# FY21 Commercial Energy Manager Training Plan

This version issued: May 22, 2020

BC Hydro is pleased to offer a comprehensive training plan to support Energy Managers, Energy Manager Associates (Associates) and your organization's energy management team to achieve conservation goals.

### **Expectations**

We request all Energy Managers and Associates to participate in the Energy Manager Forums and relevant sector training sessions. Associates and newer energy managers are supported by the Fundamentals Webinars and are expected to attend as much as possible, however they are open to all Energy Managers. Those in the Energy Wise Network are expected to attend all Energy Wise Network Summits and webinars. Customers who do not submit their SEMP by the September 1<sup>st</sup> deadline must attend the SEMP Working Session scheduled on October 29<sup>th</sup>.

### **Training Format**

The webinar series is an on-line format. While typically all other training is hosted in-person, due to COVID-19, we will be facilitating all workshops, courses, and site tours online until it is safe to host them in-person. We will continue to monitor the recommendations provided by the Provincial Health Officer and may host some workshops and site tours in-person later this fall, if they meet provincial health and safety guidelines. More information will be provided throughout the year as the situation evolves.

The training plan has 6 sections:

- 1. FY21 Complete Calendar/ Training Plan at a Glance
- 2. Required Training for All Energy Managers & Associates
- 3. Fundamentals Webinars
- 4. Advanced Webinars
- Additional Training Offered:
   Workshops/ Site Tours / Courses/ Podcasts & Videocasts
- 6. Required Training for Energy Wise Network Participants



#### **Communications**

You will receive communication for signing up for these courses from Linda van der Velden, the Program Manager, or through your key account manager, unless otherwise specified.

### **Limitations**

Our training offering tries to accommodate as many people as possible. However, if space or budget becomes limited, BC Hydro will allocate places in the training courses to applicants in the following order of priority:

- Energy Managers
- Energy Manager Associates
- Energy manager team members who are not officially part of the Energy Manager Program (including Energy Specialists, Energy Wise Network Program leaders, sustainability managers, facility managers, building operators)

Additional criteria might also be applied by BC Hydro for allocating training places, including:

- Representation across all sector groups
- Energy Manager's training levels and needs
- Audience the training is most relevant to
- Number of people from each organization who have had the training
- Years of experience of the applicant
- Performance of the organization or energy manager



## FY21 Energy Manager Training Calendar Year at a Glance

Training	Q1	Q2	Q3	Q4
EM Forums SEMP Working Session	May 13 (Online)  June 2 SEMP 101  June 9 SEMP 102		Oct 28 Oct 29 (only required if SEMP not received by deadline)	
Sector Events	June Healthcare, AVED, K-12 & Government June Property Management, Retail & Hospitality June Municipalities		Oct Healthcare, AVED, K-12 & Government Oct Property Management, Retail & Hospitality Oct Municipalities	
Fundamentals Webinars	May 28 SEM Change Management (101) Jun 17 Situational Analysis	Sept 22 Establishing Goals, Objectives & Targets	Oct 7 Stakeholder Analysis  Nov 10 Building a Business Case in the SEMP  Dec 4 Communicating with Top Management	Jan 7 Measuring and Reporting Performance & Progress  Jan 28 Advanced SEM Change Management (201)
Advanced Webinars	May 21 Energy Management During COVID-19  Jun 25 Designing Effective Presentations	Aug 13 How to Price Energy Options Sept 16 Benchmarking	Oct 13 Future Proofing Control Systems to Support Carbon Neutrality Oct 20 Non-Energy Benefits Nov 17 Best Practices in Fleet Management Dec 9 ISO 500001 Primer	Feb 4 Financial Analysis & the Business Case
Site Tours In person or virtual		Sept 29 Culture @ TBD	Nov 25 LCE @ TBD	Jan 19 Lighting @ TBD  Feb 18 LCE & Fuel Switching @  District of N. Van  Feb 25 HVAC @ TBD
Courses & Workshops		July 7 Project Management	Oct 19-23 CEM Course* Nov 30-Dec 4 CEM Course* *Certified Energy Manager week-long course	
Energy Wise Network	Apr 28 Intro Webinar May 26 - 28 Sector Calls June 11 Online Summit	Sept 17 Webinar	Nov 5 Summit	Feb 11 Wrap-Up Webinar

BC Hydro
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NERGY

TRAINING OPTIONS AVAILABLE TO ALL

REQUIRED FOR ENERGY MANAGERS

FOR ASSOCIATES & NEW ENERGY MANAGERS

NEW: Videocast/Podcasts: Advanced Smart Building Upgrades & HVAC Demand Response

## Section 2. REQUIRED TRAINING FOR ALL ENERGY MANAGERS & ASSOCIATES

SESSION	DATE	FORMAT	COURSE DETAILS
Energy Manager Forums	May 13, 2020	Online	Audience: Energy Managers and Associates. Open to Energy Specialists.
	Oct 28, 2020	TBD	<ul> <li>Learning Outcomes</li> <li>Context of energy conservation and low carbon electrification from the Province and BC Hydro</li> <li>New features of BC Hydro program offerings and resources to support you</li> <li>Energy Management case studies of new technologies, approaches, and successes</li> <li>Technologies – new and successful technologies in lighting, HVAC, and carbon reduction</li> <li>Management skills – approaches to enhance success in advancing energy management agenda in your organization</li> <li>Recognition of energy management achievements</li> <li>Delivered by: BC Hydro. More info for Oct. 28 session will be sent in September</li> </ul>
K-12, Advanced Education, Health Care, & Government Sector Call	June 18, 2020 9-11AM Oct 2020 (Date & topics to be confirmed)	2-hour webinar TBD	Audience: Energy Managers & Energy Manager Associates in K-12, Advanced Education, Health Care, & Government sectors  Learning Outcomes  A comprehensive approach Round table of case studies/highlights/lessons learned from the sector groups Subject matter expert presentations  Delivered by: BC Hydro & Prism Engineering.



Retail, Hospitality, and	w/o June 15,	2-hour	Audience: Energy Managers & Energy Manager Associates in the Retail, Hospitality
Property Management Sector Call	2020	webinar	and Property Management sectors.
		TBD	Learning Outcomes
	Oct 2020 (Date		A comprehensive approach
	& topics to be confirmed)		Round table of case studies/highlights/lessons learned from the sector groups
	commed)		Subject matter expert presentations
			Delivered by: BC Hydro & Prism Engineering.
Municipalities Sector Call	June (Date TBC)	2-hour webinar	Audience: Energy Managers & Energy Manager Associates in the Municipality sector.
	Oct 2020 (Date	TBD	Learning Outcomes
	& topics to be		A comprehensive approach
	confirmed)		Round table of case studies/highlights/lessons learned from the sector groups
			Subject matter expert presentations
			Delivered by: BC Hydro & Prism Engineering.
**NEW**			Audience: Energy Managers & Energy Manager Associates.
SEMP Development 101	June 2	2-hour	
SEMP Development 102	June 9	webinars	<ul> <li>Learning Outcomes</li> <li>Leverage the organizational mandate for energy management &amp; climate</li> </ul>
			action
			Establish a scope & charter for your energy management program
			How to stage the work needed to formulate a SEMP
			Delivered by: Fabian Biagetti, SEG.
			Delivered by Fabian biagetti, 320.



SEMP Working Session	Oct 29, 2020	TBD	<b>Audience:</b> Energy Managers who have not submitted their SEMP to BC Hydro in September
			<ul> <li>Learning Outcomes</li> <li>Developing an effective SEMP for your organization</li> <li>Planning to complete the document by the required deadline</li> <li>Securing stakeholder buy-in to the plan</li> <li>How to handle changes that impact the plan (funding, capital planning decisions, organizational changes)</li> <li>Stakeholder communication to keep everyone up to date</li> <li>Delivered by: Fabian Biagetti, SEG. Invite will be sent customers who do not submit their SEMP in September.</li> </ul>



### Section 3. FUNDAMENTALS TRAINING

**Audience:** Energy Managers in their role less than 3 years, Associates and those who have not done the SEMAC training. Others may attend the webinars if interested. This training is strongly recommended for new participants.

#### **Learning Outcomes**

This series of fundamental topics related to strategic energy management analysis, decision-making, and planning are designed to set you and your organization up for success in managing your energy program. It will also assist you in sequencing and executing the steps necessary to develop a Strategic Energy Management Plan (SEMP) required by BC Hydro by March 31, 2021 for new customers and Associates.

**Delivered by:** Fabian Biagetti, SEG Consulting

SESSION	DATE	FORMAT	COURSE DETAILS
SEM Change Management 101	May 28, 2020	Webinar	With a focus on the energy manager as a change agent, this webinar provides the background and understanding necessary to successfully navigate the organizational transformation to an energy management culture within the context of strategic energy management and the BC Hydro Energy Management Program.
Formulating a Situational Analysis	June 17, 2020	Webinar	This webinar will help you understand the information you need to collect and analyze to determine your current state of energy management, articulate the desired future state of your energy management program, outline the gap between the current and future states of energy management, and establish the basis for energy management activities needed to close the performance gap.
Establishing Effective Energy Objectives, Goals & Targets	September 22, 2020	Webinar	Understand how best to develop energy management program objectives, goals, and targets that align with organizational priorities and resonate with all critical stakeholders. Learn how to establish the appropriate KPIs to ensure consistent program progress toward the desired future state of energy management.
Stakeholder Analysis, Planning & Management	October 7, 2020	Webinar	Learn how to identify, evaluate, understand, and effectively engage on an on-going basis, all stakeholders (executives, business unit managers, employees, etc.) in your organization who will be key to achieving the mandates of your energy management program.
Building a Business Case in the SEMP	November 10, 2020	Webinar	Create a compelling case for energy management that aligns with corporate priorities.  Learn how to leverage the total value of your energy management program, financial and otherwise, to support and justify the organizational investment in the specific projects and activities you are proposing in your energy plan.



Communicating with Top Management	December 4, 2020	Webinar	Understand how to use different communication styles and approaches to best articulate the key points of your energy management strategy in a manner that grabs the attention of senior executives. Create and deliver an effective narrative to gain sponsorship and executive support for the funding, resources, and participation critical to action your energy plan.
Measuring & Reporting SEM Performance & Progress	January 7, 2021	Webinar	Learn how to effectively measure, monitor, and track progress towards the established objectives, goals, and targets. Understand progress reporting approaches that get the proper information in front of the appropriate people at the right time and in the optimal format to produce the desired action.
Advanced SEM Change Management (201)	January 28, 2021	Webinar	Building on the SEM Change Management 101 course content, this webinar leverages the energy manager working experience as a change agent to further improve organizational SEM performance and create a positive experience with the transformation process itself. Learn how to effectively integrate change management into planning strategy, project management, and business process management.



## Section 4. ADVANCED WEBINARS FOR ALL ENERGY MANAGERS

SESSION	DATE	FORMAT	COURSE DETAILS
Energy Management through COVID-19	May 21, 2020 9-11 AM	Webinar	Learning Outcomes This webinar will explore the impacts of COVID-19 on your organizations and energy management work. We'll provide you with an overview of the considerations that need to be made for buildings that are "at rest" or in "low occupancy mode" as well as explore opportunities for energy management all while maintaining occupant health and safety.  Subjects the session will cover include:  Considerations, risks and approaches for energy management in empty or sparsely occupied buildings  Using communications and building relationships effectively to implement opportunities and initiatives  Delivered by: Prism Engineering
Designing Effective Presentations	June 25, 2020 9-11 AM	Webinar	Audience: Energy Managers and Associates who are keen to make their energy management presentations compelling to senior management and key stakeholders  Learning Outcomes: Creating a PowerPoint presentation that is informative, engaging and effective can be difficult to achieve. This webinar includes straightforward tools and approaches for energy managers that are easy to implement and will quickly transform your standard slide deck into a presentation that will capture any audience.  Delivered by: Prism Engineering



How to Price Energy Options	Aug 13, 2020 9-11 AM	Webinar	Audience: Energy Managers and Associates only  Learning Objectives: Energy Managers are responsible for evaluating energy projects and options for long-term efficiency that considers the return on investment (ROI). This webinar will provide an overview of energy pricing inputs that can be used to effectively evaluate energy options for potential projects that better inform project planning.  Delivered by: Prism Engineering
The Role of Benchmarking in Energy Management	Sept 16, 2020 9-11 AM	Webinar	Learning Objectives:  Benchmarking tools are rapidly being deployed in the BC market, as tools for Energy Managers and to nudge broader market adoption of energy efficiency priorities. Various tools will be discussed, and their links with Energy Star Portfolio Manager, as well as the options to share benchmark data with public disclosure, and how sharing is important for creating social norms and positive social pressure.  Delivered by: SES Consulting, with guests from Building Benchmark BC to discuss their pilot program and initial results.



<b>Future Proofing</b>	Oct 13, 2020	Webinar	Audience: Energy Managers and Associates
Control Systems to	9-11 AM		
Support Carbon			Learning Objectives:
Neutrality			Learn strategies to design your controls system to adapt to emerging technologies and best practices while building capacity within your own organization. We'll look at the merits of moving to all IP based networks for Building Automation Systems (BAS) to permit higher data throughputs to support applications like fault detection, and integration of web-based tools and applications. We'll talk about the risk of integration with data networks for security and to avoid network conflicts and the concept of a parallel "OT" (operational technology) network to go alongside IT. Finally, we'll explore the opportunity of data-driven design to match equipment size to actual loads rather than assumed values and the role of robust long-term trending to support. This sort of data driven design is particularly valuable in the context of decarbonization projects where mis-sized equipment can dramatically compromise system performance or lead to greatly inflated costs. If decarbonization is on the horizon, start achieving your data now.  Delivered by: SES Consulting.
			Delivered by: SES consulting.
Non-Energy Benefits	Oct 20, 2020 9-11 AM	Webinar	Audience: Energy Managers and Associates
			Learning Objectives:  Non-Energy Benefits, or NEBs, are impacts, other than energy savings, that are often left out of the energy management business case because they are 'hard to measure'. This webinar will look at methods currently being used to measure NEBs. Results from utility programs from North America will be shared. Non-energy benefits consider operations and maintenance, health and safety, GHG emissions, and other benefits associated with energy management projects.  Delivered by: Prism Engineering



Emerging Best Practices in Fleet Management	Nov 17, 2020 9-11 AM	Webinar	Audience: Energy Managers and Associates, and Fleet Managers or Purchasing Managers that may benefit from this training.  Learning Objectives: Explore emerging best practices in EV Fleet Management and planning for EV fleet expansion. We will also review current fleet incentives and resources available to commercial and institutional fleet managers.  Delivered by: SES Consulting in collaboration with Fraser Basin Council.
ISO 50001 Primer	Dec 9, 2020 9-11 AM	Webinar	Audience: Energy Managers and Associates who want to learn more about the benefits of applying ISO 50001 to business practices  Learning Objectives: ISO 50001, Energy Management System (EnMS) standard was recently updated in 2018 and provides guidance for how to establish, implement and maintain energy management systems. This webinar will focus on the new guidance requirements and highlight the key changes from the 2011 version. Guided by the standard, Energy Managers will learn how to establish a strategic energy planning process that supports more cost effective and sustainable energy management practices. This webinar will compare the standard with the BC Hydro SEMP used by commercial Energy Managers. It will also highlight on-line tools available through the US Dept of Energy (Achiever Navigator), funding available to undertake certification and case studies of benefits realized by BC industrial customers who have been certified.  Delivered by: Prism Engineering
Financial Analysis & the Business Case	Feb 4, 2021 9-11 AM	Webinar	Audience: Energy Managers and Associates and relevant stakeholders in your organization  Learning Outcomes This webinar will help you in making the business case for energy management projects. Methods to show the project "value", not just costs, will be presented. Topics include Financial Analysis, Procurement & Financing Options, Building the Business Case and Green Revolving Funds.  Delivered by: Prism Engineering



## Section 5. SITE TOURS/ WORKSHOPS/ COURSES FOR ALL ENERGY MANAGERS & ASSOCIATES

SESSION	DATE	FORMAT	COURSE DETAILS
Certified Energy Manager (CEM)	Oct 19 – 23, 2020 Nov 30 – Dec 4,	5-day Course	<b>Audience:</b> Energy Managers, Energy Manager Associates, Energy Specialists and relevant stakeholders in your organization
	If we receive high demand, CIET may look at adding another session.		<ul> <li>Description/ Learning Outcomes</li> <li>The Certified Energy Manager (CEM®) certification is the most recognised designation in energy management and strongly recommended for all energy managers</li> <li>Provides a comprehensive forum with problem solving activities for those who want to gain broader understanding of the latest energy cost reduction techniques and strategies</li> <li>the Certified Energy Manager examination is administered on day 5</li> <li>Delivered by: CIET, sign up through their website, <a href="www.cietcanada.com">www.cietcanada.com</a></li> </ul>
			<b>Customer Cost:</b> Customer pays full cost up front. BC Hydro will reimburse preapproved participants \$1,500 upon passing the exam (you may re-take the exam within the year of taking the course)
Project Management Workshop	July 7, 2020	Webinar	Audience: Energy Managers, Energy Manager Associates, Energy Specialists  Learning Outcomes:  Understand why projects fail based on 30 years of research on case studies  Techniques for successful decision making  How to influence from the middle of the organization  Delivered by: Calleam Consulting



Organizational Culture	Sept 29, 2020	Site tour,	Audience: Energy Managers and Associates, sustainability managers responsible for
Change for Conservation	3ept 29, 2020	location TBD.	change management on conservation
			Learning Objectives:
		May be hosted virtually.	<ul> <li>Integrating conservation into all levels of the organization from senior management to all departments and employees</li> <li>Aligning conservation goals with corporate priorities</li> <li>Engaging all areas of the organization in conservation culture</li> <li>Implementing conservation projects – lighting, operations staff, HVAC</li> </ul>
			Delivered by: Prism Engineering
Lighting & Lighting Controls	January 19, 2021	Site tour, location TBD.	Audience: Energy Managers & Energy Manager Associates  Learning Outcomes:
		May be hosted virtually.	Details to follow.  Delivered by: Prism Engineering
Low Carbon Electrification and Fuel Switching	Feb 18, 2020	Site tour, District of North Vancouver  May be hosted virtually.	Audience: Energy Managers and Associates  Learning Outcomes:  DNV has led the way in LCE in a number of their facilities, including a small 5,000 sq. ft. site, a large pool / arena complex (Karen Magnussen), Lynn Valley Rec Centre and City Hall. This presentation and tour with DNV staff will highlight the lessons learned in each retrofit, the importance of using trend data from control systems to drive design and right-size equipment. Heat recovery, capturing waste heat, lifting it using heat pumps, and transferring into systems that can use medium grade heat are essential. At the completion of this session participants will understand the LCE path for their facilities, small, medium, or large.
			Delivered by: SES Consulting



HVAC	Feb 25, 2021	Site tour,	Audience: Energy Managers and Associates, facility manager, building operators
		location	Learning Outcomes:
		TBD	Details and location to follow.
		May be	Delivered by: Prism Engineering
		hosted	
Advanced Consult Decidion	Dalassa data TDD	virtually.  **NEW*	Andianas Francis Managan and Associates
Advanced Smart Building	Release date TBD	Podcast or	Audience: Energy Managers and Associates
Upgrades		videocast	Learning Outcomes
		videocast	Learning Outcomes:  For Energy Managers interested in exploring advanced control technologies into
			building automation systems (BAS). We'll explore the evolution / obsolescence of the
			traditional thermostat in favour of occupant controls and feedback for greater
			satisfaction and productivity. We'll touch on the opportunity for deep integration
			between security, occupant tracking, lighting, HVAC and better "brains" for BAS
			control, moving from sequences to machine learning and Al.
			control, moving from sequences to machine learning and 7th
			Delivered by: SES Consulting in collaboration with Matthew MacWilliam of QuadReal
<b>HVAC Demand Response</b>	Release date TBD	**NEW**	Audience: Energy Managers and Associates
101		Podcast or	
		videocast	Learning Outcomes:
			Between building electrification and electric vehicle adoption, the grid will be under
			increasing pressure in future years. To mitigate the challenges imposed by this load
			growth, BC Hydro is actively starting to explore the potential for demand response in
			commercial buildings. With a robust automation system, there are a myriad of
			options to reduce or shift loads in buildings in response to peak demand events.
			Beyond responding to grid demand events, which are typically winter mornings and
			evenings, similar strategies can be employed to reduce billing demand charges. We'll
			explore the results of two recent pilot projects, as well as earlier case studies. This
			session will discuss the results of the case studies, as well as the types of buildings
			and systems best suited to successful demand response strategies, and the types of
			infrastructure that need to be in place (BAS integrates meters, hardware compatible
			with grid demand signals, etc).
			Delivered by: SES Consulting



# Section 6. Required training for participants in Energy Wise Network

SESSION	DATE	FORMAT	COURSE DETAILS
Energy Wise Network Intro Webinar	April 28, 2020 8:45AM -12 PM	Webinar	Audience: Energy Wise Network participants
			<ul> <li>Description/ Learning Outcomes</li> <li>Overview of survey results and the program enhancements</li> <li>Review of resources and deliverables</li> <li>Overview of program participants, planned campaigns, networking potential</li> <li>Delivered by: BC Hydro, FortisBC and Prism Engineering</li> </ul>
Energy Wise Network Sector Calls	May 26, 27, 28 9-10:30 AM	Webinar	Audience: Energy Wise Network participants, broken out by sector  Learning Outcomes:  Implementing sector-specific campaign tips and considerations relevant Case studies from the field Resources available to help you to be successful  Delivered by: Prism Engineering
Energy Wise Network Webinar	Sept 17, 2020 TBD	Webinar	Audience: Energy Wise Network participants, broken out by sector  Learning Outcomes:  Implementing campaign tips and considerations Case studies from the field Resources available to help you to be successful  Delivered by: Prism Engineering



Energy Wise Network Summits	June 11, 2020 8:45AM -1:30 PM Nov 5, 2020 TBD	Webinar	Audience: Energy Wise Network participants  Learning Outcomes: The purpose of this session is to develop a better understanding of engagement programs and campaign strategies and provide networking opportunities for customers. Participants will learn how to:  increase campaign effectiveness through using the outlined campaign process  determine your engagement goals and plan  learn about behaviour science techniques and approaches  network and learn from colleagues doing similar campaigns  Delivered by: BC Hydro, FortisBC & Prism Engineering
Energy Wise Network FY21 Year Wrap Up	Feb 11, 2020 9-11 AM	Webinar	Audience: Energy Wise Network participants  Learning Outcomes:  Review final report & FY22 requirements and deadlines  Case studies of successes and lessons learned  Celebration of the year  Delivered by: Prism Engineering

