

## **Project: Increasing Industrial Energy Efficiency through ISO 50001**

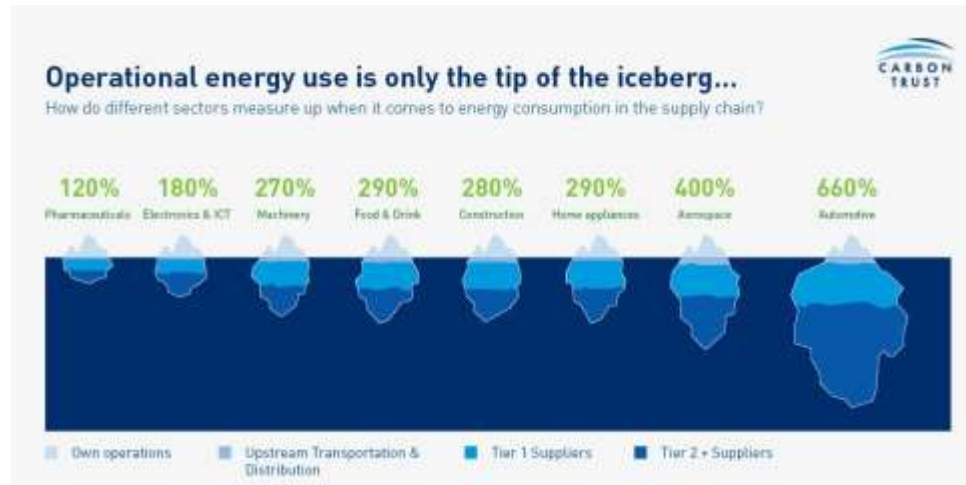
- 1. Two-year budget: C\$600,000**
- 2. Short statement on the need identified (including current status), the project objective and the outcomes (achievable by June 2019) to address it:**

Increased energy productivity in North America will contribute to national and regional energy, economic and sustainability goals. This project will promote greater energy productivity and competitiveness in the industrial sector in North America by promoting widespread adoption of the ISO 50001 international standard in industrial supply chains. ISO 50001, published in 2011, represents cutting-edge energy-efficiency policy and practice that will drive energy performance improvement through a comprehensive organizational change model to manage energy. Tackling supply chain–related energy efficiency and costs will not only help regional companies maintain a competitive global edge, but also will produce significant environmental benefits (see picture below.) While a previous CEC project has helped companies adopt ISO 50001 as a key strategy for their operations, few original equipment manufacturers (OEMs) in the region have integrated ISO 50001 throughout their supply chains. Working closely with OEMs and suppliers in key sectors (e.g., automotive, food/beverage, home appliances) this project will pilot an ISO 50001 supply chain deployment model, resulting in approximately 40 supplier facilities reporting significant and measurable economic, energy and GHG benefits from implementation. Project results will also create the foundation for increased national program deployment of ISO 50001 as a supply chain solution. Results will be benchmarked against a facility's own energy use baseline, normalized for key variables such as weather and production, to ensure a robust assessment of energy and carbon impacts from ISO 50001 implementation. Overall project results are difficult to estimate because they will be dependent on a number of characteristics of project pilot facilities (e.g., size, age of facility, current energy efficiency practices, etc.) but we expect participating facilities to see an average of 5–10 percent improvements in energy performance or more from ISO 50001 implementation.<sup>1</sup>

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<sup>1</sup> Case studies have demonstrated the clear business value of implementing energy management systems, showing energy performance improvements of 10 percent and more. See <<http://www.cleanenergyministerial.org/Our-Work/Initiatives/Energy-Management/Case-Studies>>.

**3. Explain how the project can achieve more impact by working trinationally, and why the CEC is the most effective vehicle to undertake this work:**



Through this project, the CEC will play a key role in supporting the North American governments and industry by: 1) ensuring critical coordination among national program staff; 2) engaging and recruiting supply chain partners (the participants) with facilities across the three countries; 3) providing highly skilled energy management professionals from the three countries as trainers to participants as well as the tools and guidance to translate the standard into actionable steps; 4) reducing the cost of ISO 50001 implementation for companies through a cohort training model and by cost-sharing the training with companies; 5) providing training for new energy management experts in each country to meet the growing demand for ISO 50001; and 6) ensuring a continued dialogue between government and industry to identify needs for additional technical tools and resources and promote corporate acceptance of ISO 50001 as international best practice.

**4. Describe how the project may capitalize on, or advance, the relationship between ecosystems, job creation, gender impacts, and income generation:**

Sustainable energy use is central to sustainable development's affecting communities, countries and people, through support for key societal functions such as health, education, economic growth and employment.

The ISO 50001 international energy management system standard is a key tool for sustainable energy, production and consumption. Analysis shows that implementation of ISO 50001 across the commercial and industrial sectors globally could drive cumulative energy savings of approximately 62 exajoules by 2030, saving over \$600 billion in energy costs and avoiding 6,500 Mt of CO<sub>2</sub> emissions. The projected annual emissions savings in 2030 are equivalent to removing 215 million passenger vehicles from

roads.<sup>2</sup> In addition, the project will support job creation and skills development by training new energy management experts and exposing university students to the ISO 50001 standard and practices.

**5. Describe how the project complements or avoids duplication with other national or international work:**

- National: This project would be led by and coordinated with national government programs to promote ISO 50001 and energy efficiency in the industrial and commercial sectors. Thus this project would be well integrated with the work of a wide range of partners involved at the national and subnational levels, to support national government program implementation.
- Regional: This proposal would help fulfill high-level regional commitments announced at the 2016 North American Leaders' Summit and North American Energy Minister's meeting. In addition to piloting a supply chain effort, North American leaders committed to setting a regional target for ISO 50001 adoption, positioning ISO 50001 as a key energy efficiency strategy for all three countries.
- International: This project would be conducted in close coordination with the Energy Management Working Group (EMWG) initiative. EMWG was launched in 2010 by the [Clean Energy Ministerial](http://www.cleanenergyministerial.org/) (CEM) and the International Partnership for Energy Efficiency Cooperation (IPEEC). Through the EMWG, government officials worldwide share best practices and leverage their collective knowledge and experience to create high-impact national programs that accelerate the use of energy management systems in industry and commercial buildings. *Canada, Mexico, and the United States* are key partners in EMWG's work, including in a global campaign to recruit private-sector commitment to implement ISO 50001—the Energy Management Campaign. Private-sector leaders involved in this proposed project, therefore, have the additional incentive of receiving international recognition for their actions. This could motivate them to consider implementation of ISO 50001 beyond their North American facilities, extending to their global carbon footprint.

**6. Describe opportunities for inclusion of traditional ecological knowledge (TEK), if applicable, and how these opportunities are incorporated into the project:**

Not applicable

**7. Describe opportunities for youth engagement, if applicable, and how these opportunities are incorporated into the project:**

The project will provide opportunities for youth engagement through engineering universities, where students can engage in the technical aspects of ISO 50001 implementation. This engagement can be modeled on the US program where 26 engineering universities provide local industry with energy efficiency support, resulting in raised youth capacity and awareness of energy environmental issues.

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<sup>2</sup> Clean Energy Ministerial, Energy Management Working Group. Global Analysis of ISO 50001 Potential, 2016, <<http://www.cleanenergyministerial.org/Our-Work/Initiatives/Energy-Management/ISO-50001-Global-Impact>>.

**8. List significant involvement of other levels of government, Indigenous groups, local communities, experts, private sector, civil society and others, as applicable:**

- **Private Sector:** Major multinational corporations in the manufacturing sector are the primary targets through this project. These facilities mostly have extensive experience and knowledge navigating the world ISO Standard certification, and most will have certification to other ISO management systems such as 90001 and 140001, which are similar to ISO 50001. Thus, for these experienced facilities, ISO 50001 implementation will involve incremental work most significantly focused on the unique energy-related requirements. More so than other ISO management system standards, ISO 50001 presents a clear business case for investment and contribution to the bottom line. A previous phase of this work through CEC engaged nine multinational corporations to implement ISO 50001 at 19 of their facilities; progress through this project is building a business case to expand ISO 50001 to their supply chain.
- **Experts:** Experts engaged, trained and certified by the previous CEC project will be re-engaged in this project as part of continued capacity building of national ISO 50001 experts.
- **Other:** This project will also engage local communities and civil society, including, but not limited to, accreditation, certifications and standards bodies (American National Standards Institute, ANSI-ASQ National Accreditation Board (ANAB), *Entidad Mexicana de Acreditación*, Standards Council of Canada); manufacturing trade associations; and utilities and other energy efficiency–incentive providers.

**9. Identify relevant committee members and their federal agencies in each country committed to developing this project, and implementing it, if approved:**

Canada: Bob Fraser, Natural Resources Canada;

Mexico: Israel Jáuregui Nares, Noé Villegas Alcántar, Sergio A. Segura Calderón, CoNUEE;

United States: Paul Scheihing, Lindsay Parker, Graziella Siciliano, DOE

**10. List the objectives and activities to be conducted to achieve measurable results:**

Objectives	Main activities to achieve objectives	Measurable results
By June 2019, increase regional integration of ISO 50001 into supply chain strategies in at least one economic sector	<b>Activity 1</b> Reach out to and recruit industry to participate in a ISO 50001 training program and to develop a supply chain model for ISO 50001 implementation	Availability of technical guidelines for robust ISO 50001 implementation  Private sector partners are engaged to develop tools and models, and to participate in training program

By June 2019, expand ISO 50001 supply chain experts and services availability in all three countries	<b>Activity 2</b> Provide training and engagement of local workforces to build national and regional capacity for long-term ISO 50001 promotion and deployment	Increase in number of experts and other partners available to support ISO 50001 implementation in each country
By June 2019, support approximately 40 regional supply chain partners in implementing the requirements of ISO 50001 and reporting results	<b>Activity 3</b> Deliver ISO 50001 training program for companies within the same supply chain in all three countries and disseminate results	Increase in energy savings, non-energy benefits and decrease in GHG emissions of participating facilities