

Hospital Sustainability- Being Good Stewards of Our Resources

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Presented by :

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Member



Who We Are?

- Mount Carmel is a six hospital system located in central Ohio with over 10,000 employees, 1600 Physicians and 1000 volunteers. We are proud to be part of Trinity Health- headquartered in Livonia, Michigan, which currently oversees 93 hospitals across the nation. We are a catholic healthcare delivery system.
- *The Catholic health ministry is called to act responsibly toward the environment in order to show our respect for all creation and to promote the health of our communities and the world. Reference: http://www.chausa.org/docs/default-source/general-files/getting_started-pdf.pdf?sfvrsn=0 - This is also a good resource for starting a Green Team*
- How did we get started in Environmental Sustainability?



By centralizing are sustainable activities:

- We developed the first Mount Carmel Health System Green Team.
 - Realizing that we were all doing great things relative to the environment and being good stewards of our resources, but no mechanism to aggregate these activities and report.
 - We needed a team that could pull the activities together to avoid duplication and assign to the right stakeholders for follow-thru.

How we Formed our Green Team

- Currently comprised of representatives from multiple hospital departments to include representation from the Medical Group.
- **Current membership:** Approximately 20 members, which includes consultants from the Ohio By-Product Synergy network.
- Team meets Bi-Monthly- Charter established- Revised after the first year
- Current Chairperson and two Vice chairs to includes recorder
- LEADERSHIP Executive Champion: Senior Vice President of Mission Service- Sister Barbara Hahl
- Mount Carmel Health System- Part of *Healthier Hospitals Initiative*
- Mount Carmel is a Member of the *Ohio By-Product Synergy Network* – **Ohio BPS consultant attends Green Team meetings and helps with activities.**
- Mount Carmel representative is a member of the *Ohio Hospital Association's (OHA) Environmental Leadership Council* and in 2014 served as P2 University faculty.

Recognition/Awards:

- 2014 -2016 *OHA Melvin Creeley Awards* received for the system and Mount Carmel East-recycling/composting as well as Mount Carmel St. Ann's- construction recycling/engagement.
- In 2013- *OHA John Chapman Award* winner for the system.
- In 2015- *Mid-Ohio Regional Planning Committee- Green Leader Award*
- In 2016- *OHA – Energy Cup- Mount Carmel St. Ann's*
 - *EPA Achievement Award Encouraging Environmental Excellence- St. Ann's*

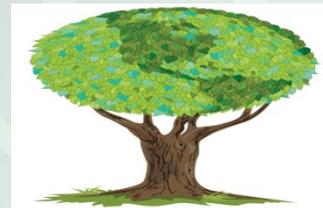


We developed a Purpose Statement

- **Purpose Statement:** *As we steward the resources entrusted to us and continue to improve the health of our communities, the Mount Carmel Green Team will build organizational awareness to develop an environmentally conscious culture in the pursuit of lowering our environmental impact through sustainable use of these resources. The Green Team will pursue and take actions involving green initiatives and new opportunities for strengthening our organization wide commitment to environmental sustainability.*
- **Leadership commitment:** *Leadership commitment towards environmental sustainable practices with pledge through the Healthier Hospitals Initiative (HHI).*

We took Pledges: Healthier Hospital Initiatives

- Engaged Leadership
- Healthier Food
- Leaner Energy
- Less Waste
- Safer Chemicals
- Smarter Purchasing



Recycling/Re-Use – Highlights



- **Mount Carmel Health System**
 - System 202.71 tons recycled in 2014
 - Mount Carmel East- 36.2% recycle rate starting in 2013
 - Other hospitals averaged 25%-32% with a Goal of 40%
 - Recent placement of additional containers make this feasible for 2015
 - Light bulbs/batteries recycled 2014- Over 6 tons.
- **Paper-Mount Carmel Health System-** as a whole previous diverted 40 tons of paper from the landfill when we went electronic.
- **Red bag waste** had been reduced to under 5%- and had consistently been below 10%. Best Practice is at 15%. (Education and monitoring).
- **Community involvement in 2014: Leadership Franklinton clean-up-** also included recyclables in 2014- 33 recycling bags were filled with 990 pounds of recycling during the two hour pickup.
- **Food waste composting-MCE** (currently on hold)- Also 20% system wide reduction in food waste through process improvement practices.
- **Mount Carmel St. Ann's Construction (Project Grace):** 658 tons or 1.3 million pounds of construction trash has been recycled in August 2012 alone.
- **Synergies:** Mount Carmel created with Pepsi for refurbished unused drums for our lab solvent waste and lower costs. Another synergy with a member of *Ohio BPS* that took the food compost.
- **Trash Audit-** Newspaper at West location sometimes not read by patients- not feasible to continue purchase for unread paper that ends up in the Landfill. Tons of paper diverted as News is provided electronically.

By-Product Synergy At Work

Calgon
Carbon



Mount Carmel
Hospital

Food
Scraps



G&J Pepsi

Glass

Ohio Mulch



MCHS Recycling Program



- This is the Mount Carmel Health System’s Green Initiative – This is the system that we have chosen to pursue the “Green” initiative.
 - Why do it ?
- The data below provide estimates of the environmental benefits of recycling when compared to disposal for one of our hospitals. The estimates are based on the most recent conversion factors available through the WARM model developed by the U.S. Environmental Protection Agency.
 - Our recycling efforts here at Mount Carmel East in one year have :
 - Saved the equivalent of 2,298 barrels of oil
 - Reduced the equivalent of 386.4 metric tons of Green House Gas emissions
 - Resulted in Net Energy savings of 7,573.5 British Thermal Units
 - Saved the equivalent of 3,463 trees.



Project: Telemetry Battery Reuse Program-2016

- The Green Team pursued the collection of “AA” and 9 Volt batteries used in 24 hours-medical monitoring telemetry units. These batteries were being discarded with an average 99% life left in them. They were in closed units with no direct patient contact. The waste bins were diverted to PBX operations during down time to check them and ultimately redistribute to non-clinical areas- (i.e. clocks, offices, soap dispensers, etc.). These numbers average 1000 batteries a week and we saw a cost savings. Some batteries donated to the homeless as part of our mission work.

Employee Engagement: Social Media Platform

- Prior to Earth Day- Mount Carmel St. Ann's participated in a Statewide social media platform "*One Million Actions for Planet Earth*"- This was in coordination with the Columbus Zoo. The social media app also served as an awareness/education tool. Teams were established to be competitive with actions taken towards health and sustainability. Incentive of 25 cents an environmental or wellness action (up to four actions a day per team member) would be contributed by a third party (grant) towards our hospital garden. Program ran for six weeks.
 - 79 participants with 4,668 actions taken making up 27% of the total Columbus community actions made.
 - \$854.00 raised for the garden
 - Team front runners received Zoo tickets
 - Great method to provide education



System-wide Earth Day Recycling Collection

Mount Carmel has held two annual system-wide recycling days for associates in celebration of Earth Day. IT staff organized the event, which featured collection points at each of the five major work sites (four hospitals and a Corporate Services Center). As a result of this effort, the last collection yielded:

- 9331 pounds of old personal computer equipment, monitors and alkaline batteries, that were provided to Tech Disposal
- 6000 pounds of outdated sensitive paper that were shredded and recycled
- 87 cell phones donated to Cell Phones for Soldiers
- 42 pairs of eyeglasses donated to the Lions Club



Mount Carmel One of Only Two Hospital Members of the Ohio By-Product Synergy Network



- By-Product Synergy (BPS) is defined as the practice of matching under-valued waste or by-product streams with potential users, helping to create new revenues or savings for the organizations involved while simultaneously reducing environmental burdens.
- The Ohio By-Product Synergy (BPS) Network was launched in October 2009 to help businesses convert wastes into profits while creating environmental and economic benefits for communities in the region. The Network is led by Sustainable Ohio, in collaboration with the Center for Resilience at The Ohio State University, the Mid-Ohio Regional Planning Commission (MORPC) and other Ohio organizations.
- Mount Carmel is only one of two hospital members of the network. Through involvement in the network, Mount Carmel has provided glass vases left behind by patients to a florist who washes and reuses them for other recipients.
- Mount Carmel will experience significant savings by obtaining used 55-gallon drums from a beverage company. The drums will be washed and reused for lab solvent disposal.

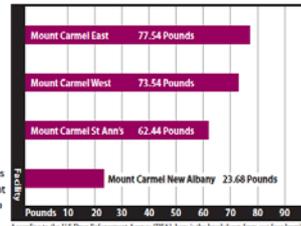
Mount Carmel Health System Environmental Stewardship and Sustainability

A Winner of the 2012 Malvin Creeley Environmental Leadership Award



Mount Carmel collects 237 Pounds of Prescription Drugs on Medication Disposal Day

- During the fall of 2011, Mount Carmel organized a Medication Disposal Day in conjunction with Cardinal Health, the U.S. Drug Enforcement Agency, Columbus Division of Police, Franklin County Sheriff's Office and the New Albany Division of Police.
- Members of the community were encouraged to dispose of their old and unused prescription medications at collection points at each of Mount Carmel's four hospitals in the metro Columbus area.



- In total, Mount Carmel collected 237 pounds of unwanted medications, which were properly disposed of by the DEA.

Q: How does Mount Carmel handle its own Pharmaceutical Waste?

A: At Mount Carmel we take it a step further, ensuring that EPA-regulated hazardous pharmaceutical waste is disposed of safely and properly. We look at all pharmaceutical waste that contains elements that may affect the environment and utilize a color-coded collection container system to ensure this collected waste has minimal environmental impact.

For more on Mount Carmel's environmental sustainability and best practices, please call (614) 546-3433



Mount Carmel Health System In-House Recycling Program

Mount Carmel stewards all of our resources, even our used ones, wisely. That includes making sure that we are recycling materials instead of disposing of them whenever possible. Mount Carmel recycles the following:

- Cardboard and office paper without private information is collected in blue Royal Paper containers
- Paper with sensitive information is deposited in secure Royal Document containers, shredded then recycled
- All plastics (1-7), aluminum, metal cans, polystyrene and glass
- Televisions, lights, used paint and solvents
- Computers (with hard drives wiped clean), monitors and servers
- Old furniture and medical equipment
- Batteries and wooden pallets
- Danka Konica Minolta Clean Planet Recycling Program: toner cartridges, imaging units, waste toner bottles, developer, developer units and drums from photocopiers



Our Solid Waste Environmental Footprint Table 4 - Total Tons presented as % of which by Waste Stream

Waste Stream	2010 (FY) Tons	2011 (FY) Tons	2010 (FY) 2010 (%)	2011 (FY) 2011 (%)
Solid Waste	1,902.0	60.5	1,512.7	28.18
Total	1,902.0	1,411.60		

What is the impact of Mount Carmel's recycling efforts?

These estimates are based on the most recent conversion factors available through the WARM model developed by the U.S. Environmental Protection Agency.

Our recycling efforts in FY 2011 have:

- Saved the equivalent of 2,298 barrels of oil
- Reduced the equivalent of 386.4 metric tons of Green House Gas emissions
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- Saved the equivalent of 3,463 trees.

Mount Carmel Saves Energy & Money Through AEP Ohio Business Incentives Program

Last year, Mount Carmel West was a featured AEP case study for its significant savings through this program.

Mount Carmel conserved 2,508,201 kilowatt hours of electricity, earning \$202,000 in incentives by doing the following:

- Changing out fluorescent bulbs throughout the hospital campus to more efficient bulbs
- Replacing an old chiller and controls on the heating, ventilating and air conditioning system
- Installation of LED bulbs
- Replacement of exit signs

All of these changes also earned Mount Carmel West an Energy Star rating from the U.S. Environmental Protection Agency, meaning it is ranked in the top 25 percent in the nation in terms of energy efficiency, when compared to similar facilities. With the incentive and energy savings, this project will pay for itself in just over four years.

Hospital Garden

- The hospital garden was put in place in the small field behind Mount Carmel East hospital- thanks to our leadership.
- St. Ann's efforts and funds from the social media event is to help to maintain- operation of the garden in 2015. The project put on hold in 2016 due to construction and accessibility.
- In 2015- over 25lbs of fresh garden vegetables were donated to the local soup kitchen.
- The Green Team utilized volunteers from our current hospital staff to plant and maintain garden. Will be working with Wellness Dept. for the outdoor activity and the colleagues will receive "Wellness Points"- can be used toward incentives.



Employee Participation

EARTH DAY EVENT



Green Team Earth Day Collections

Friday, April 22nd, 2016

Live Your Whole Life (LYWL) points available- details on LYWL webpage

This free one day event for colleagues will include:

Goodwill Columbus

Paper shredding

PC Recycling and Other E-Waste

Cell phone and Eye glasses- Can be dropped off at any hospital Security Office during the day

****Check insight for full list of acceptable items*****

Collection Times/Locations

MCE/CSB 7:30am-9:00am- West side of the CSB Parking Lot

MCW 7:30am – 9:00am- Graham Ford Lot-enter through Green Street

CSC 9:30am-10:30am- West end of the West Parking Lot

MCSA 11:00am – 12:30pm- Back Parking Area, Behind MOB 3

MCGC 11:30am-1:00pm- Contractor Parking Lot

MCNA 1:30pm-3:00pm- South Outer Parking Lot (in the back)

Please contact Security at each site in the event you have trouble locating drop locations:
MCE/CSC 234-6063, MCW 234-5283, MCSA 898-4005, MCGC 663-5455 & MCNA 775-5400.

Earth Day Event Coordinator contact via email: Francisca Oruma foruma@mchs.com

2016 Earth Day- Employee Home Collections

Highlights of collections:

- 81 cell phones (Donated to *Cell Phones for Soldiers*)
- 71 eyeglasses (Donated to *Lions Club*)
- 1.05 tons of electronic waste for recycling (2100 lbs.)
- *Goodwill* collected and reused 1,200 lbs. of material, which was diverted from the landfill
- *Royal Document* shredded/recycled 1.95 tons of paper or 3,900 lbs. resulting in the following per the environmental impact conversion model:
 - 33.15 trees saved
 - 741 gallons of oil saved
 - 5.85 cubic yards of landfill space saved
 - 7800 kilowatt of energy saved
 - 13,650 gallons of water saved

Ride Share Program- Some of the BEST plans-

Circumstances change.....

- Our Green Team and Wellness Department has partnered with *Mid Ohio Regional Planning Council (MORPC)* in looking at the potential of van pool/ride share programs . Potential implementation in 2015. Four hospitals and our Corporate Services Center.
- This would be a perk for colleagues to be a part of, but also limit the number of vehicles on the road- **cutting carbon emissions**. Other benefits: MORPC Guaranteed Ride Home voucher 100 *wellness* points earned each month.
- This initiative was introduced at our Benefits fair. MORPC reported a good start with 104 employees registering interest for the program, which 37 of the employees are currently carpooling or riding transit.
- Series of educational lunch n learns were scheduled for January/February 2015.
- Result: Put on hold due to lack of interest after gas prices dramatically dropped.



What do we do with our solvent waste from our hospital labs?

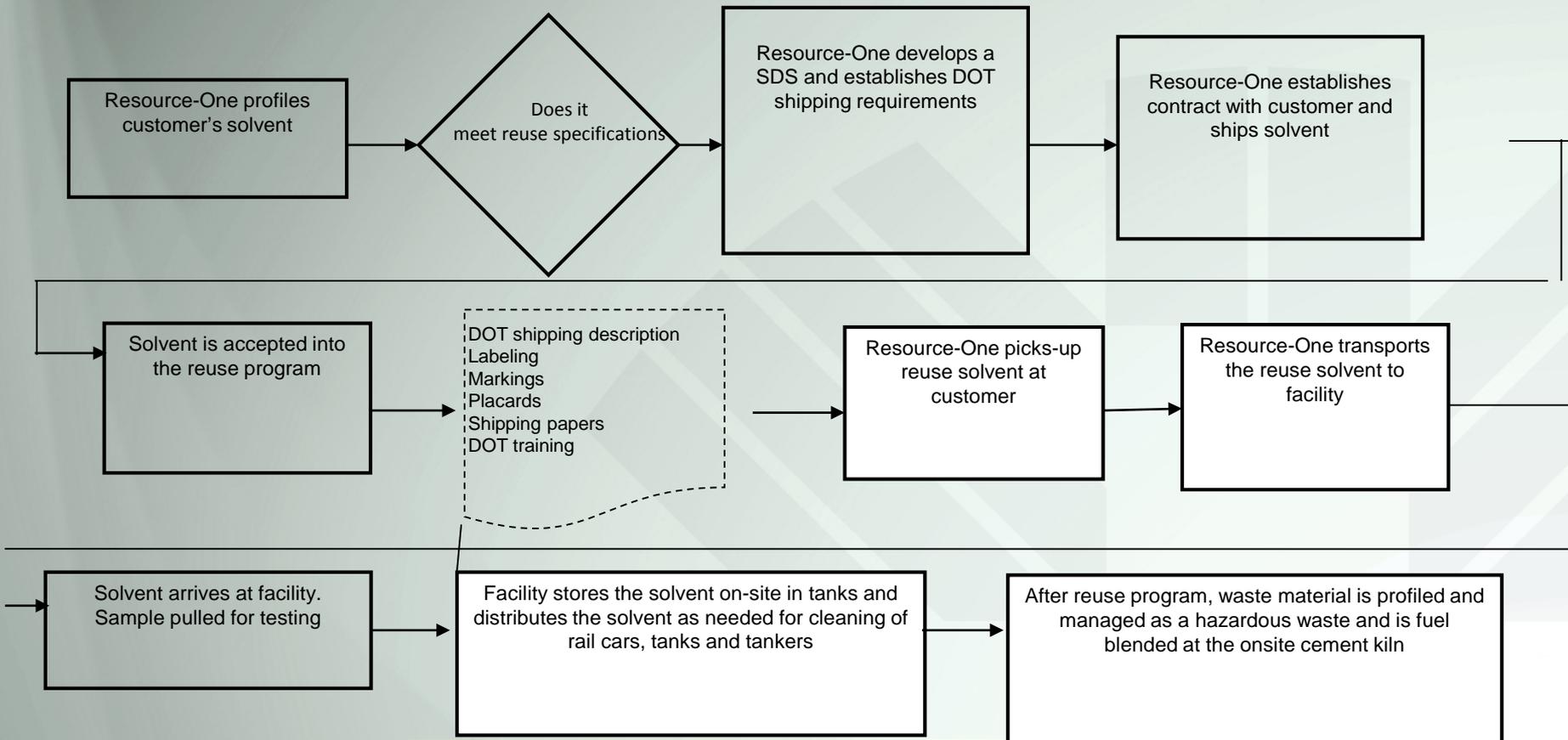
- The material is re-used as a product
 - The used solvent is placed into drums by staff and picked up by a transport vendor.
 - The product is used to clean railroad cars (State EPA approvals)
 - The spent materials from the cleaning process then goes to a fuel blending facility
 - The by-product is then used as fuel in cement kilns.





The priority is managing waste materials and bi-products with a focus on reuse, recycling and as a last resort disposal. The used solvent is shipped as a product and not a hazardous waste

Flow chart of the "Continued Use" solvent.



*Proactive service, products, and image from us...program
simplification for you*



- <https://vimeo.com/141108933>

Facilities Management Initiatives

- 2016 Update on Continuous Energy Improvement Program from our Utility provider. Our efforts made some recommended changes in heating, cooling, and lighting, Mount Carmel has been able to save more than \$60,000 since April 2015.
- Mount Carmel 2016 *Turn Off the Light Awareness*



Energy Program



- *Mount Carmel West- Received Energy Star Recognition.*
- *Recently entered into AEP's Continuous Energy Improvement- CEI: This program is a strategic management approach to achieving energy savings*
- *Visit AEPOhio.com/Solutions*

Other Green Team Support

- **Annual Mount Carmel Medication Disposal Day (Community)**- Ohio collected tons of medication for disposal. Several Green Team members participated. Mercury thermometers were also collected. We had two Mount Carmel collection points in 2014 (now one)- Corporate which collected 57lbs and St. Ann's at 137lbs to add to Ohio collections.
- **Recycling Partnerships- IT**- Were created regarding benefits on recycling with potential return on investment with localized Green IT vendor- Our Corporate building had agreed with 6.5 tons of recycling waste removed.
- **Food and Nutrition**- Meatless Mondays went system wide for Patients as well -2015
- **Green Team Website**- Currently working on some educational components and rollout
- **OSU Students conducted a facility audit at our West hospital (2015 Project)** as part of a school project. They conducted an analysis and looked for opportunities in Blue Wrap recycling/reuse.
- **A Trash Audit** was conducted in coordination with Ohio Byproduct Synergy Network leadership at the West campus in 2016. Opportunities being assessed.



Questions?