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| Energy Manager Role Overview |
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| Welcome to the Energy Manager Role Overview! The purpose of this document is to provide a concise overview of the Energy Manager role, clarify terms, and provide references to materials that will increase the likelihood of an Energy Manager’s success. Disclaimer This document provides an unofficial overview of the IAP Energy Manager initiative and contract terms. This document does not provide an exhaustive summary of the relevant Energy Manager schedule and contract. The complete set of requirements can be found in the [Industrial Accelerator Program Energy Manager Funding Agreement](http://www.ieso.ca/Documents/IAP/IAP_Energy_Manager_Funding_Agreement_FINAL.pdf). In the event of any discrepancy between this document and the Agreement, the Agreement shall prevail. |  |

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# 1.0 Energy Manager Basics

The role of an Energy Manager (EM) involves facilitating energy conservation by identifying and implementing various options for saving energy, leading awareness programs, and monitoring energy consumption. As such, EMs play a critical role in the successful implementation of energy conservation and demand management programs within the industry.

## 1.1 Saving Energy

EM duties revolve around the identification, reporting and implementation of energy savings opportunities. For quick reference, the responsibilities identified in the EM Agreement are summarized below:

* Electrical Energy Saving Project Implementation
* Energy Tracking & Monitoring
* Primary Assessment
* Maintenance and Operating Schedules
* Energy Savings Opportunities & Action Plan
* Measurement & Verification Strategy
* Energy Management Behaviour and Business Process Improvements
* Employee Awareness Programs
* Assistance to IESO Projects
* Reporting

Continuation of funding is primarily decided on the basis of energy savings target achievement and future savings potential. Properly and thoroughly reporting savings is essential to retaining funding.

### 1.1.1 Industrial Accelerator Program Initiatives

Under the IESO’s Industrial Accelerator Program (IAP), you have a wide range of initiatives available to help you fund the energy conservation projects that you identify. All successful energy managers use these programs. Available IAP incentive programs are listed here:

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| [**Retrofit**](http://www.ieso.ca/Pages/Participate/Industrial-Accelerator-Program/Retrofit.aspx) | |  | [**Process and Systems**](http://www.ieso.ca/Pages/Participate/Industrial-Accelerator-Program/Process-and-Systems.aspx) |
| Incentive Paths:  Prescriptive/Engineered/Custom  Technology Specific Incentive Offerings: | |  | Preliminary & Detailed Engineering Studies  Project Incentives |
| Motors  VFDs  Compressed Air  Synchronous Belts | Unitary AC  Interior Lighting  Exterior Lighting Lighting Controls |
|  | |
| [**High Performance New Construction**](http://www.ieso.ca/Pages/Participate/Industrial-Accelerator-Program/High-Performance-New-Construction.aspx) | |

For program-specific details, please visit <http://www.ieso.ca/Pages/Participate/Industrial-Accelerator-Program/default.aspx>

## 1.2 Annual Savings Targets

EMs must meet two targets as laid out in the [IAP Energy Manager Funding Agreement](http://www.ieso.ca/Documents/IAP/IAP_Energy_Manager_Funding_Agreement_FINAL.pdf):

* Minimum 2,000 MWh Annual Savings Target
* Minimum 10% of Annual Savings Target attributed to Projects not financed by IESO incentives (non-incented)

Understanding that it can be challenging to reach the targets in the first year of the agreement, if the EM does not meet the Annual Savings Target in the first twelve month period of the Agreement, the shortfall will be added to the Annual Savings Target for the second twelve month period. There is no adjustment in the maximum funding amount if some of the missed target in the first year is carried over to the second year. And the transfer of the target is only available in the first year.

Performance will be assessed based on Quarterly Reports submitted by EMs.

## 1.3 Reporting

Energy management activities and conservation measures must be reported in Quarterly Reports. Quarterly Reports are submitted to the IESO for review and approval under the EM Funding Agreement.

As part of the reporting requirements under the EM Funding Agreement, EMs are required to prepare the following reporting documents:

* Quarterly Reports within 30 days of the end of each quarter.
  + EMs are encouraged to provide the Quarterly Reports as close to the end of each quarter as possible.
  + It is recommended that the Quarterly Report be maintained as a living document and used for project tracking purposes, such that it can be provided to the IESO at any time, without need of significant updates.
* An Energy Management Plan (EMP) for each Facility occupied by the Participant, no later than six (6) months after the EM’s employment start date, unless an EMP already exists.
  + An updated EMP is required for each subsequent twelve (12) month term.

*It is highly recommended that Energy Managers make use of the Quarterly Report Template.*

## 1.4 Quarterly Report Reviews

* Each Quarterly Report will be reviewed by the IESO’s Technical Reviewer so that the likelihood of targets being met can be assessed.
* Mid-term technical review of non-incented Measures can be valuable to IESO accounting.
* Quarterly Reports should include all Measures to date, including those in previous reports and those that have been reviewed.
* Quarterly Reports should also include Projects planned for the next term that show the potential to meet the next term’s targets.

## 1.5 Annual Reviews

* At the end of the fourth quarter of each EM term, an annual review will be performed by the IESO’s Technical Reviewer to determine whether targets have been met.
* The annual review is based on the fourth Quarterly Report, which should identify all Projects that are complete and in-service such that they can be counted towards the current term’s Annual Savings Target.

#### Technical Review of Non-Incented Savings

Technical review of non-incented savings are conducted as the pre and post project information becomes available. This review may occur during a Quarterly Report review or the Annual Review.

* During the Quarterly & Annual Review process for EMs, the IESO’s Technical Reviewer will perform a technical review of significant non-incented projects in order substantiate and verify the reported savings.
* For all other non-incented savings, the IESO’s Technical Reviewer will still perform a high level check to ensure that the reported savings are reasonable and to assign a persistence value.
* In order to enable the review of non-incented projects, it is recommended that additional documentation be maintained, such as spillover forms, supporting calculations, operating conditions and technical specifications for pre and post project equipment.
* In addition, it is also recommended that pre and post project Measurement and Verification (M&V) be conducted for non-incented projects, where feasible, to provide support for the claimed energy savings.
  + The best support of any project is robust pre-project and post-project power consumption data as collected with power meters or similar instrumentation.
  + IPMVP-level M&V may not be warranted, but reasonable M&V should be performed for the benefit of internal project management, as well as IAP reporting.
    - An M&V strategy for ALL substantial projects is a characteristic of successful energy management and a proven strategy for gaining management buy-in.

# 2.0 Energy Manager Strategies for Success

Meeting targets, especially in the first year, can be challenging. Planning and strategy are critical to success. The following section is a compilation of recommendations based on lessons learned by EMs under the saveONenergy program.

## 2.1 Early Activities

1. Establish what your current situation is: Learn about your internal funding cycle, including critical dates
   1. The timing of Participant/client budget cycles will influence what your initial focus should be. Assess your opportunities to secure funding for capital projects in time to complete those projects in your first term.
   2. Project funding timing and availability will be a major factor in the balance between focusing on a few large projects to meet a deadline vs. building a funnel of opportunities for future funding while prioritizing low cost (operational) projects.
2. Orient yourself: Learn the capital approval process, including how to prepare and craft a business case, who the decision-makers are what their influencing factors are
   1. Your business cases need to speak in the language of your organization. Rather than kW and kWh, and besides dollar figures (which are always important), it may help to compare energy cost reductions to an equivalent unit of production.
      1. E.g. Energy savings are the equivalent of additional sales of 5,000 widgets per month.

## 2.2 Planning for the Short and Long Term

Ramping up an Energy Manager program can be one of the greatest challenges to an EM, and identifying projects is sometimes the easiest part. Once projects are identified, they can be delayed or scheduled for action much later than the EM might want due to the timing of annual budgets and windows of opportunity that are only open during scheduled plant shutdowns. Time to complete studies and resolve technical issues can also delay completion dates. Despite all the potential for lengthy delays, EMs are expected to meet their first-year targets.

This difficulty can be mitigated with a plan that splits its focus between the short and long term. Large projects that take substantial investment should be developed with a view to the long term, while a portfolio of projects that can be completed quickly should be developed and acted on to ensure first-year success. Short term projects should then be completed as soon as possible.

This is not to say that long-term project should not receive attention in the first year. Many large projects will take a great deal of effort and time to develop so that they can be completed in a second or even third term. EMs are encouraged to develop short and long term projects, and to ensure that the short term targets result in enough savings to meet first-year targets.

## 2.3 Use some early, valuable wins to prove the value of EMs

Technical ability and project management skills are only part of being a successful Energy Manager. A large part of EM success entails building trust with your employer. It’s been said by some EMs that it took a year of successful operation for managers and other sceptical personnel to trust their EM enough to consider the more extensive projects.

Another advantage of planning for both the short and long term is that some especially short-term but valuable projects can accelerate the building of trust and demonstrate the value of investing in energy management. EMs should identify the more easily implemented projects and complete those as soon as possible. Doing so should make it easier for managers and operators to support an EM’s future activities.

Also critical is M&V of these early savings. Concrete, quantifiable proof of energy savings, and therefore cost savings, makes it easier for others to trust the value of savings made. It also solidifies EMs’ reputation as competent professionals who act methodically and ensure they achieve results.

#### Example project types that could provide “quick wins”

* Lighting replacement
* Maintenance measures (e.g. filter replacements, motor and belt replacement practices)
* Scheduling and set-backs
* Shutting down unnecessary equipment or curtailing during non-production

# 3.0 Training

The IESO will work with EMs to achieve their training goals, through awareness or participation in the following programs:

* Certified Energy Manager (CEM)
* Certified Measurement & Verification Professional (CMVP)
* Other training events hosted or sponsored by the IESO

# 4.0 EM Funding

Energy Manager

* Assuming all obligations are met by the EM and the Participant per the EM Funding Agreement, the IESO agrees to pay the Funding Amount to the Participant as follows:
  + $50,000 upon notice to the IESO of the EMs employment start date, and each anniversary thereof if applicable; and
  + upon approval by the IESO of the fourth Quarterly Report, the lesser of:
    - (A) the product of $40/MWh and the total electricity savings in MWh arising from activities of the EM for projects that are completed and in-service up to a maximum of $200,000, less $50,000; and
    - (B) $150,000

# 5.0 Supporting Documentation

The following documentation details terms, responsibilities, and mechanics of the Energy Manager Program.

Energy Manager Agreement: Contains legal agreements around the EM Initiative and Schedules including many useful definitions (though not all the definitions in Schedule are repeated), EM duties, and Participant eligibility.

Energy Management Plan Template: A possible template to use when writing an Energy Management Plan.