Sustainability in Northwest Food Processing

PNWER Annual Summit

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Northwest Food Processors Association (NWFPA)

- Established in 1914
- 3rd largest northwest manufacturing industry
- 500+ members
- 153 food processors
- >250 facilities
- 13 staff
- 18 board members
- 9 committees
NWFPA Sustainability Philosophy

• “Sustainability is the overarching philosophy that guides our efforts in all areas of concern. Sustainable practices ensure the continued viability of the food industry.”

• The question for food processors today is not *if*, but *how*, they should manage their activities sustainably.
NWFPA Committee Priorities

• **Sustainability** -- Support members in development and implementation of Sustainability plans and actions: tools, metrics, resources, identify technologies (energy, water, air, waste)

• **Environmental** – identify technologies and strategies for water efficiency and compliance

• **Energy** – facilitate awareness and access to innovations and “new” and emerging technologies
NWFPA Energy Goal

Reduce member-wide energy intensity by 25% in 10 years and by 50% in 20 years
Energy Intensity Baseline & Tracking

- Energy Intensity = BTUs per pound of product
- Collect energy use and production data
- Set 2009 as Baseline
- Track goal progress against the Baseline
- 151 food processing facilities participating in 2016
Industry-wide Energy Intensity Performance

Average Intensity:

2006: 107%
2007: 105%
2008: 101%
Base Year: 100%
2010: 100%
2011: 97%
2012: 91%
2013: 90%
2014: 89%
2015: 88%
Goal Progress

• Tracking at >2.0% per year over 6 years
• Year-to-year improvement continues, but lower rates than earlier years (data set issues)
• Still on track to meet the goal
• Individual facilities savings of 15%, 17%, 21%, 32%
Sustainability Guide

• A step by step guide to creating or refining a sustainability program.

• Available for download at: https://www.nwfpa.org/planning-and-resources
Water Sustainability Training

• Instructions for trainers
• 3 slide modules
• Workbook & Exercise
• Case Studies
• Download at: https://www.nwfpa.org/water

WATER SUSTAINABILITY TRAINING COURSE
INSTRUCTIONS FOR TRAINERS

NORTHWEST FOOD PROCESSORS ASSOCIATION
1 – Watershed & Water Balance

• Source and abundance of your water
• Site use – amount of use, type of use, amount of losses, amount of discharge
• Water Balance Exercise
2 – Water Economics, Risks & Quality

• Water and energy costs and areas of conservation
• Production water needs present & future
• Quality issues, discharges, regulations
3 – Water & Energy Management Opportunities

- Water conservation & efficiencies
- Recycling & reuse
- Quality improvements
- Goal setting & metrics
- Case studies
Sustainability Micro Case Studies

- 76 real-life sustainability cases
- Actions, practices & results
- A vehicle for sharing & a catalyst for action
- Available from Amazon. Link at: https://www.nwfpa.org/sustainability
Organically Grown Company

- Replaced diesel fuel used to cool parked reefer trailers with shore power electricity
- Installed docking stations at 17 loading docks and plug-ins on its trailers
- Reduced emissions: 139 MT CO$_2$; 2.19 MT CO; 0.03 tons PM; 0.02 MT ROG
- $23K in fuel savings (electricity is ~ 1/3 cost of diesel); expect savings 60% higher 2$^{nd}$ year.
J.R. Simplot Company - Canada

- Convinced composting contractor to construct a large-scale industrial facility and proved a viable solution in cold weather climate
- Engaged other local industrial and agricultural operations to contribute organic wastes
- Produced saleable Class A compost material; diverted thousands of tons of organic waste; reduced costs complexity of waste management and minimized environmental impacts.
Western Polymer Corporation

- Reduced freshwater use from an over-used aquifer by modifying processes, installing water-efficient starch cleaning equipment, and recycling water before land application.
- Freshwater consumption was reduced by 21,466,000 gallons/year. Wastewater discharge was reduced by 88%.
- Solid waste (starch residue) was reduced by 85%. The remaining 15% goes to animal feed.
Technology Acceleration

• Identify industry challenges
• Identify needs and solutions
• Link food processors with solution providers
Technology/Energy/Environmental Committees: Needs & Solutions

• Water & Wastewater
• Biodigesters + scalable for small companies
• Anaerobic digesters/biogas/waste to energy
• Ways to recycle wastewater
• Wastewater treatment alternatives
• Solids/nutrient (N & P) removal technologies
• Tertiary polishing – making potable water out of wastewater
NWFPA Activities

• Establish water intensity goal, tracking and roadmap

• Focus on water-energy nexus

• Partner with organizations to bring training, technical assistance and technologies to food processors
NWFPAPA Sustainability Summit

- September 13, 2017
- McMenamins Edgefield Hotel, Troutdale, OR
- Register at: http://cvent.com/events/2017-sustainability-summit/
CONTACT

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