with African Development Bank requirements
- Developing operational procedures, process manuals, contract templates, and risk management tools for the Super ESCO
- Designing energy performance contracting models adapted to different client segments
- Supporting the development of a portfolio of energy efficiency projects based on audit results
- Advising on legal, financial, procurement, accounting, and reporting systems for Super ESCO operations
- Mapping Kenya's energy efficiency ecosystem and developing sector-specific business models and marketing tools
- Designing and delivering training on project financing, donor engagement, and risk management
- Developing organizational structures, staffing plans, and governance frameworks to support long-term operations

Results

The assignment is serving to establish the institutional and operational foundations required for KPLC to launch and sustain a utility-led Super ESCO capable of delivering large-scale energy efficiency projects.

The expected outcomes include:

- The creation of a fully operational Super ESCO within KPLC
- Strengthened institutional capacity to develop, finance, and implement energy efficiency projects

- Standardized operational, legal, financial, and procurement frameworks supporting long-term delivery
- The development of a robust pipeline of public sector energy efficiency projects
- Increased collaboration with private ESCOs to expand Kenya's energy services market
- Enhanced capacity to mobilize financing and deliver measurable energy and environmental benefits across public facilities

By helping establish one of the country's pioneering utility-led Super ESCO models, Econoler is supporting Kenya in creating the institutional foundations needed to scale energy efficiency investments and accelerate the energy transition.

A Continuing Journey

These 45 projects represent more than milestones in a timeline. Together, they reflect the evolution of Econoler's expertise, the growth of the energy sector, and the steady progression of energy efficiency from an emerging idea to a global priority.

From our earliest initiatives in Canada to complex, multi-sector programs across more than 180 countries, each project has contributed to a broader story — one shaped by collaboration, innovation, and a shared commitment to improving energy performance and reducing environmental impacts.

While technologies, markets, and policies have evolved significantly over the past 45 years, one constant remains: the importance of trusted partnerships in delivering lasting results. Each project, or case study, presented in this publication is the result of close collaboration with clients and partners who share a common objective: to make the world more efficient, more resilient, and more sustainable.

The energy sector continues to evolve at a remarkable pace, redefining priorities and reshaping expectations. In this shift, new opportunities are emerging to advance more efficient and sustainable ways of managing energy. The lessons embedded in these 45 case studies continue to guide our work and reinforce our commitment to practical, measurable solutions that support the global energy transition.

This publication is both a reflection and a foundation for honouring what has been achieved while reinforcing our determination to continue advancing energy efficiency for decades to come.



About Econoler

Econoler is an international consulting firm specializing in energy efficiency, demand-side management, and climate finance, supporting decarbonization efforts worldwide. With more than 45 years of experience, we have delivered over 6,000 projects across 180 countries. Our multidisciplinary team of 100 professionals—including engineers, economists, financial experts, and strategists—works to provide tailored advisory services grounded in deep expertise and client needs.

We partner with governments, multilateral and bilateral development agencies, utilities, financial institutions, and organizations across the commercial, industrial, and residential sectors. Through a collaborative and client-focused approach, we design and implement innovative, practical, and sustainable solutions that maximize impact.

At Econoler, we are committed to turning energy efficiency and decarbonization challenges into measurable, lasting results that advance the global energy transition.

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Glossary of Acronyms

ADB	Asian Development Bank
AFD	Agence Française de Développement
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
BEC	Building Energy Challenge
BOMA	Building Owners and Managers Association
CARILEC	Caribbean Electric Utility Services Corporation
CEB	Ceylon Electricity Board
CFC	Chlorofluorocarbon
CIDA	Canadian International Development Agency
CoM SSA	Covenant of Mayors in Sub-Saharan Africa
CPS	Country Partnership Strategy (Morocco)
DSM	Demand-side management
ECCC	Environment and Climate Change Canada
EERSF	Energy Efficiency and Renewable Sources Fund
EPC	Energy performance contract/contracting
ESCO	Energy service company
FBI	Federal Buildings Initiative
FP	Fundación Paraguaya
GEF	Global Environment Facility

GHG	Greenhouse gas
HFESCO	Henan First Energy Service Company
IDB	Inter-American Development Bank
IIET	International Institute for Energy Training
KfW	German Development Bank
KPLC	Kenya Power Lighting Company
M&E	Measurement and evaluation
M&V	Measurement and verification
MEM	Ministry of Energy and Mines
MEPS	Minimum energy performance standards
MERN	Ministry of Energy and Natural Resources
MOIT	Ministry of Industry and Trade (Vietnam)
MPSEB	Madhya Pradesh Electricity Board
MRN	Ministère des Ressources naturelles (Quebec)
MRV	Monitoring, reporting, and verification
NEEAP	National Energy Efficiency Action Plan
NRCan	Natural Resources Canada
PEC	Palestinian Energy and Environment Research Centre
PEE	Efficient Lighting and Appliance Project
PPP	Public-private partnership
R2E2 Fund	Armenia Renewable Resources and Energy Efficiency Fund
RFP	Request for proposals
SE4All	Sustainable Energy for All
STEG	Tunisian Company of Electricity and Gas

SUNREF	Sustainable Use of Natural Resources and Energy Finance
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
WAEMU	West African Economic and Monetary Union
WEN-Africa	Women in Energy Network-Africa

Econoler Series

ECONOLER
45 ANS/YEARS