



## **INFORMATIONAL MEMORANDUM**

**To:** Department of Community Development and Neighborhoods  
**From:** Jack Pace, Community Development Director  
**By:** Moira Bradshaw and Maxwell Baker  
**Copy:** Mayor Ekberg  
**Date:** July 3, 2019  
**Subject:** King County Cities Climate Collaboration (K4C) Briefing

### **ISSUE**

What actions can the City take to meet its carbon reduction commitment?

### **BACKGROUND**

As part of the City's collaboration with our partners in K4C, the City agreed to aim for taking actions to meet a 50% carbon reduction by 2030 and an 80% reduction by 2050. The carbon wedge analysis is a graphic to illustrate the amount of carbon relative to the goals and the actions that could be taken to meet the goals. (Attachment A) At the June 2019 elected officials workshop, Councilmember Quinn, asked for a list of actions that cities could implement.

### **DISCUSSION**

Attachment B is that list of near term actions that was distributed after the workshop in response to Councilmember Quinn's request. On the list are DCD's recommendations in red. Some items may need future Council involvement, others can be handled by Administration and staff.

### **FINANCIAL IMPACT**

Impact will be determined at a later date based upon which action items are chosen. Some items may require staff time to analyze proposed code updates to the International Building Code and then voting by City staff in November 2019; or developing a City response to PSRC's upcoming Vision 2050 Plan adoption.

### **RECOMMENDATION**

Next steps that staff will undertake:

- monitor and provide further comment on Vision 2050, if necessary;
- review and vote on building code amendments
- review and monitor on PSAQ draft fuel standards
- monitor grant opportunities for electric charging facilities
- bring forward a Draft Strategic Energy Management Agreement with PSE.- (see next CDN Agenda item)

### **ATTACHMENTS**

- A. Carbon wedge analysis
- B. Near Term Actions for K4C Partners.



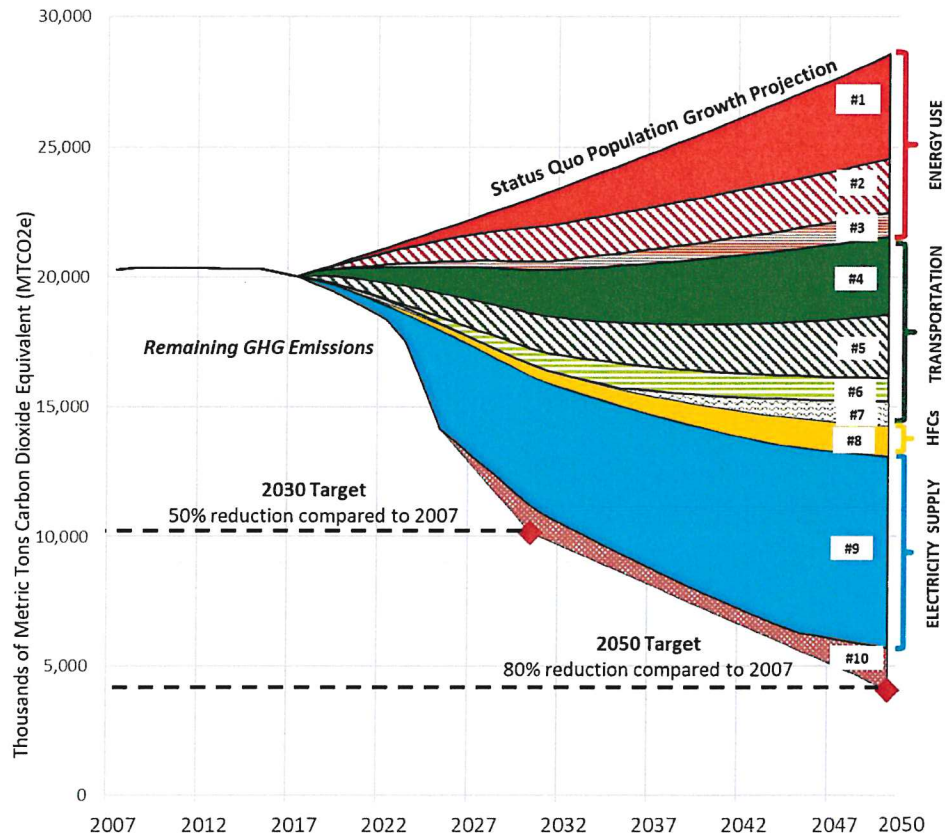


# King County Communitywide Greenhouse Gas Emissions DRAFT Wedge Analysis to Achieve Shared GHG Targets

King County Communitywide Greenhouse Gas Reduction Draft "Wedge" Analysis

- 1. Strengthen Building Energy Codes
- ▨ 2. Reduce Energy Use in Buildings and Industry
- ▨ 3. Convert Fossil Fuel Use in Buildings to Electricity
- 4. Protect Federal Vehicle Efficiency Standards
- ▨ 5. Reduce Car Trips
- ▨ 6. Adopt a Clean Fuels Standard
- ▨ 7. Increase Adoption of Electric Vehicles
- 8. Phase Out Most Hydrofluorocarbons
- 9. Implement 100% Clean Electricity Law
- ▨ 10. Additional Reductions Needed To Meet Goals
- ◆ Goal Year

Note: Solid colored wedges are based on adopted regulatory pathways.



## 2030 Vision – What is Modeled?

Population has increased by 324,000 (15%) to 2.44 million

### Energy Use

- **Stronger Building Energy Codes:** New buildings are constructed to be nearly fossil fuel free
- **Energy Use:** Existing buildings use 15% less energy and also convert 20% of fossil fuel use to electricity; Industry uses 15% less energy

### Transportation

- **More Efficient Vehicles:** All types of vehicles are becoming more efficient per existing Federal Vehicle Fuel Efficiency Standards
- **Reduce Car Trips:** More people take transit, bike and walk; drive shorter distances; and can live closer to where they live, work and play, resulting in 20% decrease in light duty vehicle miles traveled
- **Clean Fuel Standard:** A clean fuels standard is accelerating the transition to cleaner transportation fuel sources (~13% reduction in fuel emissions)

### Hydrofluorocarbons (HFCs)

- **Phase out most HFCs:** phase out of most HFCs has begun

### Electricity Supply

- **Clean Electricity:** 80% greenhouse gas free energy supplies

## 2050 Vision – What is Modeled?

Population has increased by 921,000 (43%) to 3.04 million

### Energy Use

- **Stronger Building Energy Codes:** New buildings are constructed to be fossil fuel free
- **Energy Use:** Existing buildings use 30% less energy and also convert 80% of fossil fuel use to electricity; Industry uses 30% less energy

### Transportation

- **More Efficient Vehicles:** All types of vehicles are more efficient (improvements through 2035) per Federal Vehicle Fuel Efficiency Standards
- **Reduce Car Trips:** More people take transit, bike and walk; drive shorter distances; and can live closer to where they work and play, resulting in 50% decrease in *per person* light duty personal vehicle miles traveled
- **Clean Fuel Standard:** A clean fuels standard is reducing covered transportation fuel source emissions intensities by 20%
- **Electric Vehicles:** 92% of light duty vehicles, 50% of medium duty and 23% of heavy duty vehicles are electric

### Hydrofluorocarbons (HFCs)

- **Phase out most HFCs:** phase out of most HFCs is complete

### Electricity Supply

- **Clean Electricity:** 100% greenhouse gas free energy supplies



## Near Term Climate Actions for K4C Partners

*This list highlights actions that local government jurisdictions can take now to advance action towards our shared climate goals. King County staff will brief City and Port staff on these resources and materials will be made available electronically.*

- 1) Weigh in on [Vision 2050](#).

***Tukwila will be following the regional plan update which is underway and continuing through - May 2020, which is when it is expected to be adopted. There will be an online open house; county-wide feedback session; public hearing. The Mayor has signed onto a regional letter to PSRC on the draft Vision. (Attachment X)***

- 2) Participate in utility Integrated Resource Plan processes.

- a. Puget Sound Energy is holding [2019 Integrated Resource Plan](#) meetings through end of 2019. King County staff is attending all meetings and will flag opportunities for testimony and sign-on.

***King County staff will provide City with information and opportunity for comment letter sign-ons.***

- 3) Develop a climate action or sustainability plan. Many King County partners can be a reference or resource.

***Staff believes that given the limited City resources, incorporating performance goals and policies into the next Comprehensive Plan and functional plan updates. In addition, one of the most effective ways Tukwila can reduce carbon emissions is to maximize the land use opportunities associated with the proposed new Tukwila Link station. The City should conduct a locational and land use study for the Boeing Access Road (BAR) Link Station to be most effective in meeting the City's land use, transportation and carbon reduction goals.***

- 4) Join efforts to establish stronger energy codes in the built environment.

- a. 2021 National code cycle schedule and information on the [Energy Efficient Codes Coalition](#) site. The New Buildings Institute is hosting a webinar on June 25 to explain the process.
- b. [State Building Code Council](#). A coalition of cities is attending hearings in support of strong codes. Hearings will be held through September.

***Tukwila is a voting member of the International Building Code Council and will be reviewing proposed changes and voting on IBC code changes, such as new Energy Code standards, that support carbon reduction.***

- 5) Seek to make public buildings more efficient.

- a. Participate in the K4C City – Fund to Reduce Energy Demand (FRED) loan program and a free facility walkthrough in Puget Sound Energy territory
- b. Join the [20 by 2020 Building Challenge](#) and commit to build a net zero carbon building.

## Near Term Climate Actions for K4C Partners

- c. Explore [efficiency and solar grants](#) at the Dept. of Commerce. These grants up to \$500,000 can be matched by the City – FRED funds.

*The PSE Strategic Energy Management Grant Agreement (see next item on CDN Agenda) will identify opportunities to make existing facilities more energy efficient. Once upgrades are identified, access to Fred funds will be considered.*

- 6) Weigh in on regional planning for reducing transportation-related emissions.
  - a. King County Metro Mobility Framework – Work is underway to develop community-driven guiding principles and best practice options to center advancing equity and addressing climate change in how Metro allocates service, invests resources and updates existing policies. Framework to be finalized by October 2019. Carrie Lee - [carrie.lee@kingcounty.gov](mailto:carrie.lee@kingcounty.gov) is main contact.
  - b. [Puget Sound Clean Air Agency Regional Clean Fuels Standard](#). A public hearing will be held on October 7, with draft recommendations later in the fall.

*Tukwila will await the K4C position on the draft fuel standard and can choose to sign-on.*

- 7) Electrify vehicles with grants and incentives from [Department of Commerce Clean Energy Fund](#).

*Tukwila staff will look for opportunities to provide electrical charging facilities at City facilities. Electrical conduit is being installed in new Public Safety facilities so that charging may occur more easily and cheaply in the future.*

- 8) Engage with constituents on climate!
  - a. Attend King County 2020 Strategic Climate Action Plan public meetings. Schedule and information at [King County 2020 SCAP update](#).
  - b. Host a briefing with your Council or Commission on next steps for K4C and local climate action.
  - c. Join the K4C if your city is not yet a member!

*Tukwila was a founding member in 2011 and on May 20, 2019 the City Council received an update on K4C from King County staff.*





## **INFORMATIONAL MEMORANDUM**

To: Department of Community Development and Neighborhoods  
From: Jack Pace, Community Development Director  
By: Moira Bradshaw and Maxwell Baker  
Copy: Mayor Ekberg  
Date: July 3, 2019  
Subject: Puget Sound Energy Strategic Energy Mgmt. Grant Agreement

### **ISSUE**

Should the City enter into an Agreement with PSE to target electricity and natural gas reductions in City facilities?

### **BACKGROUND**

Puget Sound Energy (PSE) has a program that provides financial grants as incentives for organizations to reduce their energy use. In addition to the energy cost savings, there are a series of financial grants given over the Agreement's three year period if the City meets its reduction targets.

### **DISCUSSION**

PSE provides natural gas and electricity to City Hall, the 6300 building, Minkler Shops, Tukwila Heritage and Cultural Center, and Fire Stations 51 and 52. They also provide natural gas to the Tukwila Community Center, Foster Golf Course Clubhouse, and Fire Station 53 and 54.

Whereas the focus of the City's current capital program has been on the new buildings – Justice Center, three of the four fire stations, and a new shop facility - the City has other facilities that are not being replaced. They are all over 20 years in age.

This Agreement with PSE would provide information on both capital improvements as well as operational measures that would assist with reducing the City's energy costs as well as reduce the carbon emissions associated with City operations. Grants and low interest loans (through K4C's Fred fund) would support potential building element upgrades. Estimates of PSE grants payable to the City are shown on page 1 of the Scope of Work. (Attachment A) PSE also provides training for staff to assist with monitoring energy usage and implementing the program. Staff from Facilities and Technology and Information Services have attended a recent workshop.

### **FINANCIAL IMPACT**

PSE estimates that the three year program requires approximately a .20 FTE to implement the program elements of:

- Initial Resource Management Plan (Attachment C)
- Quarterly site checklists (Attachment D)
- Training

### **RECOMMENDATION**

The Committee is being asked to approve moving forward with the Agreement. Staff will return to Committee with a final Draft for Council approval.

**ATTACHMENTS**

Sample PSE Strategic Energy Management Agreement

Attachment A – Scope of Work

Attachment B – List of Facilities

Attachment C – Resource management Plan Template

Attachment D – Site Quarterly Checklist Template





Conservation Program: SEM  
 Agreement No.: \${T4GRANTNUMBER}  
 Project No.: \${PROJECT\_NAME}

## COMMERCIAL STRATEGIC ENERGY MANAGEMENT GRANT AGREEMENT

This AGREEMENT is made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, by and between PUGET SOUND ENERGY (“PSE”) and CITY OF TUKWILA (“Participant”).

### RECITALS

- A. Under PSE’s Electric Schedule 253 and Gas Schedule 253, as currently in effect and on file with the Washington Utilities and Transportation Commission (collectively, “Tariffs”), PSE offers grants for electricity and natural gas Strategic Energy Management measures installed or implemented at facilities that receive electric or natural gas service from PSE.
- B. Participant intends to install or implement Strategic Energy Management measures and is requesting a grant from PSE under its filed Electric Schedule 253 and/or Gas Schedule 253 tariffs.

### AGREEMENTS

PSE and Participant agree as follows:

1. **PREMISE/METER LOCATION ADDRESS:** \${PIAGSITEADDRESS1?upper case} \${PIAGSITECITY?upper case} \${PIAGSITESTATE?upper case} \${PIAGSITEZIP} - \${T4PROJECTNAME?upper case} (Please note: meter/premise address may differ from the site mailing address, full project site list can be found on Attachment B). Participant will install or implement the Strategic Energy Management conservation measures listed in paragraph 2 (“Conservation Measures”) at the above located facility and other facilities identified in *Attachment B – List of Facilities* (the “Premises”). Participant represents either (a) that it is the owner or otherwise has the lawful authority to make the statements herein on behalf of the owner of the Premises, or (b) that it is the lawful tenant of the Premises and that it has obtained written authorization from the owner of the Premises.
2. **Strategic Energy Management Services.** Participant represents that it will purchase equipment or materials or has entered or will enter into an agreement with one or more contractors (the “Contractor”) for the purchase and installation or implementation at the Premises of the Conservation Measures which may be detailed in *Attachment C: Attachment to Conservation Grant*, at the following costs:

	Conservation Measures	Measure Life	Total Cost	Eligible Grant
1.	\${m.name}	[#if m.Entered	\${m.FullCostEs timated?number	\${m.TotalIncent iveGrantEstimat
	<b>TOTAL (includes sales tax)</b>		<b>\${T4TOTALM EASURECOS</b>	<b>\${T4TOTALG RANTSIM?...</b>

3. **Grant.** Upon the execution by both parties and PSE’s receipt of this Conservation Grant Agreement within **90 days** of the agreement date, PSE agrees to grant the Participant, after installation or implementation by Participant of the Strategic Energy Management services, an amount equal to the Eligible Conservation Grant (“the Grant”) set forth in *Attachment A – Scope of Work*. The parties agree that the Conservation Measures must be installed and the Grant paid within **36 months** of the signing of this Conservation Grant Agreement. Participant shall be responsible for paying any amount in excess of the amount of the Grant.
4. **Separate Contract.** The purchase and implementation of the Strategic Energy Management Services shall be pursuant to

a separate contract between Participant and SEM Energy Manager. Participant acknowledges and agrees that PSE is not, and shall not be deemed to be, a party to any purchase, installation, or implementation contract. All obligations to any SEM Energy Manager pursuant to any such contract shall be Participant's responsibility. Participant expressly acknowledges that PSE's involvement with respect to any aspect of the Strategic Energy Management Services is limited to the furnishing of the Grant. **PSE HAS NOT MADE AND DOES NOT MAKE (AND PARTICIPANT ACKNOWLEDGES THAT PSE DOES NOT MAKE) ANY IMPLIED OR EXPRESS WARRANTY (INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS) REPRESENTATION, OR PROMISE WITH RESPECT TO EITHER (A) THE STRATEGIC ENERGY MANAGEMENT SERVICES, (B) ANY MATERIALS AND LABOR REQUIRED FOR OR USED IN THE IMPLEMENTATION OF THE STRATEGIC ENERGY MANAGEMENT SERVICES, OR (C) THE INSTALLATION OR IMPLEMENTATION OF THE STRATEGIC ENERGY MANAGEMENT SERVICES.**

5. **Final Cost Documentation, Access & Inspection:** Participant agrees to promptly provide PSE, upon request, and for a period no shorter than the longest applicable measure life: (1) documentation verifying equipment purchased and/or work performed in connection with the Conservation Measures installed; (2) reasonable access to and inspection of the Facility and Conservation Measures installed therein before, during and/or after implementation; and (3) reasonable access to, inspection and use of energy usage data related to the Conservation Measures including release of utility bills and Facility energy consumption information following implementation.
6. **Release.** Participant releases PSE from any and all claims, losses, harm, costs, liabilities, damages and expenses directly or indirectly resulting from or in connection with (a) the Strategic Energy Management Services, (b) any materials and labor required for or used in the installation or implementation of the Strategic Energy Management Services, (c) the implementation of the Strategic Energy Management Services, or (d) the identification, handling and disposal of any associated hazardous waste materials.
7. **Disclaimer.** PSE conducts energy analyses at the request of its customers to determine the extent to which Strategic Energy Management measures are cost-effective. Any estimate of energy savings made by PSE in connection with any such analyses is solely for the purpose of determining the cost-effectiveness of the particular Strategic Energy Management measures and not to be used for any other purpose. PSE has not and does not make any promise, warranty or representation with respect to any savings in energy consumption from Strategic Energy Management Services.
8. **Termination.** In the event a Participant's contribution to PSE's recovery of energy efficiency program costs is affected by all or a portion of Participant's electric and/or gas delivery service being provided by a party other than PSE, then Participant shall refund to PSE an amount equal to the ratio of the unused Measure Life of the measure(s) to the total Measure Life of such Strategic Energy Management Services multiplied by the dollar amount of the Grant with respect to such Strategic Energy Management Services. The Strategic Energy Management Grant agreement may be reviewed annually to determine the cost-effectiveness and assess continuance. Either party may terminate this agreement with 30 days notice to the other parties.
9. **Incorporation of tariffs by reference.** This Agreement along with *Attachment A: Scope of Work* and *Attachment B: List of Facilities* are subject to the terms of the filed Electric Schedules 83 and Gas Schedules 183 tariffs, which are incorporated herein by this reference. Specific terms and conditions from one or more conservation schedules from similar filed tariffs may also apply, as determined by PSE at its sole discretion, based on various criteria. A complete list of conservation schedules is available at:  
[http://pse.com/aboutpse/Rates/Pages/Electric-Rate-Schedules.aspx?Schedule\\_x0020\\_Type=Conservation](http://pse.com/aboutpse/Rates/Pages/Electric-Rate-Schedules.aspx?Schedule_x0020_Type=Conservation).
10. **Entire Agreement.** This Agreement sets forth the entire agreement between the parties and supersedes any and all prior agreements with respect to the Strategic Energy Management Services identified herein. No change, amendment or modification of any provision of this Agreement shall be valid unless set forth in a written amendment to this Agreement signed by both parties.



Conservation Program: SEM  
Agreement No.: \${T4GRANTNUMBER}  
Project No.: \${PROJECT\_NAME}

**PUGET SOUND ENERGY**

**PARTICIPANT**  
**CITY OF TUKWILA**

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: **\${CSGRANTSIGNEENAME1}** \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: **\${CSGRANTSIGNEETITLE1}** \_\_\_\_\_

Title: \_\_\_\_\_

Federal Tax I.D. No.: \_\_\_\_\_

**[#if CSGRANTSIGNEENAME2??] [#if CSGRANTSIGNEENAME2!=" "]**

By: \_\_\_\_\_

Name: **\${CSGRANTSIGNEENAME2}** \_\_\_\_\_

Title: **\${CSGRANTSIGNEETITLE2}** \_\_\_\_\_

**[#else]  
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## ATTACHMENT A – SCOPE OF WORK

### Project Intent

PARTICIPANT agrees to establish and maintain a Strategic Energy Management (SEM) program that will provide leadership for efficient management of all utility resources used in their organization, which may include electricity, natural gas, water, wastewater, refuse, and recycling. The SEM program will focus on the development and implementation of a Resource Management Plan (RMP) to achieve savings by coordinating efficient operations and quality maintenance with low-cost actions and behavior changes by the users at the facilities. The SEM program will use resource accounting software to allow trained staff to monitor resource use and to report on savings.

### Incentives

Table 1 provides a list of SEM incentives to support PARTICIPANT. Tasks and deliverables associated with the successful completion and payment of incentives are described for each measure in the “Incentive Requirements” section of the Scope of Work. The expectation of this contract is that the SEM program will exist for a minimum of three-years from signing date. Contract renewals may be evaluated after the initial three-year period.

**Table 1: SEM Incentives**

#	Measure Name	Term	Electric Measure Cost	Electric Grant Amount	Gas Measure Cost	Gas Grant Amount
1.	Y1 Start-up Incentive	1 Year	\$ 4,000	\$ 4,000	\$1,000	\$1,000
2.	Y1 Performance Incentive <sup>1</sup>	1 Year	\$ 3,200	\$ 2,240	\$800	\$560
3.	Y1 Target Incentive <sup>2</sup>	1 Year	\$ 800	\$ 800	\$200	\$200
4.	Y1 Training Allowance	1 Year	\$ 160	\$ 160	\$40	\$40
5.	Y2 Performance Incentive <sup>1</sup>	1 Year	\$ 6,400	\$ 4,480	\$1,600	\$1,120
6.	Y2 Target Incentive <sup>2</sup>	1 Year	\$ 1,600	\$ 1,600	\$400	\$400
7.	Y2 Training Allowance	1 Year	\$ 160	\$ 160	\$40	\$40
8.	Y3 Performance Incentive <sup>1</sup>	1 Year	\$ 6,400	\$ 4,480	\$1,600	\$1,120
9.	Y3 Target Incentive <sup>2</sup>	1 Year	\$ 1,600	\$ 1,600	\$400	\$400
10.	Y3 Training Allowance	1 Year	\$ 160	\$ 160	\$40	\$40
<b>TOTAL (includes sales tax)</b>			<b>\$ 24,480</b>	<b>\$ 19,680</b>	<b>\$6,120</b>	<b>\$4,920</b>

### Notes

<sup>1</sup>Performance Incentive grant amount is variable based on PARTICIPANT performance, with a maximum grant amount of up to the amount listed in the table. Refer to “Incentives” section for variable incentive details.

<sup>2</sup>Target Incentive will only be provided if PARTICIPANT meets performance target.

<sup>3</sup>Incentives are based on baseline period consumption.

PSE will provide incentives on an annual basis in accordance with Table 1. ***In order to receive the incentive, PARTICIPANT shall provide all deliverables required in “Participant Requirements”.*** The incentives will be as follows:

## ATTACHMENT A – SCOPE OF WORK

1. Start-Up Incentive – The start-up incentive is provided only in the first year, following delivery of the Resource Management Plan, at least one Facility Action Plan (or Portfolio Action Matrix), and at least one quarter of Site Quarterly Checklists, as described in the Participant Requirements, below. The start-up incentive may be requested after 6 months of program participation upon delivery of the above-stated documents.
2. Performance Incentives – The performance incentive is equal to \$0.02/kWh and \$0.15/therm of “SEM Savings” up to the PSE-defined performance target. If a participant exceeds the target with “SEM Savings” the performance incentive increases to \$0.035/kWh and \$0.25/therm for each additional unit of energy savings over the target. The total performance incentive is capped at 70% of the measure cost (see Table 1 for measure costs).
3. Target Incentive – The PARTICIPANT must meet or exceed the performance target with their “Total Savings” in order to qualify for the target incentive. The target incentive is lower in the first year because the start-up incentive provides some of the funding. The target incentive increases in the second and third year.
4. Training Allowance – The total incentive payment will be based on actual training and/or software costs and will not exceed the training allowance. Incentive payments can only be made once per program year.

### Additional Services

In addition to the incentives listed, PSE will also provide services to PARTICIPANT. The services will include the following:

1. Access to Energy Data – PSE will maintain software providing PARTICIPANT with access to consumption and cost data. PSE will provide 15-minute electric data and hourly gas data for all viable meters associated with participating sites, identified in Attachment B.
2. Training – PSE will host a variety of trainings throughout the contract period in order to educate the SEM participants on best practices.
3. Three for Free Audits – PSE will perform a building walkthrough for up to three PARTICIPANT facilities at no cost to PARTICIPANT. The buildings must be listed in Attachment B.

### Participant Requirements

By participating in the SEM program, the PARTICIPANT agrees to the following:

1. Assign an Energy Manager – PARTICIPANT must delegate SEM activities to at least one person. For the this agreement, the delegation is expected to be as follows:

**Table 2: Staffing Breakdown**

Name	Position	Responsibilities
TBD	TBD	CSEM duties

2. Complete and Implement a Resource Management Plan (RMP) – PARTICIPANT must complete, implement, and submit a RMP within the first year of the contract. The RMP provides an organizational guideline for effective and efficient management of all utility resources including electricity, natural gas, water, wastewater, refuse, and recycling. At a minimum, the RMP must address HVAC operating schedules, temperature setpoints, and lighting. A template is provided for a RMP in Attachment C.

## ATTACHMENT A – SCOPE OF WORK

3. Complete Facility Action Plans (FAPs) or Portfolio Action Matrix (PAM) – PARTICIPANT must complete and submit FAPs or a PAM for the buildings identified in Attachment B within the first year of the contract. The FAPs or PAM outline specific action items to be implemented that will reduce resource use in each facility. These items are identified through building walk-through audits and interviews with staff and occupants.
4. Complete Quarterly Reporting – PARTICIPANT must complete and submit Quarterly Reporting for the buildings identified in Attachment B. The reports must note any significant action that impacted energy usage including:
  - a. *Capital projects*
  - b. *O&M changes*
  - c. *Behavioral campaigns*
  - d. *Changes in occupied hours*
  - e. *Changes in occupancy*
  - f. *Changes in site square footage*

A sample checklist is provided in Attachment D.
5. Introductory SEM Coursework – The Energy Manager must complete the free, Introductory SEM Coursework provided by PSE. This is a series of online trainings intended to provide a foundation for what Strategic Energy Management is, and where to begin.
6. Host an Annual SEM Meeting – PARTICIPANT must host an annual meeting with PSE, dedicated SEM staff, and top management to review the program. At the time of the agreement, the following people are expected to attend the meeting:

**Table 3: Top Management**

Name	Position	Responsibilities
XX	XX	XX

PARTICIPANT must submit the RMP, the FAPs or PAM, and host an annual meeting within one year of the first performance period start date (1/1/2019). PARTICIPANT will be given a 60 day grace period to submit the deliverables or within a time period determined by PSE. If PARTICIPANT does not provide the deliverables, PSE may terminate the contract and all services.

The following table provides the delivery dates and requirements to participate in the SEM program:

**Table 4: Deliverable Requirements**

Time	Due Date <sup>1</sup>	Deliverable Requirement
Year 1, Quarter 1	3/31/2020	Quarterly Report
Year 1, Quarter 2	6/30/2020	Quarterly Report
Year 1, Quarter 3	9/30/2020	Quarterly Report
Year 1, Quarter 4	12/31/2020	Quarterly Report, FAPs or PAM, RMP, Annual Meeting, Introductory SEM Coursework records
Year 2, Quarter 1	3/31/2021	Quarterly Report
Year 2, Quarter 2	6/30/2021	Quarterly Report
Year 2, Quarter 3	9/30/2021	Quarterly Report
Year 2, Quarter 4	12/31/2021	Quarterly Report, FAPs or PAM <sup>2</sup> , RMP <sup>2</sup> , Annual Meeting
Year 3, Quarter 1	3/31/2022	Quarterly Report
Year 3, Quarter 2	6/30/2022	Quarterly Report

## ATTACHMENT A – SCOPE OF WORK

Time	Due Date <sup>1</sup>	Deliverable Requirement
Year 3, Quarter 3	9/30/2022	Quarterly Report
Year 3, Quarter 4	12/31/2022	Quarterly Report, FAPs or PAM <sup>2</sup> , RMP <sup>2</sup> , Annual Meeting

<sup>1</sup>PARTICIPANT has up to 60 calendar days from the due date to submit the deliverable requirement or within a time period determined by PSE. If PARTICIPANT does not provide the deliverables, PSE may terminate the contract and all services.

<sup>2</sup>FAPs or PAM and RMP only need to be resubmitted in Years 2 and 3 if there are changes.

### Training

PSE encourages PARTICIPANT to use the training allowance each year provided in Table 1. Each training allowance will expire if it is not used within the designated year. The person attending the training must be listed as a SEM resource in Table 2 or be approved by PSE. The training allowance is to be provided for SEM-related training courses, which include the following:

1. Building Operator Certification (BOC) training
2. Association of Energy Engineers (AEE) training
3. American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) training
4. PSE-approved courses

The training allowance can also be used to offset the cost of energy management software used by the Energy Manager to track energy consumption/costs across the portfolio.

To receive reimbursement up to the allotted amount, PARTICIPANT must submit evidence of payment for the training course (such as an invoice from the training organization) or software and evidence that the course has been completed (such as a transcript). PSE will determine if the information presented is sufficient for payment, and will reimburse to the customer as listed in the Grant Agreement. It is not possible to reimburse individuals. PARTICIPANT must submit for reimbursement within 60 days of completing the course or within a time period determined by PSE.

### Building Requirements

In order for a building to be included in PARTICIPANT’s portfolio, it must have the following requirements or be approved by PSE:

1. Minimum Data – The building must have a minimum of 24 months of consecutive PSE utility data. In addition, PARTICIPANT must have occupied the building for a minimum of 12 months.
2. Minimum Meter Resolution – The meter associated with a building cannot serve more than three unique facility types (defined by operating hours and use) unless submetering data is provided by PARTICIPANT on an annual basis. For example, a campus gas meter for a steam plant that serves four different building types cannot be included in PARTICIPANT’s portfolio if submetering is not provided. In this case, the gas usage associated with the campus gas meter would be excluded.
3. Predictability – The building utility consumption must be predictable based on independent variables as determined by PSE. The variables may include weather, occupancy hours, production units, etc. PARTICIPANT must provide the independent variable data per the required resolution (monthly, daily, etc) to PSE on an annual basis as outlined in Attachment B.



## ATTACHMENT A – SCOPE OF WORK

### Performance Targets

The baseline period for this grant agreement is 1/1/2018 to 12/31/2018. Based on the total facility portfolio listed in Attachment B, the consumption of PSE supplied energy during the base period was 3,625,095 kWh and 57,062 therms. This equates to incentives and resource needs based on a 18% personnel level for electricity and a 2% personnel level for natural gas per PSE defined funding levels based on consumption (20,000,000 kWh for electricity, 2,700,000 therms for natural gas).

The start-up incentive will have a target reduction of 3 percent and each performance incentive will have a target reduction of 5 percent. The following table presents the targets for the three years:

**Table 5: Savings Targets**

Performance Period	Date Range	Savings Target	
		kWh	Therms
Year 1 Performance	1/1/2019 – 12/31/2019	60,983	1,664
Year 2 Performance	1/1/2020 – 12/31/2020	101,639	2,773
Year 3 Performance	1/1/2021 – 12/31/2021	101,639	2,773
	<b>Total</b>	<b>264,261</b>	<b>7,210</b>

The targets will remain the same over the course of the three year agreement. This applies even if a participant chooses to add or subtract buildings from their portfolio over the course of the agreement.

### PSE Savings Calculations

PSE will calculate the savings of the performance period against the baseline period on an annual basis for PARTICIPANT. The baseline period consumption will be adjusted based on the independent variables that impact consumption, which may include weather, occupancy hours, production units, etc. PSE has identified the likely independent variables in Attachment B, but reserves the right to change the independent variables used.

PARTICIPANT shall submit any information that would support adjustments to the baseline. This may include changes to the building area, changes in occupancy, significant addition of plug loads (>1% of annual consumption), etc.

PSE will quantify two types of savings for the incentive. The first calculation will be known as “Total Savings” and includes all savings associated with SEM activities and PSE-incentivized projects. The second calculation will be known as “SEM Savings” and is equal to the “Total Savings” minus savings associated with other PSE-incentivized projects.



**ATTACHMENT B - LIST OF FACILITIES**

#	Site	Baseline				SQC Required?
		Variables	kWh	Therms	SF	
111/141	City Hall 6200 Southcenter BL	HDD, CDD, OH	589,555	0	24,991	X
121	PW/CD/HR 6300 Southcenter BL	HDD, CDD, OH	569,530	0	50,526	X
131	Tukwila Heritage & Cultural Center (THCC)	HDD, CDD, OH	19,449	0	2,500	
211	Minkler Shops (Street, Water, Sewer, Surface Water Depts)	HDD, CDD, OH	404,065	0	12,840	X
291	George Long Bldg - Mechanical Shop & Building Maintenance	HDD, CDD, OH	104,533	5,572	34,740	X
511/512	Fire Station Headquarters (51/FS #51 (APE))	HDD, CDD, OH	184,204	5,736	15,000	X
521/522	Fire Station 52 (and storage)	HDD, CDD, OH	53,533	1,649	3,300	
531	Fire Station 53	HDD, CDD, OH	0	3,603	6,109	
541/542	Fire Station 54 (and nursery)	HDD, CDD, OH	0	2,691	4,000	
709/710	Foster Golf/Parks Maintenance	HDD, CDD, OH	50,907	1,382	10,420	
711/716	Foster Golf Course Clubhouse	HDD, CDD, OH	0	3,300	20,500	
811/812	Tukwila Community Center	HDD, CDD, OH	0	31,528	48,784	X
n/a	Fort Dent Park and soccer field	HDD, CDD, OH	57,005	0	6KWH use	6,500
		<b>Total</b>	2,032,781	55,460		

<sup>1</sup>Annual consumption based on prorated billing data for 12 consecutive months concluding with the



## ATTACHMENT C – RESOURCE MANAGEMENT PLAN (RMP) TEMPLATE

In support of (INSERT COMPANY POLICY OR OTHER GUIDING DOCUMENT), the following guidelines are set forth to establish general operating standards for energy and resource consumption in occupied buildings. Adherence to these standards will reduce utility expenditures, optimize indoor environmental conditions, and minimize environmental damage through reduced greenhouse gas emissions.

### *Heat & Ventilation*

#### Allowances & Responsibilities

Building Occupants	<ul style="list-style-type: none"> <li>Adjust occupied space temperature by 3 degrees</li> <li>Use push-button overrides for pre-authorized after-hour use</li> <li>Keep materials away from/off of HVAC vents</li> </ul>
Maintenance & Operations	<ul style="list-style-type: none"> <li>Setup and maintain HVAC schedules including holidays and events</li> <li>May modify occupied space temperature by 3 degrees for spaces without DDC controls</li> </ul>

#### Operating Schedules

Heating systems should be operated in the most economical and efficient way possible; i.e. they should operate for the minimum amount of time required to provide the approved climate for a specific area and activity.

- Start times shall be set to achieve occupied temperatures no earlier than 7:00 AM, unless standard operating hours precede this time. For building control systems which have intelligence that determines when to start heating to bring a space to its set temperature by the “occupied time”, i.e. OPTIMUM function, the ON time for these systems will be no earlier than 15 minutes prior to 7:00 AM or standard occupied time. Exhaust fans shall be locked out during WARM-UP periods.
- Systems shall shut OFF, or change into UNOCCUPIED mode, at 6pm.
- Heat and ventilation may continue to reception areas until the posted office close time.
- All systems shall remain in UNOCCUPIED mode during non-scheduled work hours.
- EXCEPTION: Exhaust fans in critical areas as identified by OSHA or other regulatory/safety agencies are to remain on as required by code.
- Variations from the set schedule will be made via Holiday and Event Schedules, or for staff, use of push-button override controls when authorized (see After-Hour Use below)
- HVAC in storage buildings shall be setup to cycle fans to maintain unoccupied temperatures.
- Crawl space and/or tunnel ventilation shall be scheduled to run twice daily for an hour (or as required to meet applicable codes).
- If the building has an energy management control system (EMCS) a holiday schedule shall be set at the beginning of the year for all holidays and non-work days. The EMCS will order “ALL OFF” for these days.

#### After-Hour Use of Buildings

“After-hour” means any time before and after regularly scheduled office/shift hours.

- System override buttons shall be programmed for one-hour increments.

## ATTACHMENT C – RESOURCE MANAGEMENT PLAN (RMP) TEMPLATE

- Non-work hour HVAC operation shall be authorized via the site manager.
- Groups who use our facilities after-hours shall review and sign an “After-Hour Use Agreement” that outlines their responsibility for energy and water consumption and solid waste.
- Building managers should make efforts to group after-hour activities into a specific HVAC zones such that minimal system energy is required.
- Full building systems should not be activated if only one or two staff persons are in a building.

### Temperature Settings

Area	Occupied Set Points		Unoccupied Set Points	
	Heating	Cooling <sup>[1]</sup>	Heating	Cooling <sup>[1]</sup>
Offices	69	74	55	85
Meeting Rooms & Libraries	69	74	55	85
Staff Lounges & Cafeterias	69	74	55	85
Locker Rooms	69	74	55	85
Work & Copy Rooms	67	74	55	85
Computer Labs	67	73	55	77
Shops & Industrial Arts	67	75	55	85
Gyms	67	73	55	85
Kitchens	65	74	55	85
Restrooms	65	75	55	85
Hallways & Common Areas	65	75	55	85
Storage Rooms	62	78	55	85

[1] For buildings with mechanical cooling. Buildings without mechanical cooling see special notes below.

- Each space will be allowed a three-degree programmed temperature deviation controllable at the local thermostat.
- The difference between heating and cooling set points shall be set no smaller than 4 degrees.
- Space heaters may only be used when authorized by Building Maintenance.
- Use of personal thermometers and humidistat are discouraged due to their high level of inaccuracy. Temperature and humidity should be measured with approved instruments.
- In the event of cold weather, building maintenance will be responsible for ensuring that freeze-protection set points are reasonable and are returned to standard set points once the danger of sustained freezing temperatures has passed.
- Staff should implement “*Hot Tips for Staying Cool*” in the fall and spring to improve comfort and avoid interior building heat gain.
- Some variations to the above set points may be allowed based on the special considerations listed below or with authorization from maintenance.

### Special Considerations for Specific HVAC Systems

- Optimum start/morning warm-up controls shall be enabled.
- Economizer cooling shall be enabled with the lockout set to 70° F outside air temperature.

## ATTACHMENT C – RESOURCE MANAGEMENT PLAN (RMP) TEMPLATE

- Occupancy sensor control of HV shall be enabled (if available).
- For most building areas, heating offset will be set to 1; cooling offset will be set to 5.
- For hallways; heating offset will be 5, cooling offset will be 6.
- In areas where a single sensor or thermostat serves multiple spaces, it may be necessary to deviate from recommended set point levels in order to provide a reasonable level of comfort throughout all areas served.

### Heat Pump Systems

- Boilers shall be locked out during morning warm-up cycle when outside air temperatures are above the balance point.
- All backup resistance heat shall be disabled wherever building runtime has verified it is not necessary to provide comfort or protect building or mechanical systems.

### Spaces without Mechanical Cooling

- Cooling set points as low as 70° F will be allowed with an economizer cycle enabled as described above.
- Unoccupied cooling set points shall be set to 85° F.
- Morning cool-down cycles shall be implemented to pre-cool buildings during hot weather.

### Stand-alone Thermostats

- Shall be programmed with the same schedules and temperatures as noted above.
- During occupied hours the fan shall be programmed to run in ON mode.
- During non-work hours, the fan shall be set to run in OFF or AUTO mode with a setback.
- The thermostat should be kept in the RUN PROGRAM mode at all times except during holidays to facilitate full shutdown.
- If the system is not capable of programmed holidays, it should be placed in the OFF position and/or setback to 55° F during holidays.
- Thermostat programs and battery backups should be checked a minimum of two times yearly. It is recommended that this be done at daylight savings time change.

### **General Building Operation**

- Staff should keep exterior doors and windows closed when mechanical ventilation is on.
- Exterior doors should not be propped open.
- Staff members are responsible for closing their blinds at the end of the day.

### Interior Lighting

- Daylight shall be used whenever available; natural daylight provides free lighting and free heating and has been shown to increase employee morale and productivity.
- All staff is responsible for ensuring that lights in unoccupied spaces are turned off. It is always cost effective to turn lights off no matter how long you will be away.
- Hallway and common area lighting shall be turned off no later than 30 minutes after typically office hours end. For after-hour activities, half-lighting will be permitted in these areas.

## ATTACHMENT C – RESOURCE MANAGEMENT PLAN (RMP) TEMPLATE

- HID (High Intensity Discharge) lights that require warm-up periods may remain on when the area will be re-occupied within 30 minutes. HID lights should be turned off, or half-off, during longer periods of vacancy.
- Staff working in large rooms should take steps to light only the area they are working in (if possible).
- Nighttime janitorial staff should light only the specific area in which they are working.

### Exterior Lighting

- All exterior lights are expected to be off during daylight.
- In the morning, lights shall turn on no earlier than 30 minutes before standard building hours.
- In the evening, lights shall turn off no later than 30 minutes after the building is secured for the evening.
- For buildings with multi-zone exterior lighting control, lights should be scheduled on only in areas where needed.
- On weekends, exterior lighting will be allowed for authorized work or events; otherwise building and parking lot lights should remain off.
- Schedules for exterior lighting will be reviewed a minimum of twice each year (at daylight savings time).

### Plug Loads

- Electrical equipment (computers, copy machines, printers, coffee pots, radios, etc.) will be turned off at the end of each work day.
- Computer monitors should be turned off when not in use.
- Power management settings on computers shall meet EPA energy star criteria.
- Personal appliances shall not be permitted in offices and other areas that are not designed at staff lounges or kitchens. This includes refrigerators, microwaves, coffee pots, etc. These resources will be provided in break areas. Distribution of personal appliances through out our buildings adds stress to electrical circuits, consumes unnecessary energy, and can be tagged as a fire hazard by local officials.
- Lights will be removed from all vending machines.
- Building refrigerators and freezers will be cleaned out and coils vacuumed twice a year (at daylight savings time).

### Building Water

- Leaks should be reported immediately to building operations staff for investigation and isolation. After operations staff has attempted to isolate the leak, the issue should be reported to maintenance as an emergency work order request.
- Toilets should not be used for trash.
- Faucets should not be left running and unattended.
- Automatic faucets will be set to run no longer than 10 seconds.
- Domestic water temperatures shall not exceed 110 degrees, unless where required by public health.
- Dishwashers should be run with full loads.



## ATTACHMENT C – RESOURCE MANAGEMENT PLAN (RMP) TEMPLATE

- In restrooms, all faucets should be equipped with low flow aerators. These are available from many local water districts. Maintenance staff will be given aerators to install and a backup supply for when they need to get switched out. Aerators should be checked twice a year and replaced as necessary.

### Irrigation Water

- Irrigation shall start no earlier than dusk and be completed prior to three hours past sunrise.
- Irrigation of lawns and fields will be limited to one inch per week.
- Landscape vegetation will be allowed one-half inch of water per week.
- Native and drought tolerant vegetation shall not be irrigated.
- Irrigation will be turned off when rainfall nears one inch per week. Systems that are equipped with a rain gauge will facilitate this automatically; maintenance shall be responsible for modifying operation of systems without rain gauges.
- Staff should report irrigation system running during the day, standing water or wet pavement when it has not rained, and/or muddy areas to maintenance as an emergency work request.

### Solid Waste and Recycling

- The Building Manager shall monitor volumes of waste and coordinate changes in dumpster size and frequency of pick-up as necessary
- All staff shall minimize waste and recycle to the greatest extent possible. This includes, but is not limited to, participation in the following county recycling/reuse programs:

#### **Basic Recyclables**

- Our in-house recycling program allows for collection of mixed paper, cardboard, aluminum cans, plastic drink bottles number 1 & 2.
- Collection sites are located through-out facilities and should be clearly labeled.
- If a facility does not have recycling collection, needs new signs stating what may be recycled, or if assistance is needed with the recycling of bulky, large or unusual items, contact (insert name of contact).

#### **Toner Cartridges**

Many office supply companies offer contracts that includes the recycling, at no charge, of all printer and copier cartridges. Contact your local supply company for details.

#### **Computers and Electronics**

Computers and electronics can be recycled. To identify a recycler, contact the Take it Back Network to locate a certified recycler in your area <http://www.metrokc.gov/dnrp/swd/takeitback/index.asp>.

Contractors will recycle a wide range of computer and electronics equipment for a fee.

#### **Batteries**

Rechargeable batteries can be recycled by contacting the Rechargeable Battery Recycling Corporation to receive a free postage-paid battery collection box. This program is for rechargeable batteries only, such as the batteries commonly used in cell phones, pagers and laptops.

## **ATTACHMENT C – RESOURCE MANAGEMENT PLAN (RMP) TEMPLATE**

### **Office Furnishings**

If you have items that are in relatively good condition (large cabinets or light fixtures, for example), check with the RE Store, a local non-profit used building materials store, to see if they want those items. The RE Store will pick up items if they think they can resell them. For info on how to use this contract, see the King County WasteWise projects page. Scroll down to "Salvaged Building Materials Contract."

### **Office Supplies**

Consider setting up an office supply exchange area for used office supplies such as binders, folders, envelopes, in-boxes and small office equipment.

### **Polystyrene Packing Peanuts**

Polystyrene, or Styrofoam™, packing peanuts can be collected for reuse and either used in-house or can be recycled at local mail centers.

## ATTACHMENT D – SITE QUARTERLY CHECKLIST (SQC) TEMPLATE

This template may be modified by PARTICIPANT as needed.

### Site Quarterly Checklist

BUILDING INFORMATION				
Building Name:				
Checklist Author:		Date:		
Building Area (ft <sup>2</sup> ):	Annual kWh:		Annual Therms:	
Current EUI (kBTU/ft <sup>2</sup> ):	Last EUI:		Target EUI:	
ENERGY STAR Score:				
Electric Meter:		Gas Meter:		
Notes:				

OCCUPANCY SCHEDULES FOR THE NEXT 3 MONTHS (OR SEE ATTACHMENT)			
Day	Start	Stop	Notes
Sunday			
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Holidays			

BREAKS, HOLIDAYS, AND EVENTS FOR THE NEXT 3 MONTHS (OR SEE ATTACHMENT)			
Type	Start Date	End Date	Notes

SYSTEM SETTINGS (OR SEE ATTACHMENT)				
Description	Setting			Notes
HVAC Schedule	1 hour before occupancy, 1 hour after occupancy			
Lighting Schedule	Matches occupancy			
Heating Setpoints (°F)		occupied		unoccupied

## ATTACHMENT D – SITE QUARTERLY CHECKLIST (SQC) TEMPLATE

This template may be modified by PARTICIPANT as needed.

Cooling Setpoints (°F)		occupied		unoccupied	
CHECKLIST					
#	Question	Confirmation Method		Yes	No
1	Does the HVAC schedule align with system settings?	Look at the controls schedule (if available) for all major HVAC systems. Look at the interval data for a typical week.		<input type="checkbox"/>	<input type="checkbox"/>
2	Do the HVAC zone setpoints align with system settings?	Look at the control system for typical system setpoints.		<input type="checkbox"/>	<input type="checkbox"/>
3	Are upcoming holidays, breaks, and events scheduled?	Look at the controls schedule for all major HVAC systems. Look at the interval data for past holidays/events to confirm scheduling is working properly.		<input type="checkbox"/>	<input type="checkbox"/>
4	Are economizers functioning?	Look at major HVAC systems to confirm that outside air dampers are open above minimum setpoint and mechanical cooling is disabled when outside air temperature is less than the cooling setpoint.		<input type="checkbox"/>	<input type="checkbox"/>
5	Are all major pieces of equipment operating in automatic mode (rather than manual, hand, off, etc)?	Look at the control system or electrical panels to confirm equipment is operating in automatic mode.		<input type="checkbox"/>	<input type="checkbox"/>
6	Does your interior lighting schedule match occupancy?	Look at the lighting control system.		<input type="checkbox"/>	<input type="checkbox"/>
7	Does your exterior lighting match non-daylight hours?	Look at the lighting control system, time clock, or other lighting controls.		<input type="checkbox"/>	<input type="checkbox"/>
8	How have you engaged with occupants and/or implemented behavioral campaigns?	Consider reminders, posters, stickers, newsletters, websites, meetings, etc.		<input type="checkbox"/>	<input type="checkbox"/>
9	Have any major changes (occupancy, staffing, production, building area, additional plug loads, etc) occurred at your building?			<input type="checkbox"/>	<input type="checkbox"/>
10	Have you started, completed, or plan on completing any capital projects? If so, when?			<input type="checkbox"/>	<input type="checkbox"/>
11	Have there been any changes (positive or negative) in your monthly billing data?	Look at your monthly bill data (adjusted for weather or other variables, if possible) and make comments regarding trends.		<input type="checkbox"/>	<input type="checkbox"/>
12	Do your system settings align with	Look at the interval data for a typical		<input type="checkbox"/>	<input type="checkbox"/>

## ATTACHMENT D – SITE QUARTERLY CHECKLIST (SQC) TEMPLATE

This template may be modified by PARTICIPANT as needed.

interval data?	week and holidays/events.
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**NOTES**

*[Please provide specific information related to checklist items or other energy activities. Examples include "Changed heating setpoint from 70 F to 69 F in West Wing based on system settings on 1/1/2013," "Added new 1,200 ft2 portables added on 9/1/2013," "Changed 30 HP pump operation from HAND to AUTO on 11/1/2013." The description should include the effective date, the baseline condition, and the new condition.]*

Checklist Date #	Date	Description
1		
2		
3		
4		

**ATTACHMENTS**

*[Please include attachments that support the checklist or notes. Examples include HVAC schedule screenshots, HVAC setpoint screenshots, energy interval data screenshots, SEM newsletters, and monthly bill data]*

#	Description
1	
2	
3	
4	