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Foreword

It is with great pleasure that we produced this publication to celebrate Econoler's 35 years of existence in the field of energy efficiency.

Econoler's history, which is—among other things—closely linked to the development of the extraordinary energy service company (ESCO) concept, is far from ordinary. At the beginning of the 1980s, when Econoler was founded, this concept was totally innovative. Today, it is recognized around the world as one of the most efficient mechanisms for the implementation of energy efficiency projects. As Canada's very first ESCO and one of the first companies in the world to export the concept, namely in Africa and Asia, Econoler is proud to be recognized as one of the leading developers of the concept and to promote its implementation across the world.

The Econoler story is also the story of a Quebec-based Canadian firm that has successfully positioned itself on the international stage over the last 35 years as a globally recognized leader in its fields of expertise and active in over 140 countries.

It is also the story of exceptional people whose efforts have contributed to the firm's dedicated efforts to strive for excellence and whose values have allowed the promotion of its vision of a better world through a more rational use of energy and the improvement of the quality of the environment we live in.

This document provides an outlook on Econoler's creative process and development over the last 35 years. It also attempts to focus on the participation of some of the



key individuals upon whom the company's development and success are based. Finally, this publication is intended to express Econoler's gratitude towards its various partners and clients for their unfailing support over the years.

We wish to thank all those who helped make this document possible. Long live Econoler!

A handwritten signature in blue ink, appearing to read 'P. Langlois', with a stylized flourish at the end.

Pierre Langlois, P. Eng.
President

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Introduction

Econoler is celebrating its 35th anniversary in 2016. This document is intended to feature the various milestones in the firm's remarkable story by retracing the various phases of its development and by acknowledging some of the most important individuals who played a significant role in the process.

Econoler's story is closely linked to the development of the energy efficiency sector in Quebec, in Canada and internationally. In light of the current problems related to climate change and the global energy crisis, the energy efficiency concept is becoming increasingly recognized as one of the main solutions to be implemented across the world. This overview of the history of Econoler's development over the last 35 years only becomes more fascinating in this regard.

When the firm was founded, Econoler chose to embrace a significant challenge—the success experienced since then is all the more impressive. The different periods in Econoler's history have been both exciting and often complex. Many people lived through these periods but few have an overall view of the events that shaped the company's destiny. Nevertheless, we have been able to track down several individuals who played a key role in the different phases of the company's history and to secure their collaboration in order to draw as accurate a portrait as possible of each phase.

The following chapters describe the major steps in Econoler's evolution, from its inception by Hydro-Québec and ADS in 1981, through the years of great achievements in Quebec and in Canada, to its beginnings and impressive growth on the international scene. Several of the key players

are only briefly mentioned, and many collaborators have admittedly been excluded. We wish to apologize to those we have omitted.

Econoler is now preparing to enter a new phase with the same commitment to striving for innovation, investing itself in all areas of sustainable development in the energy sector and to limiting the impact of energy use on the world's climate. The future is unquestionably promising because the needs in the energy sectors of Quebec, Canada and the world are greater than ever, not only from an economic point of view, but also from an environmental perspective. Since the Paris Agreement was adopted in 2015 within the framework of COP21, energy efficiency is proving to be one of the most promising approaches to achieving the greenhouse gas reduction targets as early as possible. It goes without saying that Econoler intends to play a significant role in this critical global issue.

We hope you will enjoy reading this brief account of our company's history.

Founding of Econoler: Development of the ESCO Concept

A Company is Born

Econoler was founded in 1981 based on the intent of Hydro-Québec and the experience of ADS associés Ltée. Their combined vision and know-how would ensure the success of Econoler as the very first energy service company (ESCO) in Canada and one of the first ESCOs in the world.



In the early 1980s and after the then Ministère de l'Énergie et des Ressources du Québec had issued its white paper, in which the ESCO concept was introduced, Nouveler was created by Hydro-Québec (25%), the Société générale de financement du Québec (25%), SOQUEM (25%) and REXFOR (25%), with the support of the National Bank of Canada. Nouveler aimed to develop new technologies in the energy sector and catalyze Québec's industrial activity to create jobs and boost the competitiveness of Québec businesses. To this end, the company's president, Jean Gaulin, had an idea and decided to create a company with the specific mission of developing and implementing energy efficiency projects based on a concept through which turnkey services would be offered, enhanced by adapted financing and an investment payback method that would be solely based on the savings generated by the projects. This novel idea which, to his knowledge, had not been used by

A concept through which turnkey services would be offered, enhanced by adapted financing and an investment payback method that would be solely based on the savings generated by the projects.

any other similar mechanism in Canada or anywhere else in the world, paved the way for the development of a new concept that would eliminate the various barriers to implementing energy efficiency projects. The approach was all the more relevant at a time when the

interest rates in Quebec for the implementation of such projects were in the vicinity of 20%, which significantly hampered investments, including those in the energy sector.

To create this new company, Nouveler began looking for a Quebec partner with the technical capacity to develop and implement energy efficiency projects. After having met most of the engineering firms in Quebec that specialized in the energy sector, Nouveler contacted Paul Drouin, president of ADS associés ltée. Founded in 1977, the mission of this young engineering firm was to excel in the non-traditional fields of building and industrial engineering and electricity. From the moment the firm was established, it began conducting energy audits and developed a structured and systematic methodology. By 1980, when computer technologies were being introduced in the business sector, ADS had already designed an energy management software (Energy Management System or EMS) that allowed to follow up on the development and implementation of the energy efficiency projects proposed to clients.

The meeting between the executives of Nouveler and ADS went without a hitch, and Nouveler promptly contacted ADS to inform the company that it had been selected to become a joint shareholder of the new company, which was to be called Econoler—a name derived from the French words “économie” (savings) and “énergie” (energy). The offer was contingent upon certain conditions that required the small engineering

firm at the time to make critical decisions. In fact, Nouveler requested, in exchange for its participation as an Econoler shareholder, an investment of 20% in the company's capital stock, which represented an initial amount of one million dollars! In return, Nouveler agreed to provide Econoler with a guarantee of five million dollars to finance the first projects it would undertake. In exchange for its investment in the new company, ADS would have exclusive control over all technical services related to the projects. ADS accepted the offer and the challenge presented by Nouveler, and achieved this huge investment compared to the means at its disposal at the time. Econoler was born!

The Launch

At the very beginning, everything had to be created from scratch. The company had no staff to speak of. All documents

The ESCO concept only existed in the vision of its creators.

related to procedures or to promoting the concept needed to be drafted, not to mention the different specialized contracts that were going to be used for the sale and implementation of the new concept to potential customers. The ESCO concept only existed in the vision of its creators. All its components would therefore have to be developed as the company activities were being implemented.

Robert Rocheleau, Nouveler's vice-president of finance, became the first president of this early-stage company. The initial financial audits and pro forma statements were prepared together with accounting firm Samson Bélair/Deloitte & Touche. A typical client contract was drafted with the help of law firm Desjardins Ducharme. Paul Drouin and Jean-Claude Angers, two ADS executives and shareholders acting as technical advisors for Econoler, began to develop the technical structure of the concept the company intended to present to its target clientele. Detailed energy audit formats

and procedures were designed, and building management and risk management procedures were developed based on the technical expertise and methodologies of ADS. Specific procedures also had to be developed for the monitoring and verification of the savings that would be generated by the projects to be implemented. Two key experts from ADS at the time, Pierre Baillargeon and Charles Frenette, were asked to design the software that would be required to implement the concept, assess energy audits, and develop the baselines and targets to reach in terms of consumption. During this period, promotional documentation was also produced to introduce Econoler and its novel concept to the market.

The concept's operations and marketing activities were finally launched in March 1981.

The Concept

The developed business proposal was based on the following principles:

- Econoler conducts a series of energy audits and defines all the technically and economically viable savings measures to implement in client facilities, and determines the expected payback period for each recommended measure.
- Econoler recommends a project to the client based on calculations determined by way of an energy audit of all the energy savings measures that would demonstrate an expected payback period of less than five years.
- Econoler proposes a turnkey project to clients in return for management fees as project manager.
- Econoler proposes energy management services for client facilities during the payback period to help clients become familiar with using the new equipment installed and maximize the equipment efficiency.

- Econoler offers a financing program to clients that would cover 100% of the investment required for the project, including energy auditing fees, all project and energy management expenses, as well as financing fees.
- Econoler proposes a payback guarantee on all project disbursements within a period of less than five years, otherwise the balance of the investment would become the sole responsibility of Econoler.

Econoler's proposal therefore consisted in promoting a concept where the costs incurred to carry out a client's project on a short-term basis would be the same as the costs incurred if the client chose to do nothing at all. However, significant gains could be made in the client's favour as soon as Econoler's investment payback period would come to an end.

Econoler's proposal consisted in promoting a concept where the costs incurred to carry out a client's project on a short-term basis would be the same as the costs incurred if the client chose to do nothing at all.

ADS, with a number of regional offices throughout Quebec, took charge of the initial marketing of the concept and met with several governmental institutions that would be likely to benefit from it. These institutions became the first target clientele identified by Econoler, not only because of the savings potential they represented, but also because of the limited business risks involved. The fact that ADS had contacts within these institutions over the years was also a contributing factor. Hospitals and schools were indeed natural choices for the proposed concept because, on the one hand, they were large energy consumers often confronted with significant budget cuts, and on the other hand, they posed a very low commercial risk. These types of institutions also had to balance their operating budgets, whereas the budgets related to their long-term assets did not allow them to consider investing in energy saving projects at that time.

Although the concept was attractive, there was a certain amount of scepticism on the part of potential clients and no efforts were spared to convince Econoler's first customers! Moreover, an inescapable constraint with regard to government administrative procedures related to the management of fixed assets made it difficult for the concept to be adopted by institutions. According to governmental administrative services, any work carried out in the context of such projects was, by law, referred to as a fixed asset that had to be owned by the institution whereas the contract proposed by Econoler stipulated that the assets would remain Econoler's property until the end of the payback period, which would allow the company to retain a tangible asset to secure its financing.

After several months of hard work that led to a solution to overcome the administrative barriers, a first institution was finally in a position to sign a contract: the Sainte-Anne-des-Monts Hospital in the Gaspé Peninsula. This first contract was signed between Econoler and the institution, represented by Mario Cyr, CEO of the hospital, who agreed to give Econoler this first opportunity.

A second contract rapidly followed with Partagec, a centralized laundry company servicing hospitals in the Quebec City area. A third contract was then signed with a higher learning institution, the Cégep de Lévis-Lauzon, located in Lévis on the south shore of Quebec City. The company's first year ended with contracts totaling one million dollars, which was way beyond all expectations. These three initial contracts were going to enable Econoler to reach an initial level of profitability in its first year of operation. Econoler and its concept were officially launched!

However, success was not fully guaranteed—some clients remained on the defensive and colossal efforts were required to secure every contract. As long as the concept had not

proven itself, there was a certain lack of trust in this new approach, as attractive as it may have looked, and in this young company that resembled no other anywhere else in Canada. In spite of all this, the team pursued its efforts and three million dollars' worth of new contracts were signed in 1982.

The company's first year came to an end with contracts totaling one million dollars, which was way beyond all expectations.

Significant barriers were encountered in selling the concept, especially due to the special rules regarding the calls for tenders in effect at the time in the public sector. Government procedures dictated that calls for tenders were mandatory before signing a contract with a company in the private sector. At times, management agreed to request a special waiver on the basis that, because Econoler was the only company in Quebec offering this type of services, calls for tenders would be unnecessary. In other cases, managers interested in the concept decided to launch calls for tenders to comply with government procedures, but Econoler ended up being the only bidder and systematically won all the contracts.

The concept began to really become popular and credibility in the new approach increased rapidly. To meet the company's growth, however, financing needs started to increase. Because investment needs were growing and revenues were delayed because they were based on the energy savings generated, Econoler had to review its agreements entered with the National Bank to increase its line of credit so that it could meet the needs of the company in terms of growth. Because of the company's winning formula, the required financing was easily obtained, and in spite of high interest rates, the payback periods of the initial ventures varied between six and twenty-four months.

Company's Growth

The energy efficiency project concept with a built-in performance guarantee component and financing from a third party investor was beginning to gain traction and Econoler's credibility was growing by the same token. The need for new human resources was pressing, more specifically in terms of company management, where individuals who were specifically dedicated to Econoler were required as opposed to personnel from Nouveler and ADS who had, up until then, overseen the initial operations of the company. A dedicated sales team also had to be put in place to ensure the company's growth. At the end of 1982, Raymond Fortin was appointed chief executive officer of Econoler.

The year 1983 proved to be a turning point in Econoler's history. Not only were the company sales increasing exponentially, but a new opportunity arose when Hydro-Québec established its new “tarif excédentaire” (surplus

The energy efficiency project concept, integrated with performance guarantees and financing by a third-party investor, was beginning to be widely known.

rate). This innovative rate was directly related to the new large-scale public utility hydraulic structures and the short-lived surplus in the company's production capacity that occurred as a result. The rate was such that energy users could take advantage of a supply in electricity that was intended for heating purposes only and that was 20% less expensive than the current oil prices. It was only offered to Hydro-Québec's large-scale business customers on the condition that they installed a new electrical heating system in their facilities. This was a wonderful opportunity for Econoler to enhance its service offerings and include the implementation of new electrical boilers using this new rate in its project proposals. However, because the tariff was only offered to large customers (those with a peak demand of over 5,000 MW),

in accordance with Hydro-Québec's regulations, Econoler's target market (public-sector buildings) was excluded.

Thanks to Econoler's initiative, a partnership was signed by a group of hospitals in the Gaspé Peninsula, some of which had already signed ESCO contracts with Econoler. This group approached Hydro-Québec on several occasions to try to convince the utility that it should be considered as a group of large-power customers. After many meetings and great efforts on the part of the partners, Hydro-Québec finally accepted to recognize the group's proposal and a first community ESCO contract was signed between both parties. The contract included all eight hospitals of the region where all of the often timeworn oil-fired boilers would be replaced by electric heating systems, and the institutions would be eligible to Hydro-Québec's new surplus rate. The projects were financed and reimbursed based on the savings generated in exactly the same way as all other Econoler projects. This significant bundled project was a first and, moreover, provided the opportunity to sign a number of additional agreements that were in no way related to the surplus rate and were intended to implement other energy efficiency measures in the same institutions. In 1984, the first bundled project was followed by a second project, this time comprising 13 hospitals in the Quebec City region. The success of this particular operation caught the interest of the healthcare sector and was followed, in 1985, by yet another operation even more far-reaching than the others—a partnership of 24 hospitals of the same area. The innovative nature of this approach aimed to combine the interests of a group of institutions to carry out a joint energy savings project. The resulting synergy made it possible for several other institutions to become part of the project, which allowed them, in turn, to have access to the proposed energy savings program while they could never have done it on their own.

The same approach was proposed when Hydro-Québec introduced its dual-energy rate a little later on, another innovative rate that would generate savings by replacing electric heating with alternative sources during the utility network peak periods. In this context, one last project based on the bundled approach took place where a group of 43 smaller health and residential care centres of the Greater Quebec City Area converted to dual energy. Econoler then witnessed success story after success story and became Quebec's undisputed leader in the energy efficiency sector.

Econoler's financial performance, as a result of all these projects, was impressive. The National Bank of Canada became increasingly confident in the recommended approach and became more flexible in regard to its financial guarantee requirements. Considering the company's profits and the margin of operational flexibility that it demonstrated, the Bank periodically reviewed the credit limits it was prepared to extend. The company's line of credit was therefore increased during its first years of operation, and went from five million to ten million dollars, later to 18 million and finally to 25 million dollars. Econoler was definitely not lacking financing for project development and implementation.

The need for human resources continued to grow, so a major hiring campaign was launched and a large number of young engineers and technicians joined Econoler. A special data processing division was created at ADS to redevelop all the tools required to conduct energy audits and to follow up on the implementation and the outcomes of the projects that were launched. The original EMS software, which had been extensively modified since 1981, was replaced by a new improved version called SYNERGIE, which would eventually be exported to all of Econoler's international operations.

Between 1981 and 1989, more than 1,000 projects were implemented based on Econoler's unique concept in all

kinds of commercial, institutional and industrial facilities across Canada. The company invested over 135 million dollars to implement these projects, even if several clients chose to finance them on their own, though always under the energy performance contracting approach. Yearly recurring savings of 35 million dollars were achieved by those projects, which for the most part were recognized as extremely successful from both a technological and commercial perspective.

Between 1981 and 1989, in excess of 1,000 projects were implemented based on Econoler's unique concept in Canada.

The objectives of the company shareholders had been reached, and Econoler's catalyzed operations proved to be and continue to be greatly beneficial for the Quebec economy.

Bringing the Concept to the World

Canada

In 1983, following Econoler's initial success in Quebec, the rest of Canada soon began to show interest in the new concept. Canertech, a then government-owned subsidiary of Petro-Canada, sought to replicate the experience and use Econoler's know-how elsewhere in the country. Since Econoler did not have sufficient financial resources to commit to such a large project with Canertech, it came up with yet another innovative approach to enable the concept to be implemented throughout Canada through franchises. Under this scheme, Econoler would be in charge of all the technical work related to starting up new businesses as well as of the technology transfer required to operate such companies, but it would not take on any financial responsibility. The company would nevertheless remain strongly linked to the success of the new companies because it would be compensated not only through an initial down payment, but also through royalties based on the sales of the new ESCOs.

Econoler therefore signed a licensing agreement with Canertech which, in turn, transferred the licence to its newly created provincial subsidiaries located in Ontario, New Brunswick, Nova Scotia and Prince Edward Island. The subsidiaries were created based on the model designed by Econoler, and the financial and technical partners were local entities in each province.

To maintain its pan-Canadian role and protect its interests in Econoler's Quebec operations, Canertech bought 20% of Econoler's capital shares. For its part, Econoler developed a structured training program with the aim of transferring the technical, management and financial expertise it had acquired overtime to the new companies to help them launch their operations. A support and follow-up program was also designed to ensure the success of their first contracts.

Europe

Because of its unique approach and success after only a few years of existence, the Econoler's ESCO concept began to attract attention on the international level. In 1984, the European Economic Community invited Econoler to give seminars to potential investors and institutional players interested in the field of energy efficiency. New export opportunities were soon identified. Belgium, through the Société nationale d'investissement (SNI) and the Geocal

Because of its unique approach and its success after only a few years of existence, the concept developed by Econoler began to attract attention on the international level.

engineering group, showed an interest in buying a franchise of the Econoler concept to implement it based on the same Canadian approach. Econoler agreed to the proposal and created a new company,

Econoler International, to carry out and manage this type of operations internationally. Paul Drouin, then co-chairperson of ADS and board member of Econoler, was named president of the new company, and Robert Volders was recruited as its general manager.

Once again, the same structure implemented by Econoler in Quebec was adopted and a search for local financial and technical partners was launched. SNI and Geocal became shareholders of the newly formed company and the licensing agreement was signed. Econoler's first European venture was off to a great start.

In 1986, following training on Econoler's know-how and the implementation of several projects, the Belgian partners requested rights to extend their franchise with the aim of becoming Econoler International's official European representative and exporting the concept. Econoler S.A. (later known as TPF-Econoler) was founded and agreements were signed in France in 1986, in partnership with the Banque Nationale de Paris (BNP Bail) and Spie Batignolles, in Spain in 1988 with TPF S.A. (a holding company of Econoler S.A.), S.A. SODIGA (a regional investment company) and S.A. SEDISA (a consulting firm), and in Portugal in 1989 with Petrogal (Petroleos de Portugal), EDP (Electricidade de Portugal), Bonança (an insurance company), CISF (a leasing company), Protermia (a consulting firm), Carbol-Lusomelt (a coal importing company) and Econoler Development. As of then, there were Econoler operations in each of these countries.

Asia

In parallel to the European experience, there was an interest in Econoler's concept elsewhere in the world. Some ten countries demonstrated their intention to acquire rights to the concept. In 1988, two other licensing agreements were signed by Econoler International, the first in Singapore with DBS Land, a subsidiary of the Development Bank of Singapore, and a second in South Korea with Samsung Everland, a Samsung subsidiary company. The latter project won several awards for its innovation and technical results, including the ACEC's first Canadian Consulting Engineering Award and the Government of South Korea's Award of Merit in the industrial sector.

United States

In the United States, Econoler International was asked to take part in XENERGY's operations in 1986. The company suggested setting up Econoler USA with the purpose of developing the Econoler concept in the northeast United States. XENERGY's Carry Bullock then became president

of the new company. The projects were essentially cogeneration projects with another novel approach referred to as “chauffage”. This new approach was—and still is—a concept whereby the energy production and consumption of buildings are totally taken over, guaranteeing long-term global operational savings. The Econoler teams supported the new subsidiary in developing several projects, the first of which was implemented at the Detroit Receiving Hospital in Michigan.

International Expansion

As Econoler started exporting its expertise to start up and operate ESCOs, numerous other opportunities within the energy efficiency sector came along on the international scene. With the help of ADS, several Econoler experts were recruited to train other experts and develop projects for various international organizations, including the Canadian International Development Agency (CIDA) and the United Nations Development Programme (UNDP). During this period, major assignments included a five-year multi-million dollar energy efficiency development project in Senegal’s industrial sector and an institutional energy efficiency program for buildings in Gabon’s public sector.

A Winding Road

After more than five very successful years throughout Quebec, Econoler's growth in the province was curbed by a number of significant events:

1. In some institutional projects, the replacement of fossil fuel systems with electric heating systems resulted in the premature degradation of chimneys that were no longer in use. This unforeseen occurrence forced Econoler to undertake the required corrective actions in the affected facilities, which represented significant investments. Because of these unplanned expenses, the company's financial situation suffered significant losses in 1986, which negatively impacted the growth of its operations over the few following years.
2. That same year, the new federal government decided to refocus Canertech's operations in areas that were not compatible with Econoler's activities. Canertech consequently decided to sell its Econoler shares, which Econoler bought back along with the shares of the different ESCOs that had been launched in Ontario, New Brunswick, Prince Edward Island and Nova Scotia.
3. In 1985, a new government was elected in the province of Quebec, which gave way to a new strategic plan at Hydro-Québec for the following years. The government had decided the public utility needed to step up its efforts in the energy efficiency sector by implementing a major demand-side management (DSM) program, which was launched in the early 1990s. Hydro-Québec intended

to invest massive amounts of money to support the program — over 100 million dollars per year over a five-year period. In this context, the public utility's interest in being involved with Econoler's operations decreased significantly since such involvement would link Hydro-Québec to only one player in the private sector as opposed to opening the door to all players on the market. In addition, extensive lobbying from several of Quebec's engineering firms supported Hydro-Québec's more open approach regarding the new DSM program as they were opposed to Econoler's being the sole beneficiary of this significant market.

Nevertheless and in spite of these new impactful circumstances, Econoler continued to grow in the second half of the 1980s. While maintaining the company's involvement in the public sector, Econoler launched a number of projects in the private sector. Several projects were implemented in different types of industries as well as in a large number of private buildings. The success of the approach that Econoler proposed to its clients was confirmed, and thanks to the company's technical expertise, the experience it had gained over the years, and its access to financing adapted to its needs, Econoler still remained at the forefront on the Canadian ESCO market with no competitors in sight. The unexpected drop in oil prices in 1987 limited the company's growth and its profits in the closing years of the 1980s.

In 1989, however, increasing pressure on Hydro-Québec resulted in Nouveler's notifying ADS of its intention to withdraw from the company. Buying back Nouveler's shares and covering guarantees to maintain the financial status required by the bank represented too much of an investment for ADS, in spite of its great interest in Econoler. A call was launched to public and private Canadian investors. Since there were no offers from investors to take over its shares and major financial commitments, Nouveler decided to end Econoler's

operations to comply with the wishes of its major shareholder. Econoler's ESCO operations in Quebec therefore ended at the end of 1989.

As a company shareholder, ADS demanded in exchange for its interest all the rights to Econoler's technology and to the "Econoler" name, in addition to all of Econoler International's shares. One restriction was imposed on ADS by Hydro-Québec—that it should not do business in Quebec using the Econoler name for a period of ten years as of the date of the signed agreement. However, there were no restrictions as to the use of the names Econoler and Econoler International outside of Quebec. ADS therefore inherited the overall international franchise network and considerable potential that was waiting to be tapped into given the favourable context that was to come in the 1990s for the development of the energy efficiency sector.

A Change in Direction

After Hydro-Québec's withdrawal as the company's shareholder, Econoler had to quickly reposition itself. A good deal of thought went on at ADS, the company's only shareholder at the time, and a new strategic plan was developed to tackle the national and international market.



Quebec

In Quebec, it became clear that the energy efficiency market would be in full swing once Hydro-Québec's new program was launched, but the ESCO concept would not be relevant as long as the state-owned utility continued to maintain its large subsidy program for operations in this area. ADS therefore adopted a new strategy and decided to focus on the consulting market in Quebec and to abandon the approach used by Econoler in the 1980s. The following Quebec-focused strategies were therefore developed:

- Developing and managing programs for Hydro-Québec;
- Using new Hydro-Québec programs and programs of Gaz Métropolitain (now Gaz Métro), Quebec's natural gas distributor, to develop and implement client projects;
- Positioning itself to design training programs, to develop demonstration, and research and development programs in partnership with institutional players in the energy efficiency sector, namely the Agence de l'efficacité énergétique du Québec (AEE), Canada's Office of Energy Efficiency (OEE), and National Resources Canada (NRCan).

The strategy proved successful and allowed Econoler, which by then had become an ADS trademark through the new Econoler-ADS brand name, to differentiate itself from its ESCO services and to position itself as a leader in Quebec's energy efficiency sector. Energy efficiency issues were indeed becoming increasingly important in view of the environmental issues that were starting to be more clearly defined in Canada. Econoler's energy efficiency experts therefore focused their efforts on the needs of the provincial market through ADS or Econoler-ADS and on those of the international market through Econoler International.

As soon as Hydro-Québec's programs were launched, the Quebec market expanded rapidly. Econoler's provincial operations, through ADS, required the services of over 70 specialized engineers and technicians. The development and management of several large programs were transferred to ADS, and revenues from consulting services soared much beyond the company's revenues from the 1980s. The management of the implementation of the new dual-energy residential rate became the responsibility of a consortium under ADS and this alone represented a contract of 13 million dollars. This particular assignment included the management of a Hydro-Québec investment portfolio of 170 million dollars over a five-year period through which thousands of new

projects were to be managed and promoted.

Econoler did realize, however, that a market focused on Quebec only could be fragile in that it was essentially supported by large subsidy programs.

Econoler did realize, however, that a market focused on Quebec only could be fragile in that it was essentially supported by large subsidy pro-

grams. It therefore became clear that, to ensure the company's growth strategically, the focus had to be shifted towards the international market where Econoler, via Econoler International, had already taken on a leadership role. This change

of course would prove to be very wise since Hydro-Québec had phased out all its energy efficiency programs by 1995, which resulted in the near total disappearance of this market in Quebec over the next ten years.

ESCO Concept on the International Marketplace

Morocco

After Econoler had ceased to operate as an ESCO in Quebec, the company, through Econoler International, focused on developing the concept on the international stage. Thanks to the support of CIDA, a first ESCO was implemented on the African continent, more specifically in Morocco. With six million Canadian dollars in financial support, the launch of this new ESCO represented quite a challenge. In addition to introducing this brand new concept on a developing market (as opposed to Econoler International's other international operations that had all been implemented in countries with stable economies), the project was being launched on a market where institutional stakeholders did not hold the energy efficiency concept in high regard. In fact, the country's electric utility did not perceive the concept in a favourable light because of the risks related to a decrease in sales. Because of the significant challenge, the management of the new operation was transferred to Raymond Fortin, Econoler's former CEO who had left the company when it closed its Quebec operation in 1989.

At the very beginning of this new endeavour, Econoler International pursued a business strategy where the name "Econoler" would no longer be directly associated with its subsidiaries and licensees. This decision was essentially made so that only the company's headquarters would bear the "Econoler" name as past experiences had shown that there were disadvantages to being tied to companies that were not under the direct control of Econoler International or

that could ultimately be sold to other entities. The Moroccan venture would therefore be called ADS Maroc.

When ADS Maroc started up in 1991, the required technical staff was recruited locally and trained by Econoler International experts. The first projects of this new ESCO were identified and the CIDA funds were used to partially finance their implementation. However, it was still impossible to implement projects in the public sector because of strict regulations with regard to mandatory calls for tenders for such projects, which did not allow the ESCO concept to be used in the sector and thus deprived the new company of a very strategic market.

ADS Maroc therefore proved to be a success and demonstrated the viability of the ESCO concept in countries with developing economies.

In spite of this, between 1991 and 1997, over 50 projects were developed and implemented by ADS Maroc based on the energy performance contracting approach. The projects were launched within

a wide range of Morocco's economic sectors, including hospitals and various industries (textiles, fisheries, paper, bottling, etc.). Results were conclusive and clients were very satisfied with the generated gains. ADS Maroc therefore proved to be a success and demonstrated the viability of the ESCO concept in countries with developing economies.

The scope of the company's success was nonetheless limited by the lack of financing other than the CIDA funds, and by the fact that it was impossible to do business in the public sector. One of Econoler International's priorities would soon be to establish mechanisms, in collaboration with several international financial institutions, that would eliminate such barriers in countries with developing economies or economies in transition.

Jordan

In 1993, Energy Management Services (EMS), a newly formed company in Jordan, was seeking a partner to launch the ESCO concept in the Kingdom. After extensively touring North America and Europe, EMS selected Econoler International as its strategic partner because of the company's vast and unique international experience in using the concept. New CIDA funding, through its Industrial Cooperation Program, was obtained so that Econoler International could support the implementation and launch of the EMS ESCO operations that same year. The partnership agreement signed between EMS and Econoler International was a huge success, and several projects were implemented in Jordan over the following years. EMS took advantage of its Jordanian experience to launch other operations in the region, including in the United Arab Emirates. The partnership is still in effect today with joint ventures on various projects.

End of the License Agreements

In 1996, because of its multiple and direct operations on the international market, Econoler International decided to cancel the various licence agreements with its franchises. This allowed the company to focus on more strategic operations and to free its licensees from their obligations towards Econoler International. Agreements were therefore signed with most of the franchised partners to terminate their licence agreements and to limit their use of the "Econoler" brand name, while maintaining their rights to use the concept in their respective countries. This also eliminated any confusion that could result from the widespread use of the "Econoler" brand name in a context of rapid international expansion, just like Econoler International had experienced in the mid-1990s.

The International Market Opens Up to Energy Efficiency: The Rio Earth Summit

Following the Rio Conference on Climate Change in 1992, significant opportunities rapidly came to the fore. Although Econoler International had been very active in all forms of energy efficiency consulting activities as early as in the second half of the 1980s, they remained marginal in the company's portfolio. Following the historic meeting in Rio, the international community became increasingly aware of the major impact that energy consumption has on the environment and decided to establish mechanisms to address the problem. Several and varied opportunities became available in the following years, and Econoler International certainly intended to take advantage of its leading position in this sector.

Between 1992 and 1997, Econoler International was often commissioned to provide technical assistance for various types of energy efficiency-related projects based on the state-of-the-art expertise it had acquired over time. Many of these projects were related to the development of the ESCO concept in all its forms and in many countries across the world. For example, the company was selected by the World Bank to support the implementation of a first ESCO in China (First Henan ESCO) in 1995. In 1996, it was commissioned by the IEPF (Institut de l'énergie et de l'environnement de la Francophonie) to implement the concept in the French-speaking countries of sub-Saharan Africa. Later, in 1997, the United Nations Department of Economic and Social Affairs (UNDESA) selected Econoler International to take part in the development of the concept in several countries in North Africa and the Middle East.

During this same period, Econoler International was also awarded assignments related to more traditional fields of energy efficiency, such as training and capacity building

on a large variety of subjects as well as assignments related to more specific cutting-edge expertise (e.g. demand-side management). The company's international activities increased significantly and, in 1996, virtually replaced Econoler's relatively limited national operations, which were a direct result of Hydro-Québec's withdrawing its subsidy programs, as described previously.

A New Mission

In 1996, because of Quebec's slow economic growth and the success of the DSM programs implemented in the first half of the 1990s, the province's energy demand decreased. Hydro-Québec then decided to refocus its development activities on the international market. The utility's new strategic plan included the development of Hydro-Québec International (HQI) that was entrusted with the mission to invest significantly in all Hydro-Québec's operational sectors on the international stage and to support the development of Quebec's overall expertise. Significant financial resources of over 1.5 billion Canadian dollars were provisioned to proceed with strategic investments and to reach the new entity's objectives. Michel Clair, who had been Quebec's Minister of Energy in the 1980s, was appointed president of HQI.

In 1997, HQI launched a comprehensive international development program. It was rapidly observed that the energy efficiency sector was becoming increasingly significant for the company's potential partners, and that the ESCO concept proved to be an approach with a growing demand. Having transferred the majority of its energy efficiency experts to other activity sectors after the cancellation of its programs, Hydro-Québec came to the conclusion that a new partnership with Econoler International would be a very wise move. The partnership resulted in a number of pilot projects, including the development of new business plans for the launch of ESCOs in Northern African countries. These projects were carried out in collaboration with select HQI utility partners in each country, including Sonelgaz in Algeria, ONE in Morocco

and STEG in Tunisia. Because of the high level of interest demonstrated in these projects and the great potential of replicating the concept throughout the world, HQI decided to reinvest in Econoler International and bought 49% of the company's shares. In addition to this significant investment, a loan of USD 800,000 was granted to Econoler International by the International Finance Corporation (IFC), a member of the World Bank Group, through its new Small and Medium Size Enterprises Fund, with the aim of investing in new ESCO subsidiaries in these countries. In the meantime, and in the context of Quebec's engineering firms' rationalizing their operations, ADS merged with Soprin, thus creating Soprin ADS, which shortly thereafter merged with Dessau to become the Dessau-Soprin Group. This company finally became Econoler International's major shareholder, in partnership with HQI, in late 1998.

The company's head office was located in Quebec City because a large number of Econoler International experts were based there. Pierre Langlois became the company's new president after having worked in the technical and administrative departments of ADS, Econoler and Econoler International since 1986. He was supported by Pierre Baillargeon who had played a key role in ADS' and Econoler International's operations over the last several years. He was appointed vice-president.

Econoler International therefore became involved in new sectors of the energy efficiency market.

Econoler International therefore became HQI's instrument of diversification in the international energy efficiency sector. Although it essentially targeted the implementation and management of investment projects through the start-up and operation of ESCOs, Econoler International maintained its technical assistance mission, which would go on to expand over the next five years. It also diversified the scope of its expertise to better meet the

overall needs of the current market. Econoler International therefore became involved in new sectors of the energy efficiency market, including the development of energy efficiency building codes and standards, demand-side management for utilities, the development of institutional energy efficiency policies and other related activities. Renewable energy also became a priority sector with different projects related to the energy potential of biomass (forest and urban), wind power and small hydro. However, a large portion of the company's technical assistance activities remained focused on the development of the ESCO concept. As such, Econoler International became actively involved in the start-up of new ESCO operations for prestigious electricity producers such as Electricité de France (through one of its subsidiaries in Hungary) and CEMIG in Brazil. It was also involved with the implementation of the concept and all its aspects in several countries, including Côte d'Ivoire, Egypt, Mexico, Romania, Russia and Thailand.

Société tunisienne de gérance de l'énergie

Upon HQI's return as an Econoler International shareholder, efforts were focused on materializing the first investments in the ESCOs that were being developed in Northern Africa. The Tunisian project was the venture that was evolving the fastest and a memorandum of understanding (MOU) was signed with Tunisia's national utility STEG for the creation of a joint company with Econoler International to operate the new concept in the country. However, since STEG was currently undergoing the privatization of its subsidiaries, its Board of Directors indicated that, under the circumstances, it would be difficult for the company to consider setting up a new subsidiary at the time. Negotiations between all parties resulted in a new partnership agreement where the shareholders would be three Tunisian banks (ATB, STB, and BDET) and a strategic partner from the private sector. A special partnership agreement was reached with STEG,

which became part of the company's Board of Directors. The company was therefore founded in late 1999.

The Société Tunisienne de gérance de l'énergie (STGE), a name that recalled its special affiliation with STEG, was

Between 2000 and 2003, STGE successfully developed over 40 projects based on the energy performance contracting approach, among which 15 were implemented and achieved for the most part both their technical and financial objectives.

the very first ESCO to be implemented in Tunisia. It not only had to develop its market, but it also had to promote a concept that was brand new to the country. Between 2000 and 2003, it successfully developed over 40 projects based on the energy performance contracting approach, among

which 15 were implemented and achieved for the most part both their technical and financial objectives.

STGE's operations were hindered by the lack of adapted funding from Tunisian financial institutions as well as the difficulties arising from the novelty of the concept in Tunisia. In addition, because the Tunisian partners tended to play an essentially passive role, Econoler International was called upon to act as the company's mainstay. In these circumstances, it decided in 2004 to sell STGE to one of the shareholders. Following this, it launched a new ESCO in Tunisia, ENERPLUS, and became its sole shareholder.

HQI Changes its Course

In 2001, Hydro-Québec decided once again to refocus its strategic development, which led to the restructuring of its international operations by closing HQI and transferring all international development activities over to its subsidiary companies (HQ Production, TransÉnergie, HQ Distribution). This change was a hard blow to Econoler International since its main strategic partner was completely restructuring its approach operational internationally.

The 2001-2002 period proved to be one of transition during which the company shareholders found it difficult to agree on a new vision for Econoler International's direction and development.

In this context, it was hard to follow up on the many investment opportunities created by Econoler International in ESCOs, such as those implemented in Algeria and Brazil. However, the company continued to flourish in its specialized technical assistance assignments and took advantage of increasing activities from several international institutions in that particular field.

Change in Direction

Because Hydro-Québec was having difficulties identifying a specific niche for Econoler International in the context of the utility's new strategic plan and because of the wait-and-see stance adopted by Dessau-Soprin, Econoler International executives decided to make a proposal to the two shareholders under which it would buy back the company. The agreement was signed in March 2002, therefore pushing Econoler International in yet a new direction.

The 2000s: a New Momentum

In March of 2002, Econoler International's new management decided to take on a new direction by focusing the company's operations on its unrivalled expertise and on new opportunities directly linked to this expertise. It therefore began focusing its development on the following activities:



- Conducting technical assistance projects in all areas of energy efficiency and clean energy programs;
- Developing ESCO projects through participation in local companies;
- Developing Kyoto Protocol mechanisms by taking part in the cap-and-trade system for greenhouse gas emission credits;
- Returning on the Quebec market when the time was right;
- Using the “Econoler” brand for national and international operations.

This decision was above all strategic and took into account the unique experience the company had acquired on the international stage over time in all areas of energy efficiency and renewable energy, not to mention the significant and imminent market potential brought about by the Kyoto Protocol. Since the market in Quebec remained stagnant, the time was not yet ripe for the company to fully focus on the provincial market. Instead, it focused on the international market, which was indeed very active and growing.

Since 2002, Econoler has been growing in leaps and bounds and its operations expanding in every business line. In addition to the growth experienced in its fields of expertise since the 2000s, new services have been added to those already provided by Econoler, including the following:

- monitoring and verification plans for energy efficiency projects;
- design and management of diversified and innovative financial tools for several international financial institutions;
- management of specialized energy efficiency funds;
- evaluation of projects and programs implemented by various international organizations.

Given the substantial needs in these particular sectors, Econoler is in a very favourable position because of the extensive experience it has gained in the last 20 years.

In 2006, Econoler made the decision of returning to the Quebec market while continuing its thriving growth on the international stage.

The same year, Econoler innovated further by creating a new department exclusively dedicated to program evaluation on the Canadian market, which claimed instant success. Econoler also set up the Econoler Training Centre (ETC) which aims to develop, promote and deliver training and certification programs in energy efficiency and demand-side management. The ETC offers a wide range of courses developed over the last 20 years and certification programs recognized internationally, including the CEM® training for energy managers, the CMVP program for professionals who specialize in the measurement and verification of energy savings and the CUR certification for the use of RETScreen®.

The first decade of the new century ended on a high note with a strong growth on the Quebec, Canadian and

international markets, bringing in new human resources and leading to the opening of a new office in Washington, D.C. The new global context, where energy efficiency is now considered to be the best solution to tackle climate change, has also brought forth an explosion of opportunities for Econoler.

Stunning Growth in 2010-2015

Econoler once again achieved growth in the early 2010s.

Four new separate groups grew significantly during this period:

The *National Group* opened with operations across Canada. From offices in Quebec City, Halifax, Montreal and Toronto, wide-ranging assignments have been carried out for government departments, utilities and property managers from both the private and public sectors in every Canadian province. Econoler has since become a reference in energy efficiency at the national level thanks to its technical expertise in implementing and monitoring (measurement and verification) projects, in designing programs, in doing research and developing new innovative concepts (e.g. bioenergy), and in publishing research on leading-edge concepts.

The *Program Evaluation Group* has become Canada's largest group, providing independent program evaluation services in energy efficiency to institutional clients. Organizations such as Efficiency Nova Scotia, Gaz Métro, Hydro-Québec, IESO, Manitoba Hydro and several energy government departments across the country call on Econoler to evaluate programs on a multiyear basis. Increasing presence on the international market, with assignments in Australia and Mexico, has also expanded opportunities for the Group.

The *Training Centre*, now the International Institute for Energy Training, offers training in more than 25 countries. The Canadian Institute for Energy Training (CIET) and the



France-based Institut de formation et de services pour l'efficacité énergétique offer about a hundred training sessions annually in Canada, France and Switzerland. New training and certification programs are created on an ongoing basis, for instance the Building Operator Certification (BOC) and the Energy Performance Contracting Certification programs.

The *International Group* experienced astonishing growth during the 2010-2015 period, further developing its expertise and diversifying its activities. Expertise now covered by the Centre includes:

- the development of institutional frameworks through the drafting of laws and regulatory frameworks, and setting up initiatives such as building codes and labelling standards for energy-intensive appliances;
- support for designing and regulating tariffs as to optimize the use of various energy sources;
- the development of market studies, the design of programs of all types, including demand-side management programs for utilities, and the use of the energy performance contracting concept as an energy efficiency market development tool;
- the design and implementation of appropriate financing mechanisms and the management of specialized funds for the implementation of energy efficiency projects;
- support for implementing projects in the residential, commercial, institutional and industrial sectors;
- technical assistance for starting up and operating energy service companies;
- climate change adaptation for energy companies and infrastructure;
- access to energy through efficient approaches;
- support for the trading of carbon credits.

Major breakthroughs have been achieved in Central Asian countries (Pakistan, Kyrgyzstan, Tajikistan and Uzbekistan) that had slipped under the radar before the energy efficiency boom. Additionally, Econoler was commissioned to design custom-made programs for island countries, namely in the Caribbean and the Pacific Islands. In China, Econoler was selected to assist in the management of a EUR 75 million line of credit provided by KfW Group to the Export-Import Bank of China. This line of credit came through with flying colours, allowing financing for over EUR 1 billion's worth of energy efficiency projects in China.


Econoler's experts are increasingly involved in various initiatives aimed at reducing energy consumption, fostering the efficient use of energy and reducing greenhouse gas emissions across Canada and on every continent.

Finally, in honour of its 30 years of existence, Econoler unveiled a new corporate image in 2012 and designed a brand new logo.

Looking to the Future

Over the last 35 years, Econoler, with different offices and subsidiaries, on its own or in partnership with major Canadian and international firms, has contributed to developing and implementing about 4,000 projects and programs in energy efficiency and renewable energy in over 140 countries. Through Econoler International, the group has developed the energy efficiency market on all continents and worked in collaboration with most of the largest international financial institutions, including the World Bank, the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development and the Inter-American Development Bank. Furthermore, the group has teamed with major bilateral organizations (ACDI, AFD, KfW, USAID), organizations promoting energy efficiency (GEE, IFDD, REEEP) and most of the United Nations agencies, including UNDP, UNEP, UNIDO, UNDESA and UNOPS.

Econoler's head office is still located in Quebec City, Canada, and remains a leader in its fields of expertise—both in Quebec and internationally. As a forerunner of the energy performance contracting scheme by being the first ESCO established in Canada and the only one in Quebec for 10 years, Econoler was also the first to launch ESCOs in Africa, the Middle East and Asia, not to mention that it is among the few companies specialized in the development of this approach



Over the last 35 years, Econoler, with various entities and subsidiaries, has contributed to developing and implementing about 4,000 projects in over 140 countries.

worldwide. Econoler intends to continue to be a pioneer in promoting the ESCO concept, which is tailored to address the current barriers to energy efficiency development.

Thanks to its dynamic spirit and renowned expertise, Econoler will continue to actively promote a more energy-efficient world, with full respect for sustainable development as to safeguard the environment for the generations to come.

Where Econoler Has Left Its Mark in the World

(as of June 2016)

Africa

Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of Congo, Egypt, Ethiopia, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

America

Anguilla, Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Grenada, El Salvador, Guyana, Haiti, Honduras, Virgin Islands, Jamaica, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Saint Lucia, Surinam, Trinidad and Tobago, United States, Uruguay.

Asia

Armenia, Azerbaijan, Bangladesh, China, India, Indonesia, Japan, Kazakhstan, Kyrgyzstan, Malaysia, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Thailand, Tajikistan, Turkey, Uzbekistan, Vietnam.

Europe

Albania, Austria, Belgium, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, France, Georgia, Greece, Hungary, Ireland, Italy, Kosovo, Macedonia, Moldova, Montenegro, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Sweden, Switzerland, Spain, Ukraine.

Australia and the Pacific Islands

Australia, Fiji, Cook Islands, Papua New Guinea, Samoa, Tonga, Vanuatu.

Middle East

Saudi Arabia, Bahrain, United Arab Emirates, Iran, Jordan, Lebanon, Yemen.



ECONOLERA