




Kitchen Equipment Care:

Maintenance Helps Increase Your Sustainability and Improves Your Bottom Line

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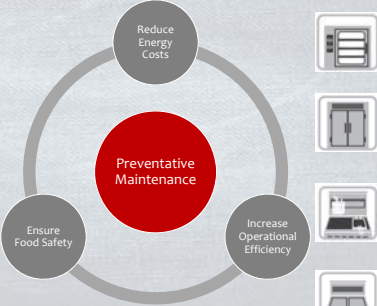


How to make the most of your kitchen environment

Want to make your business sustainable?

One of the most lucrative opportunities to cut energy costs and promote operational efficiency is PREVENTATIVE MAINTENANCE.

Cut savings by 10% per year!



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How to make the most of your kitchen environment

Cut Energy Consumption  

Extend Equipment Life 

Food Safety  

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Restaurants Can Make a Difference

Restaurants are Big Users of Energy

- Restaurants use **5 times more energy** per square foot than other commercial buildings
- Energy costs rising at a rate of **6-8%** per year
- Focus your energy-savings efforts **in the kitchen**

5 Major Ways Restaurants Consume Energy

41% is used by equipment

Source: Food Service Technology Center

Reducing Rising Energy Costs

- Energy costs **continue to rise** at rates higher than nominal restaurant growth
 - ✓ **10% in the past few years**
- Preserve your profits** by making your operation more sustainable


Utility Costs Represent 3-4% of Sales for an Average Restaurant

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Diligent Maintenance Pays Off

Preventative Maintenance adds up to total savings

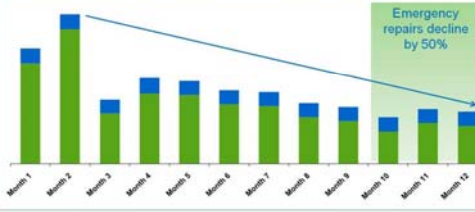
- Basic maintenance can reduce your carbon footprint
- Saving up to \$500 or more a year in energy costs
- AND
- Helping to avoid costly equipment downtime



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Reduce Frequency of Repairs

Frequency of Repairs with PM Program



Emergency repairs decline by 50%


Legend: ■ - Number of Repair Visits, ■ - Number of PM Visits

Less visits = Less carbon emissions
Less visits = Increased ROI

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What to Consider in a Proactive Care Plan



- Age and use of the equipment
 - Even Energy Star certified equipment needs to be calibrated to run at peak performance
- Recent repairs performed
- How often complete cleanings are performed
- **Pay Off**
 - Less energy used, adds money to your bottom line
 - Less energy used means fewer carbon emissions


Key Insight
The EPA estimates that by cutting energy costs by 20%, profits would increase by 30% or more

Good for you and the environment

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Proactive Cooler Maintenance

- A poorly maintained cooler increases the stress on the cooling system – **requiring more energy to operate** – shortening the life of the equipment
- Equivalent to the amount of carbon sequestered annually by **1 acre of pine or fir forests**



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Refrigerator/Freezer Opportunities




- Defrosting is an intensive but necessary process
- Optimizing cycle times and calibrate to defrost as needed
- Repair or replace worn door seals and hinges – ensuring a **airtight door seal**
- Clean evaporator and condenser coils and ensure proper airflow.
- Install strip curtains on walk-in boxes as insurance against propped-open doors.
- Check and properly set thermostats and time clocks on all refrigeration equipment

Inefficiencies like these can lead to increased energy usage, breakdown or even failure

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Broiler Savings Opportunity

- It is estimated that up to **80% of the \$10 Billion** spent on energy on U.S. restaurants is **wasted**
- Reducing broiler **“ON”** time by 1 hour each day translates to greenhouse gas emissions avoided
 - Equivalent to **recycling .65 tons** of waste



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Warewashing Savings Opportunities

- Install a **low-flow pre-rinse spray valve** at the dish station
- Technologically **advanced rinse-spray nozzles** are available that can save restaurants more than 50% in rinse water and energy costs
- Conduct a **regular thermostat check** on warewashers and reset them to the correct operating temperature when necessary
- **Check rise pressure** to ensure it uses only the pressure recommended



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Cooking Savings Opportunities

- Properly **adjust standing pilot lights** on appliances like range tops
- **Control appliance "on" time** with a start-up and shut-down schedule and use timed controls vs. manual settings
- **Maintain appliances**, including ensuring ovens are cooking at the proper temperature and that control panels on ovens and steamers are operating correctly



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Preventative Maintenance

Your Ticket to Energy Savings and Sustainability




Proactive Care helps you achieve:

- A lower carbon footprint
- Energy savings




Improve
Operational
Efficiency




Proactive Maintenance Extends Equipment Life

Life Extension = Cost Savings & Sustainability


- Industry recognizes that proactive maintenance programs increase equipment life by 6-12 months
 - NAFEM life cycle analyzes equipment life expectancies and total cost of ownership
- Longer equipment properly, calibrated, equipment saves energy and replacement/disposal costs



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Ice Machine Operating Problems



Ice Machine

- Mold in ice bin causing possible cross contamination and poor taste quality
- Water trough clogged with mold and scale causing inefficient operation of ice machine
- Ice thickness probe scaled up with lime causing frozen evaporators and machine to not to operate correctly
- Dirty condenser coils cause inefficient operations and long term damage to the equipment



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Performance Check

Ice Machine

- Highlights of prescheduled Performance Check services
 - Check compressor discharge line to ensure operating temperature is within specification
 - Clean coils and sanitize ice bins
 - Delime ice machine thoroughly
 - Change water filters regularly
- On-site kitchen staff training on regular equipment cleaning procedures

Ensure supply of clean, safe ice
Extend lifespan of ice machine
Improve operating efficiency




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Fryer Operating Problems

Fryer

- Thermocouple and thermopile damages that lead to inaccurate frying temperatures, which results in inconsistent food quality and/or short cooking oil life
- Moisture and grease built up within electronic controls which cause premature fryer failures
- Inefficient oil filtration system leading to accelerated oil breakdown and waste



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Performance Check

Fryer

- Highlights of prescheduled Performance Check services
 - Check all common failure points such as electric element voltage, contactor voltage, thermocouple integrity, and the voltage of other areas where power may be failing
 - Thorough check and clean of oil filtration system to fully realize its benefits
- On-site kitchen staff training on regular equipment cleaning procedures

Make quality and safe fried food
Save energy and cooking oil
Extend fryer lifespan
Increase uptime



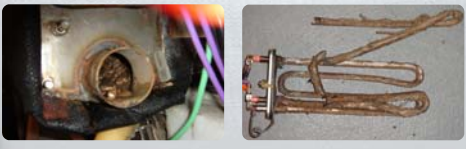
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Combi Oven / Steamer Operating Problems

Combi Oven

- Scale buildup in steam generator results in operating inefficiency, longer cook/recovery times and long term damage to the steamer
- Temperature probes are covered in scale and do not allow the unit to heat properly
- Moisture penetration that causes electrical failures on fans, lights, or timers



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Performance Check

Combi Oven

- Highlights of prescheduled Performance Check services
 - Descale of boiler and clean probes
 - Timer calibration or replacement
 - Check on electric element to avoid power failures
 - Change out water filters regularly
- On-site kitchen staff training on regular equipment cleaning procedures

Save energy and cooking time
Extend equipment lifespan
Increase equipment uptime



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Refrigerator Operating Problems

Refrigerator

- Clogged or blocked condensers cause increased energy consumption and trouble in maintaining temperature
- Debris caught in the condenser or evaporator fan causes serious damage to the unit
- Poor gasket sealing result in loss of cooling, increasing energy consumption and food safety risks



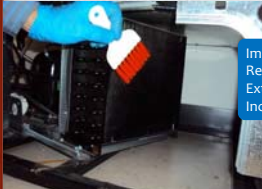
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Performance Check

Refrigerator

- Highlights of prescheduled Performance Check services
 - Clean and check all condenser and evaporator coils
 - Check door gaskets and all door hinges for proper seal and operating
 - Check temperature of compressor discharge line to ensure operating temperature is within specification
 - Check amperage and voltage to name plate specifications



Improve energy efficiency
Reduce food safety risks
Extend equipment lifespan
Increase equipment uptime

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Preventative Maintenance

Your Ticket to Operational Efficiency

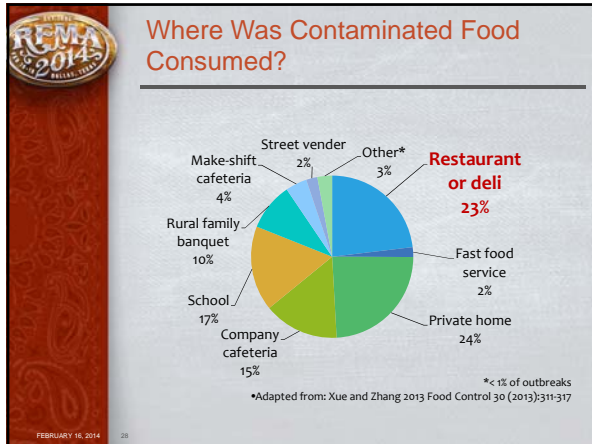


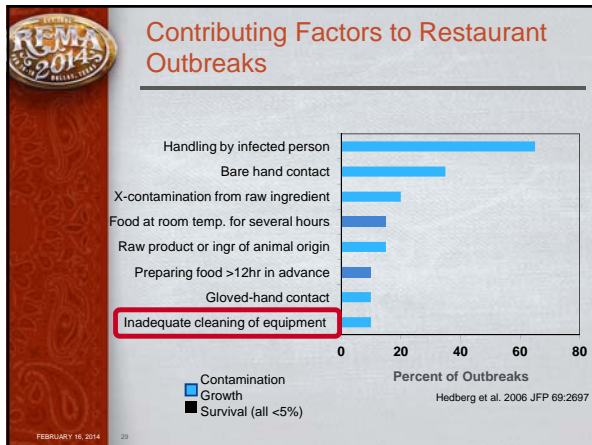
Proactive Care helps you achieve:

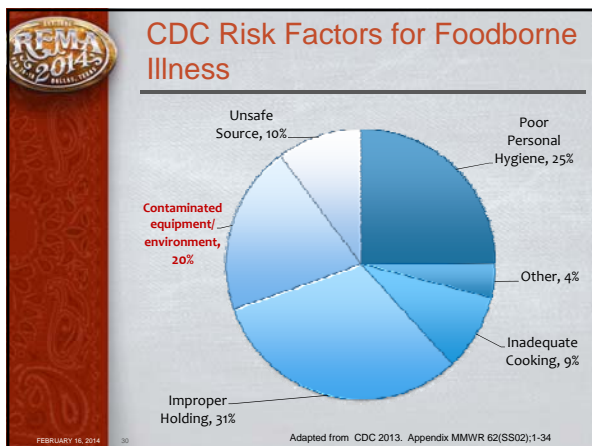
- Operational efficiency
- Extended equipment life




FOOD SAFETY










Top 10 Factors Contributing to US Foodborne Illness 1998-2002

Contamination dominated!

Contamination	1. Food at room temp for several hours—29%
	2. Bare-handed contact by food handler—25%
	3. Inadequate cleaning of equipment—22%
Growth	4. Handling by infected person or carrier—20%
	5. Inadequate cold-holding temperature—19%
	6. Cross contamination from raw animal products—12%
Survival	7. Insufficient cooking—12%
	8. Raw ingredients contaminated by animal or environment—11%
	9. Slow cooling—11%
	10. Inadequate hot holding time/temperature—10%


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Solutions for Foodborne Illness Contributing Factors

<ul style="list-style-type: none"> • Contamination prevention <ul style="list-style-type: none"> • Hand care programs • Cleaning & sanitation products and services • Supply chain antimicrobial treatments for meat, poultry, and produce • Color coded equipment • Pest elimination • [Hand care compliance] 	<ul style="list-style-type: none"> • Growth prevention <ul style="list-style-type: none"> • Thermometers • Date labels • [Remote temperature monitoring] • Survival prevention <ul style="list-style-type: none"> • Thermometers • Overall <ul style="list-style-type: none"> • Food safety audits • Food safety training • Equipment maintenance
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How to prevent foodborne illness?

Clean and monitor the performance of your equipment

<ul style="list-style-type: none"> • Clean and sanitize all food contact surfaces and equipment especially after changing from poultry to red meat • Watch for buildup beneath cutting table top surfaces and other equipment 	<ul style="list-style-type: none"> • Monitor holding, time and temperature of freezer units • Check refrigeration on a frequent basis to ensure that it is working properly and holding food at 41° F or below
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Safety tip: Is your warewasher hot enough?

Inspect warewashers to make sure water is hot enough to effectively kill bacteria

- Health regulations require that water temperatures in dish machines reach the appropriate temp in order to properly sanitize ware
- Ensuring that the temp reaches the appropriate level also requires a properly operating warewashing system



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Safety tip: Calibrate cooking and holding equipment temps

Routinely calibrate cooking and holding equipment can help avoid foodborne illnesses

- Be sure to properly calibrate equipment such as ovens and hot-food holding cabinets to verify they are cooking and holding at the desired temperatures
- Monitor equipment to make certain that proper temps are maintained at all times and that food is never in the temperature Danger Zone

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Safety Tip: Clean Equipment Surfaces

Thoroughly clean food-preparation stations and equipment to avoid cross-contamination

- Cleaning equipment surfaces that come into contact with food is one of the first lines of defense against food-borne illnesses
- Use food-prep equipment, such as choppers/grinders, slicers and cutter mixers, which are easy to disassemble for cleaning



What is most important to you?

Keep them safe...



Your customers = your success

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Preventative Maintenance
Your Ticket to Food Safety



Proactive Care helps you achieve:

- Safe food
- Good food quality
- A solid customer base



WHAT TO REMEMBER

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Let's talk numbers

A couple examples of how PM can save you money...

System	Service	Savings on operating costs
HVAC	Cleaning dirty refrigeration coils	25%-40%
Refrigeration	Cleaning dirty refrigeration coils and maintaining refrigeration levels	25%-60%
Coolers	Replacing worn door gaskets	\$100 annually

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Tips for effective preventative maintenance

1. Clean all restaurant equipment daily
2. Reference the owner's manual
3. Fill out and return the warranty card
4. Educate employees on the proper use of the equipment
5. Perform thorough cleaning on a regular basis
6. Regularly inspect your restaurant equipment
7. Replace broken or worn out parts
8. Be careful with do-it-yourself fixes
9. Follow chemical instructions
10. Properly care for stainless steel



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A key to improve Sustainability and your bottom line is to . . .



Focus on Kitchen Equipment

- Lower energy consumption
- Maximize operational efficiency
- Ensure the safety of your customers

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