Engineered Water: Reducing Your Chemical Footprint?
About Healthy Schools Campaign
Upcoming Webinars

June 23, 1-2 p.m. CST
Floor Care in your Green Cleaning Program

July 15, 1-2 p.m. CST
Learn from the Leaders

August 11, 1-2 p.m. CST
Green Cleaning Award for Schools & Universities

September 8, 1-2 p.m. CST
Infection Control in a Green Cleaning Program
Logistics

- Webinar will run approx. 1 hour
- A recording of the webinar will be available online
- Please take 2 minutes to complete the survey at the end
Join the Discussion!

- Follow @healthyschools for the latest on our schools, environment, and education.
- Tweet #greenclean to share your thoughts!
• Q&A will be held during the final 15 minutes
• Ask questions through “chat” in the lower right side of your screen
Today’s Speakers

Heidi Wilcox
Field Specialist
Toxics Use Reduction Institute at Umass Lowell

David Holly
Director
The Ashkin Group, LLC.

Christine Lovejoy
Custodial Coordinator
University of Minnesota, Duluth
What is Green Cleaning?

Cleaning to protect health without harming the environment
Why do we care about green cleaning?

1. Helps students stay healthy and learn
2. Protects the health of custodial staff
3. Increases the lifespan of facilities
4. Preserves the environment
5. Fiscal responsibility
• 5 Steps To Green Cleaning
• National Summit (July 30-31)
• Leadership Council
• Education
• Quarterly newsletter
• Assessment Tool

www.greencleanschools.org
Green Clean Schools
Participating Organizations

• American Federation of Teachers
• American Association of School Administrators
• Association School Business Officials International
• Council of Educational Facilities Planners International
• Green Cleaning Network
• International Sanitary Supply Association
• National Association of Charter School Authorizers
• National Association of School Nurses
• National Association of State Boards of Education
• National Clearinghouse for Educational Facilities Planners
• National School Plant Management Association
• Parents for Public Schools
• Public Education Network
• And more!
2014 Green Cleaning Award Winners

Grand Award: Green Cleaning Excellence
University of Washington, WA

K-12 Winners:
First Place
Blue Valley School District, KS

Honorable Mention: New Program
Clarke County School District, GA,

Honorable Mention: Sustainability
Virginia Beach City Public Schools, VA,

College/University Winners:
First Place
University of Michigan, MI, Plant Building & Ground Services

Honorable Mention: Evaluation
Stony Brook University, NY

Honorable Mention: Sustainability
University of Minnesota, Duluth, MN
Apply!

asumag.com/green_cleaning_award

...or just search for “green cleaning award”
The TURI Laboratory
Green Cleaners & Equipment Performance Testing & MORE

How We Fit Into the Industry

Heidi Wilcox /TURI Lab Specialist
TURI Laboratory Mission & Goal

• Assist facilities in finding safer cleaning chemicals & processes that are:
  – Economically feasible
  – Perform as well or better
  – Improve EH&S

• To evaluate /compare performance of cleaners & equipment, R&D, consulting, formulation & more

• Aid companies in selecting processes & systems to facilitate better, safer cleaning

• Share information on effective cleaning methods and processes to help move industries forward....
TURI LAB FACTS....

• Working in less toxic alternatives for 22 yrs
  – Located at UMASS Lowell

• Janitorial work about 15 years
  – Testing for third party certifiers
  – Working with manufacturers on products
  – Help promote good process & systems
  – Learn from the end users, work in REALITY

• Data does the talking, field work supports it

• Want to know what the industry needs

• Helping to supply data to industry
Why a University Laboratory

• Non Biased – work to generate data

• Interested in data & what works. If there is not non biased data how do you trust a product

• Non profit, (if public) therefore money is not a driver

• Want to inform janitorial sector end users & help generate the data they need & want

• Resources – students, other scientists

• Work with national companies & trade assoc. for help
What We’ve Learned Over the Years

• A lot of education is needed
  – Clean & removal of soil & microbes vs. Kill
  – Sanitize vs. disinfect, Smell does not equal clean
  – That many facility managers either;
    • Want to go green & less toxic but don’t know how to start
    • Or just want bleach & to be left alone

• Great Formulation work is being done

• Excellent equipment is out there

• Without consistency & repeatability of process then less toxic may not matter
Technology in a Chemical World

• Sustainability is a main driver!!!
  – Life cycle issues

• Other Drivers – Chem. Exposure, Asthma, IAQ

• Chemical Formulation has come a long way
  – As well as dilution and foaming systems
  – Can reduce the use of chemicals significantly

• Tech can take us to a new place.....
  – Onsite production, steam, microfiber, bucketless mops, hands free restroom cleaners,
Equipment Testing in the Lab

- Floor Scrubber
  - Small & Large
- Engineered water
  - Mineral based
  - Ozone
- Battery back pack vac
- Steam
  - Large & small units
- Hands Free Restroom Cleaners
Innovative Cleaners & Technology

• Organic cleaners with probiotics,
• Onsite generators of cleaners, sanitizers & disinfectants
  – Hypochlorous solutions
  – Mineral based
  – Sustainable
• More water based solutions
  – Steam, hands free restroom
  – Floor machines & pads that do not require cleaner
• Microfiber, bucketless mops, waterless urinal retrofits & door handle protectors
Subset of technology & “Green Cleaning”

• Engineered water – H2O plus
  – Water is a chemical – so not chemical free
    • often contains minerals, hard or soft, acidic or alkaline
  – Using water with technology to make less toxic cleaning systems with out without the addition of non synthetic or green cleaners
    • Steam – temperature
    • Onsite generators – sustainable
    • Hands free restroom cleaners - mechanical
    • Microfiber, not just a cloth or pad but tech
Pros and Cons of Technology

**Pros**

- Sustainable
- Less toxic exposures
- Less reoccurring costs
- Less chemicals to store
- Less chemicals to ship
- Workers often like new toys
- Improves IAQ
- Improves cleaning often when coupled with repeatable process

**Cons**

- Up front capital cost, sometimes a battle to get
- Training required
- Change in process
- Need storage for equipment
- Uses electricity generally
- Many times worker resistance
How Do You Know Something Works

• Testing using industry standards to produce data, paid for, third party testing.
• Testing is reproducible & not a fluke
• Analytical methods are used
  – ATP meters – trend tool to show cleaning efficacy in field and lab. LIMITATIONS
  – Gloss meters
  – Black light, white glove, plate growth
• Field work & antidotal info & data in field in addition to 3rd party, no biased testing
How Do You Know if You Are Green?

• If your state has an EPP program use it
  – Most use third party certified products

• Check to see what regulation or executive orders exist for your state or the federal govt.

• Use products from the Third Party Certifiers
  – Green Seal, Ecologo, EPA Safer Choice
  – There is some toxicity and performance testing done

• Use your National Resources
  – Healthy schools campaign, The Ashkin group, TURI Lab, IEHA, ISSA, PC4HS & many more
How to Deal with Technology

• Stay current on what is coming out
  – Read trade magazines, trade shows

• Ask for the 3rd party testing data to gauge effectiveness using standardized testing
  – Use anecdotal information as an addition

• Test the equipment in your system yourself

• Implement repeatable process in your system so new tech can easily be inserted
Questions?

Heidi Wilcox
heidi@turi.org
TURI Lab Field Specialist

Phone 978 934 3249
Website: www.turi.org/laboratory
Testing Database: www.cleanersolutions.org

THANK YOU
David Holly
The Ashkin Group LLC.
Ashkin Group

Consulting group focused on Green Cleaning & Sustainability

Steve Ashkin
- Over 25 years industry experience
- “Father of Green Cleaning”
- Recently inducted into the Green Cleaning Hall of Fame

David Holly
- Over 30 years industry experience
- Involved in every facet of the cleaning industry
- 15 years with the Ashkin Group
What We Do

We work with:

- Manufacturers
- Distributors / Buying Groups
- Cleaning companies – BSCs
- In-house / property management companies / private companies
- Local / state / federal government agencies
- Schools
- Health care
- Any organization that is interested in improving their green cleaning operations or sustainability goals
How We Do It

Define goals
Develop strategies
Identify opportunities
Develop sales / implementation plans
Provide field support
Develop metrics
Quantify results
What’s Happening

Green Cleaning is real and here to stay – But, there are more opportunities

- Impacts on energy – more efficient equipment, operations, day cleaning…
- Impacts on environment – waste reduction, “zero footprint”…
- Impacts on water – better “dry cleaning”, engineered water, grey water
Engineered Water

Several technologies
Not a new technology, but new to the cleaning industry
Not anti-chemical
Not “chemical free” – Engineered Water
Why Is this Important?

Impact is far beyond reducing chemical use

• Life cycle of a traditional cleaner (every step consumes water)
  - Extraction of raw materials and transportation to processing plant
  - Creation of intermediate products and transportation to next facility
  - Manufacturing of the final product, packaging, transportation to distributors
  - Transportation to end-user or BSC (additional transportation to job site)
  - Dilution with water on site, waste product to sewer system
  - Packaging materials into waste stream

• Life cycle of engineered water
  - Cold water enters unit, produces cleaning product, waste is potable water
  - No packaging, transportation, and significantly less water use
What’s Coming?

Exciting time for our industry
Many new technologies and ideas
For Engineered Water
  • New technologies
  • Grey water
Thank You

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Christine Lovejoy
University of Minnesota, Duluth
Facilities Management Custodial Division

Green Cleaning Program

Christine Lovejoy
Custodial Coordinator
A Great University on a Great Lake!
Our Green Story

- Philosophy prior to 2007 “do what is right”
- 2007 – Developed an “official” Green Cleaning Program
- 2008 – created Office of Sustainability
- 2010 – LEED Platinum awarded for Bagley Classroom Building
- 2014 – Green Cleaning Award for honorable mention
Early Adopters

- Activelon hand held units
- Floor polishing system
- Composting
- ECH2O machines
- Microfiber cloths
- Constantly asking “what is the latest technology?”
Homework

• Researched our options
• Input from local “innovator” using solutions
• Tested cleaning solutions from transport units
• 3 month trial period
• Compared solutions to traditional chemicals
• Request for proposal process
• Comparison of units available and pricing
Simple Break Even Analysis

- 22 months
- Based on the cost of chemicals at the time
- Other factors to consider:
  - Simplified cleaning process
  - Health and safety
  - Eliminates packaging
  - Significantly reduces transportation
  - Lower cost to clean
Benefits of Electrolyzed Water

• “Best carpet cleaner”
• Removes residue, such as duct tape and stickers
• “I can’t tell the difference”
• “I LOVE using this (micro-solution) in my restrooms”
• Only solution to remove curry stains
• Cost effective
Challenges

- Logistic challenges
  - Areas without elevators
  - “Off-campus” locations
  - Access to units/satellites
- Placement for maximum utilization
- Managing the “inventory”
- Laggards
- Skeptics
Going Forward

- Green Cleaning Program built on Orbio
- Updating Standard Operating Procedures
- Adjusting to meet the needs of the campus
- Educating the campus about the great things we are doing
Q&A Session

- Q&A will be held during the final 15 minutes
- Ask questions through “chat” or by “raising your hand”

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Thank you!

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