2015 SEMA
Sustainability Excellence in Manufacturing Awards

PROGRAM ENTRY FORM

DEADLINE FOR SUBMITTAL: November 9, 2015

Email your submission to sschlegel@opxleadershipnetwork.org

TIMELINE:

JUDGING CONCLUDES: December 4, 2015
ANNOUNCEMENT: December 11, 2015
PRESENTATION: April 13, 2016

VIEW EXAMPLES OF WINNING ENTRIES

SUBMISSION FORM

Dates of submittal indicate the program was instituted and became operational since

Company:	Olam Spices and Vegetable Ingredients
Facility:	Lemoore, California
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Vendor/Supplier Contacts:	Sandra Chow | Base Energy | schow@baseco.com
Name:	Morgan Campbell
Title:	Sustainability Management Trainee

☑ I do want to share my case in a case study

Note: no confidential/ proprietary information should be provided by the submitter

☑ If my case is chosen, I agree to present my case at the conference

PROGRAM SUMMARY

Note: Use of Graphs, Charts and Photo Documentation is encouraged.

Provide an executive summary of the program. The content of this section should provide anyone reviewing the application with a general knowledge of the program. *(20 points available)* *(150 words max)*

Olam Lemoore Tomato Processors began local action on Olam's global water stewardship commitment via a water conservation program in May 2015. Stage 1 of this program featured a partnership with Base Energy who aided Olam in identifying opportunities for significant water and energy savings within the processing facility. Projects completed within Lemoore's water conservation program include: the installation of condensate return, recycling pump seal water, and redesigning aseptic fill processes. These improvements tackle the energy/water nexus by conserving a calculated 8.6 million gallons of water (~9% reduction), 23,000 kWh of electricity (due to the reduced need for pumping), and $13,000 in utility cost savings per 100 day operating season.

ENVIRONMENTAL IMPACT/SOCIAL SIGNIFICANCE

Be sure to discuss how the program will enhance your company and/or surrounding communities. Additionally, tell us how/if you were able to get information about these impacts out to 3rd parties. *(20 points available)* *(150 words max)*

Responsible water use is one of Olam's seven sustainability pillars. Instigating localized action via Lemoore's water reduction program accelerated Olam's water conservation efforts in the drought stricken Central Valley. By eliminating sources of single-use water, Olam reduced its freshwater consumption and electricity costs for pumping within its tomato production facility. These reductions in municipal water usage allowed Olam to positively contribute to the city of Lemoore's 32% freshwater consumption reduction target during the historic California drought. Olam communicates the impacts of all of its sustainability efforts directly with customers via its sales and marketing team.

IMPORTANT PROGRAM DATES / TIMELINES

What are the important dates (program approval, installation timelines, length of monitoring/measurement, etc.)? When was this program completed or scheduled to be completed?
(15 points available) *(50 words max)*

Program approval: 4/27/15 Installation:
5/18/15 through 6/26/15. Completion: November 2015
Monitoring: Pre-season 1st week of May - Post-season 1st week of October

PROGRAM EFFICIENCY AND COST EFFECTIVENESS

Fill in the information that is applicable to your program and as your company's policies will allow.

Fill out all applicable categories below in the specified units; be sure to include your calculations along with the percentage (%) reduction involved. This will allow incrementally smaller programs to compete with large programs (a plant that uses only 50,000 gallons per day and reduces water by 50% is just as important as a facility that uses 2 million gallons a day and reduces usage by 50,000 gallons a day! – a 2.5% reduction) *(20 points available)* *(50 words max)*

A 5 month water conservation program that yielded approximately a $14,951.00 cost savings, 8.8% reduction in water consumption, and 23,265 kwH electricity reduction per 100 day operating season.

What was the ROI in the program and the payback period? *(50 words max)*

ROI: 5.1 Simple
Payback Period: 300 operation days (3 processing seasons)

PROGRAM COST ANALYSIS

Note: Please make submissions as quantitative as possible.
Programs are defined as an ongoing effort vs a project as a one-time event.

MONEY AND TIME

TOTAL PROGRAM COST ($) ➔	$ 44,726.00
CALCULATION ➔ (e.g. $1,200 man power + $800 materials + $ 350 disposal costs= $2,350 total)	$24,000 man power + $20,726 material = $44,726 total

TOTAL COST SAVING ($) ➔	$ 14,951.00
CALCULATION ➔ (e.g. $1,500 less purchased plastic + $2,500 less water costs = $4,000 total)	$1,841 one time incentive savings + $13,110 electricity & water utility savings = $14,951

TIME TO COMPLETE THE PROGRAM ➔ (months)	5 months
CALCULATION ➔ (e.g. 1 month to write a proposal + 2 months to approve funds + 1 month to install = 4 months)	2 months to write proposal + 1 month to approve funds + 2 months to install = 5 months

RESOURCES

WATER SAVINGS ➔ (gallons/year)	OVERALL REDUCTION PERCENTAGE ➔ (% of total per year at the location)	9%
CALCULATION ➔ (e.g. 1,000 gals/day x 265 operational days/year = 265,000 gals/year)	85,987.14 gals/day x 100 day season =8,598,714 gal / season 8,598,714 gallons saved / 97,554,776 gallons purchased from city of Lemoore for 100 day season total = ~8.8%	

ELECTRICITY SAVINGS ➔ (KwH/year)	OVERALL REDUCTION PERCENTAGE ➔ (% of total per year at the location)	<1%
CALCULATION ➔ (e.g. 1,000 kWh/month x12 months/year = 12,000 kWh/year)	232.65 kwH/day x 100 day season = 23,265 kwH/yr 23,265 kwH/yr / 507,561,905 kwH total = <1% Peak demand reduction: 3.1 kW	

FUEL SAVINGS (SPECIFY TYPES) ➔ (KwH/year, BTU/yr)	OVERALL REDUCTION PERCENTAGE ➔ (% of total per year at the location)
CALCULATION ➔ (e.g. 30 gals/month x12months/year = 360 gals/year)	Not applicable.

OTHER SAVINGS ➔ (specify units/year) (e.g. 5,000 gals of pickle/year)	
CALCULATION ➔ (e.g. 500 gals/month *12months/year = 6,000 gals/year)	Uncalculated savings for this program include: reduced consumption of pre-boiler water treatment chemicals, reduction in slip & trip safety incidents due to reductions in pooling water, increased water pressure for critical operations, and reduced maintenance costs and downtime for boilers.

CHEMICALS REDUCTION ➔ (gallons or lbs – specify/year)	OVERALL REDUCTION PERCENTAGE ➔ (% of total per year at the location)
CALCULATION ➔ (e.g. 500 gals/month *12months/year = 6,000 gals/year)	Not calculated.

OTHER ➔	
	Not applicable.

RECYCLING ➔	OVERALL % IMPROVEMENT COMPARED TO PREVIOUS YEAR
Express as the amount saved in pounds per year	Not applicable.

SOLID WASTE TO LANDFILL ➔	OVERALL % IMPROVEMENT COMPARED TO PREVIOUS YEAR
Express as the amount saved in pounds per year	Not applicable.

OVERALL WASTE REDUCTION ➔ (gallons or lbs – specify/year)	OVERALL % IMPROVEMENT COMPARED TO PREVIOUS YEAR
Express as the amount saved in pounds per year	Not applicable.

ORIGINALITY OR ADAPTIVE REUSE

How did you come up with the idea for this program (was it an original idea or applying knowledge from another type of program)? Please explain how the idea was developed/discovered and how did you modify to adapt to your company or location. *(10 points available; Bonus points for transferring practices examples from other plant or conference)* *(50 words max)*

Due to the historic drought in California, Olam began critically assessing its water risk within manufacturing in early 2014. Olam conducted a site water balance study in Lemoore to identify conservation opportunities. Partnership with Base Energy helped provide key conservation suggestions specifically modified to fit within the Lemoore facility.

TECHNICAL VALUE AND TRANSFERABILITY

Key lessons learned.

Describe the program's unique attributes and critical factors (was location or external driver unique to your situation that may inhibit another from implementing as successfully). Identify the pitfalls and unforeseen problems/costs that you incurred that could be avoided at another facility. *(15 points available)* *(150 words max)*

Lemoore's water conservation program uniquely attacks areas of conservation that touch both water and electricity usage. Single-use water in food processing tends to be incredibly clean, allowing for reuse without expensive treatment. The specific layout of the plant provided a convenient proximity between water re-use tanks and the original water source for installation of recycling systems. The site also benefits from the city water pressure which provides a strong gravity flow system, reducing the need for pumps. Lack of line specific sub-metering was identified as an inhibitor to study water usage which should be remedied in future