



# K-12 REUSABLE WARE GUIDEBOOK

Solutions for K-12 Food Service



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# K-12 REUSABLE WARE GUIDEBOOK

Many school systems relied on disposable ware programs during the height of the COVID-19 pandemic, even if they had a reusable ware program before the pandemic. Disposables made it easy to package and deliver grab-n-go meals to students doing remote school and helped address concerns over contamination for on-site education. Now as we emerge from COVID-19 restrictions, K-12 food service is being impacted by additional factors including budgets, availability of supplies, lack of storage space, labor costs, and sustainability expectations and mandates. Many schools are reconsidering their ware programs and making the switch to reusables.

This guidebook explores some of the challenges faced by K-12 food service operators, the types of ware programs available, and what to consider when implementing a successful reusable ware program.

## LEARN MORE ABOUT

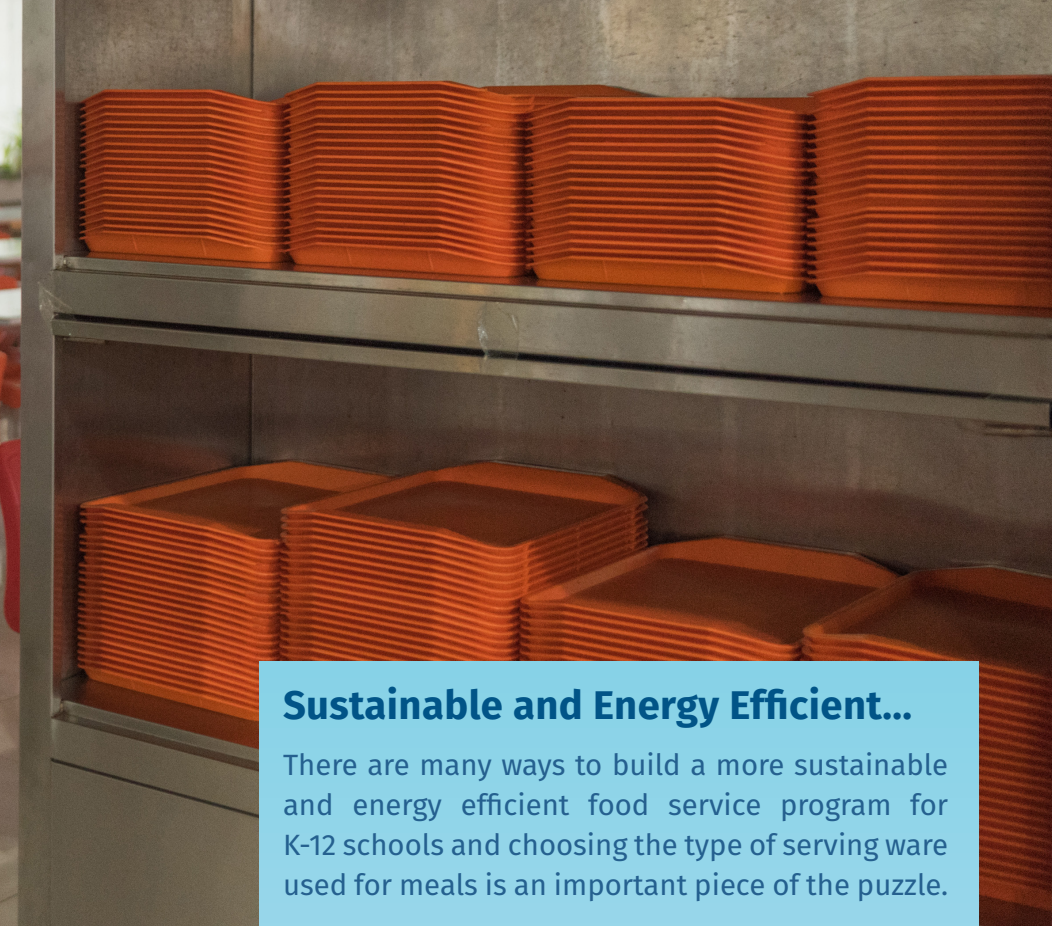
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# CURRENT CHALLENGES IN K-12 FOODSERVICE

## Current Challenges in K-12 Food Service

Operators of K-12 food service face many of the same challenges as other food service operations. Labor, supply chain, and budget issues are common; but, K-12 operators face additional pressures dealing with community expectations and school boards, as well as balancing budget constraints while providing free meals in the face of increased participation in food programs.



## Sustainable and Energy Efficient...

There are many ways to build a more sustainable and energy efficient food service program for K-12 schools and choosing the type of serving ware used for meals is an important piece of the puzzle.



## SUPPLY CHAIN ISSUES & RISING COSTS

From supplies to food to transportation and delivery, the cost of serving meals in K-12 food service is rising rapidly. Many operators are also struggling with supply chain delays and shortages. “While not every school system has experienced delays in the supply chain, we have heard from many that have a hard time getting disposable serving ware,” says Pete Terwilliger, Sales Development Manager, Hobart Warewash. “School systems are forced to find work arounds, such as cutting trays in half to serve more meals or ordering products from a consumer outlet rather than their traditional suppliers.”

## LABOR CHALLENGES

Like most food service operations, K-12 faces a challenge with recruitment and retention of qualified workers. The accelerated recovery from the pandemic has increased competition for workers, while at the same time many workers are choosing to retire or remain out of the work force. As of spring 2022, the unemployment rate was at a two-year low of 3.6%, a sign of a tightening labor market.

At the same time the cost of hiring is going up. Minimum wage is rising across the United States, with 26 states and 56 cities passing laws to raise the minimum wage in 2022, while other states are gradually increasing it to \$15 per

hour within a few years. More than half of K-12 operators say rising labor costs are their most significant labor-related concern, according to a 2020 Technomic survey.

## INCREASED ACCESS TO MEAL PROGRAMS

As we come out of the pandemic, more school systems around the country are providing free meals to all kids, due in part to a pair of legislative programs.

**The Healthy, Hunger-Free Kids Act of 2010** states that schools or districts with at least 40 percent of the total student enrollment directly certified for free meals (based on participation in the Supplemental Nutrition Assistance Program or other means-tested assistance programs) can offer free meals to all students. As of 2020, 33,171 schools participated in the program and participation increased by more than 2,500 schools over the previous year.

**In March 2020 the USDA offered waivers to K-12 schools** to give them the flexibility to continue providing meals to students in the face of COVID-19 Closures. Those waivers have been extended several times; and, while congress did not include funding for that program in the spring 2022 spending bill, several states are stepping up to continue the program. Currently California and Maine will continue a

universal meal program, and Colorado is in the process of voting on a program that would extend the benefits.

Other states are finding different ways to include more students in free or reduced meal programs. Washington expanded the program to allow more schools and students access to meals and saw participation increase from 40% to 62.5%. 27 other states have chosen to include Medicaid as one of the direct qualifiers for the free or reduced meals program.

More students accessing meal programs has an impact on school food service budgets and creates additional pressures.

## COMMUNITY EXPECTATIONS AND THE ENVIRONMENT

It's estimated that the 58 million K-12 students in the U.S. produce approximately 116 million pounds of trash per day, from food waste to disposable serving ware. That trash is noticed by students and their parents, many of whom want change and are advocating for programs that reduce waste.

As people become more aware of the need to take care of our environment, the search for solutions for waste reduction becomes more important. These issues are

especially top of mind for school-aged kids, who are increasingly aware of the effects of climate change and the prospects for their future. There are many ways to build a more sustainable and energy efficient food service program for K-12 schools and choosing the right type of serving ware used for meals is an important piece of the puzzle.

# SUSTAINABILITY: A DEEP DIVE

While many challenges facing K-12 food service operations are relatively straight-forward, the topic of sustainability is multi-faceted, with pressures coming from community members and new regulations and mandates, forcing operators to find new ways to manage waste and reduce their carbon footprint.

**AWARENESS AND ACTION** on environmental issues has increased in recent years and has been elevated with the United Nations' Net Zero by 2050 climate challenge. Governments and businesses around the globe are setting goals and implementing plans to reduce emissions and waste, and parents and students are pressuring schools to find ways to reduce the environmental impact of food service programs.

**CITY AND STATE REGULATIONS AND MANDATES** are being introduced to reduce waste and its environmental impact. Vermont's Universal Recycling Law required by 2020 all organic waste (food and yard debris) be diverted from landfill disposal. Colorado is implementing a ban on Styrofoam containers in 2024, and a similar law goes into effect in New Jersey in 2022. The city of Seattle banned single-use plastic straws and utensils in 2018. In 2022, California enacted a law requiring the recycling of all organic waste. Federal regulations may soon be in place as well. One senator introduced a Break Free from Pollution Act in 2021 that would ban single-use Styrofoam containers, among other proposals.



**There are three main categories of environmental concern K-12 food service operations must consider: Solid Waste, Organic Waste and Emissions.**

**Here are some of the creative ways schools are making reductions:**

- ❑ **Create share tables** or donate food to nonprofits to reduce food waste & insecurity.
- ❑ **Go digital with menus** rather than sending paper menus home.
- ❑ **Schedule recess before lunch.** This encourages students to eat the healthy foods on their tray, and they're less tempted to throw away food to go play.
- ❑ **Use local food when possible,** which are less carbon intensive than processed foods.
- ❑ **Implement composting programs** for both food and compostable ware.
- ❑ **Consider a reusable ware program** to eliminate disposables and single-use plastics.
- ❑ **Assess current equipment** and consider a commercial dishwasher to replace a three-compartment sink to reduce water and energy consumption

The type of ware used for food service is an important part of the above solutions, and recycling disposable ware or using compostable options might seem like a smart environmental choice. However, it's important to understand the limitations on these programs in your district. According to the New York Times, cities and towns across the country have had to increase fees for recycling programs or shut them down altogether, due to rising costs of recycling. When it comes to composting programs, availability can still be an issue, only about 300 communities provided services as of the 2017, and this option also incurs additional fees.

Reusable ware programs can help solve many of these challenges.

# CHOOSING THE RIGHT WARE PROGRAM FOR YOUR SCHOOL

School systems throughout the United States use a mixed-bag of ware items. Some use all reusable or disposable, while others use a mix of both. Determining the best path depends on a variety of factors including cost, availability of items, storage space and staffing considerations.

## DISPOSABLE/RECYCLABLE

Plastic forks, spoons and Styrofoam serving trays are a familiar sight in many school lunchrooms. The serving ware is relatively inexpensive and doesn't require labor to clean it; however, it's not biodegradable and sends a lot of trash to our landfills. Some types of plastic ware are recyclable (#6 or PETE plastic), which helps offset the negative impacts on the waste stream; however, recycling adds labor to sort items before disposal and is relatively uncommon in K-12.

## COMPOSTABLE

While three to five times more expensive than plastic ware, compostable programs reduce the amount of trash going into landfills while maintaining the convenience of disposables. Trays, utensils and serving ware come in a variety of materials including Kraft paper, bamboo, and Bagasse, which is made of sugar cane pulp. Look for products that are certified to ASTM D6400 standards.



Before starting a compostable program, check on the availability and cost of compostable waste management services, which typically add fees on top of standard trash collection.

## REUSABLE

From stainless steel utensils to plastic or melamine serving trays, reusable ware offers a wide variety of choices that fit any budget for K-12 programs, with a net savings that comes from a one-time ware purchase. Reusable ware programs also minimize the amount of trash going into the waste stream and can reduce trash collection costs. There is added labor time needed to wash dishes, but this can be offset with a commercial dishwasher, which also saves time spent handwashing prep ware, usually providing a net time savings.

## DON'T FORGET YOUR PREPWARE

Many schools hand wash their prep ware in a three-compartment sink, which is time consuming and yields inconsistent sanitization. An automated dishwasher makes short work of cleaning pots, pans and utensils, freeing up even more time to use in other parts of the kitchen, or in getting staff out early. This is an important factor when considering a reusable ware program.

## Ware Program Pros & Cons

WARE TYPE	COSTS	PROS	CONS
<b>Disposables</b>	Forks .03 Trays .10	<ul style="list-style-type: none"> <li>• Cheap initial purchase</li> <li>• No maintenance necessary</li> </ul>	<ul style="list-style-type: none"> <li>• Recurring costs to replenish</li> <li>• Large amount of trash</li> <li>• Supply chain issues hindering availability</li> <li>• Storage space needed for supplies</li> </ul>
<b>Compostables</b>	Forks .15 Trays .46	<ul style="list-style-type: none"> <li>• Environmentally friendly</li> <li>• No maintenance necessary</li> </ul>	<ul style="list-style-type: none"> <li>• 3x cost over plastic disposable ware</li> <li>• Recurring costs to replenish</li> <li>• Added cost of waste disposal</li> <li>• Availability of composting programs</li> <li>• Added labor to sort at time of disposal</li> </ul>
<b>Reusables</b>	Forks .19 Trays Plastic 3.73 Trays Melamine 8.06	<ul style="list-style-type: none"> <li>• One-time purchase</li> <li>• No waste, no sorting needed</li> <li>• Reduces time manually washing prep ware, for net labor reduction.</li> </ul>	<ul style="list-style-type: none"> <li>• Labor needed for warewashing (can be reduced with use of a commercial dishwasher)</li> </ul>

## Consider the Benefits of Reusables and a Commercial Dishwasher

Research by the School Nutrition Information Center found schools that use reusable, compartmentalized serving trays used the lowest amount of energy and produced the lowest amount of solid waste when compared to other programs using a variety of disposable ware and reusable flat trays. In addition, the use of an efficient commercial dishwasher can cut water and energy consumption more than half when compared to a three-compartment sink.

And with the time a dishmachine saves, staff are freed up to do other tasks, improving the overall productivity of the food service operation.

The net benefit of labor, time savings, combined with the elimination of purchasing costs for disposables or compostables, can tip the scales in favor of a reusable program for many schools.

## MANUAL vs. AUTOMATED DISHWASHING

When looking at the choice between manual and automated dishwashing programs, commercial dishwashers provide a clear advantage. Studies show commercial dishwashers are a cost-effective investment for increasing energy efficiency and productivity, and in reducing labor demands in food service operations. Some of the advantages of commercial dishwashers include:

- More than 40% reduction in wash time over manual washing
- Up to 68% less water consumption
- 100% compliance to food safety requirements on water temperature and sanitization, including consistent wash and rinse temperature, consistent dosing of detergent and sanitizer, and complete sanitization of all ware.

### A Hobart study of manual dishwashing found the following risks:

**85%** OF WASHING TIME was below the 110°F requirement

**STAFF SOMETIMES SKIP SANITIZATION** & the washing or rinsing steps



**30 sec** Ware was submerged **LESS THAN 30 SECONDS** for the required time in sanitizer

Staff incorrectly follow the wash, rinse & sanitization procedure

**OUT OF ORDER**



## CASE STUDY: BENJAMIN FRANKLIN ELEMENTARY SCHOOL

Like many school systems across the country, Benjamin Franklin Elementary School in Glendale, California faced pressure from parents to improve its sustainability measures and look for environmentally friendly options to combat the amount of organic and solid waste.

State mandates in California also required food service operations to compost all food waste starting in 2022. With the help of a “Green Team” of parents organized by the school’s PTA, Benjamin Franklin Elementary piloted a program to monitor and sort waste at each meal. The school also switched to a reusable ware program and installed an automated Hobart AM Series Ventless Commercial Dishwasher. Since the switch, the school has benefitted from reduced operating costs, less waste, and compliance with the state mandate.

- Benjamin Franklin Elementary spent \$5,800 on disposable utensil kits and compostable trays for over 64,000 meals each year. This cost was eliminated entirely from their budget.
- Less trash volume means the trash vendor can come half as often for the dumpster, a savings of \$1,280 per year.
- Before the switch, the school used a three-compartment sink to wash and sanitize pots and pans, using about 16,000 gallons of water a year. The Hobart AM ventless door type dishmachine the school installed is much more efficient, using only 7,000 gallons of water to wash about 33 racks per day. That’s a savings of 9,000 gallons in a drought prone state!

- Up-front costs for a reusable program range from \$10,000–\$20,000. It’s not uncommon for a Hobart dishmachine that is well taken care of to last well over 10 years, so these programs can pay for themselves several times over during the lifetime of the dishmachine.
- The Hobart AM16VLT provides consistent cleaning and sanitization for all of Benjamin Franklin’s ware items, on every cycle. This greatly reduces the risk of poor and incomplete sanitization that may come from manually washing ware in a 3-compartment sink.

SCAN TO READ THE CASE STUDY AND WATCH THE “GREEN TEAM” VIDEO.

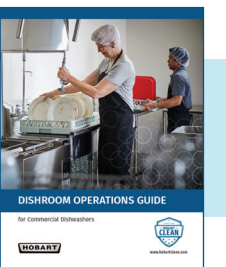


### Is Your Food Service New to Automated Dishwashing?

There’s a lot that goes into specifying and installing a commercial dishwasher. Hobart makes it easy to understand with our free Dishroom Operations Guide. Learn all you need to know to select the best machine, get it installed right, and get the best performance and efficiency when it’s up and running.



Scan here to download the Dishroom Operations Guide.



# PLANNING YOUR REUSABLE WARE PROGRAM

There are a variety of factors to consider when planning a reusable ware program. Start out by assessing your student population, the percentage of students participating in your meal program (lunch, and breakfast if applicable), dry storage space available for supplies, space needed for dishwashing equipment, and staffing requirements. Also take a look at these additional factors:

- What types of serving ware do you need, such as flat trays or compartmentalized trays?
- Will you use a mix of reusable vs. disposable/compostable; some schools purchase reusable trays but serve food in disposable containers?
- Consider availability and shipping costs for disposable or compostable ware.
- Will there be a reduction in trash and/or compostable handling and hauling?
- If you are considering composting, is a program available in your area?
- How much time and space are needed for managing inventory?
- What are the labor hours required for ware washing? Remember to look at the time spent manually washing prep ware and utensils.

## COUNTING THE COSTS

The next step is to price out your program. Look at what you're spending on your current ware program, then look at the costs for a reusable program. Consider trays, silverware and other items, as well as the purchase and installation of equipment. And don't forget the operating costs. It takes a lot less water, energy and chemicals to run a commercial dishwasher than a three-compartment sink.



## CALCULATE YOUR RETURN ON INVESTMENT

Hobart makes it easy to calculate the return on your investment with our **Reusable Tray Program Cost Calculator**. Enter the details about your school, food service, and ware program choices, and the calculator will provide a cost comparison and payback of disposable or compostable ware versus reusable ware.

HOBART Reusable Tray Program Cost Calculator	
Fill in the yellow fields below with your information to calculate the costs & payback for your new reusable ware program, vs. your current disposable/compostable program.	
School Size	400
Breakfast Program Participation (%)	25%
Lunch Program Participation (%)	50%
School Year Length (days)	180
Number of Kids Served Breakfast	100
Number of Kids Served Lunch	200
Disposable/Compostable Tray Cost	\$0.11
Disposable/Compostable Flatware Cost	\$0.11
Annual Cost for Breakfast Program Disp./Comp.	\$3,960.00
Annual Cost for Lunch Program Disp./Comp.	\$7,920.00
<b>Total Disposable/Compostable Costs</b>	<b>\$11,880.00</b>
Reusable Tray Cost	\$3.79
Reusable Flatware Cost	\$0.27
Additional purchase quantity	30%
<b>Initial Investment in Reusable Ware</b>	<b>\$1,055.60</b>
Savings by switching to Reusables	\$10,824.40
<b>Dishmachine Investment</b>	<b>\$31,033.00</b>
<b>Recommended Dishmachine Type</b>	<b>Door Machine</b>
<b>Simple Payback period (years)</b>	<b>2.9</b>

USE THIS QR CODE TO LINK TO THE CALCULATOR AND FIND YOUR OWN COST COMPARISONS



You can also request a free **COST OF OPERATIONS AUDIT** to see how much a dishmachine can save over a three-compartment sink; or compare operating costs between different dishmachine options.

# SELECTING A COMMERCIAL DISHWASHER

Selecting the right commercial dishwasher for your school depends on the type of ware you're washing, the total volume you have to wash, and how quickly you need to

have it cleaned. The following are the three most common types of dishmachines for K-12 food service operations:

AM16 SERIES DOOR TYPE	PW10 & PW20 PREP WASHER	CLEN SERIES CONVEYOR TYPE
<b>MODERATE VOLUME</b>	<b>LOTS OF TRAYS &amp; PREP WARE</b>	<b>HIGH VOLUME</b>
Great for most elementary schools, this machine comes in a corner or straight-thru configuration. It easily fits into tight spaces and can be integrated with your three-compartment sink.	A good option for satellite schools that mostly clean hotel pans coming from a central kitchen, or as a supplementary dishmachine to door/conveyor style machines when a three-compartment sink is still in use.	The perfect size for most middle schools and high schools that have a larger volume of ware to clean, including reusable ware, and prepware.
<ul style="list-style-type: none"> <li>• 40 – 60 racks per hour</li> <li>• Standard height accommodates 1 full-size sheet pan</li> <li>• Tall height accommodates 6 full size sheet pans at one time</li> <li>• NSF Certified Pot &amp; Pan mode cleans tough food soils</li> </ul>	<ul style="list-style-type: none"> <li>• Up to 20 cycles per hour; washes 10 - 20 full size sheet pans per cycle</li> <li>• Fits up to 140-quart mixing bowl</li> <li>• Front loading eliminates need for tabling, saving cost &amp; space</li> <li>• NSF Certified Pot &amp; Pan mode cleans tough food soils</li> </ul>	<ul style="list-style-type: none"> <li>• 202 – 342 racks per hour</li> <li>• NSF Certified Pot &amp; Pan mode cleans tough food soils</li> <li>• Accommodates up to 6 full size sheet pans at one time with a special rack</li> </ul>

# DISHWASHING TECHNOLOGIES THAT GIVE YOUR DISHROOM A BOOST

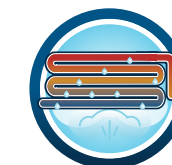
Commercial Dishwashers are great at making short work of piles of ware, and the following add-on technologies can lower installation and operating costs and reduce the amount of labor time for washing, giving a real boost to your efficiency and productivity. They also save a lot of water and energy, which reduces your carbon footprint even more, and helps with your sustainability initiatives.



**AUTOMATIC SOIL REMOVAL (ASR)** is designed to pump heavy food soils out of the wash water. More

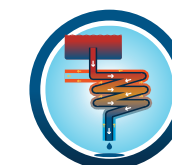
food soil can go in but more comes out, which means a lot less time spent pre-scraping ware, and fewer wash

water changes, saving even more time and valuable water resources.



**VENTLESS ENERGY RECOVERY** Ventless Energy Recovery recycles steam and heat from the wash

back into the machine, eliminating the need for a costly vent hood and direct venting and saving a lot of money and resources on operating and installation costs.



**DRAIN WATER ENERGY RECOVERY (DWER)** recycles wash water heat to save up to 20% on

energy costs; and pre-cools drain water to reduce cold water needed

to meet drain water tempering code requirements by 90%.



Hobart has earned **ENERGY STAR PARTNER OF THE YEAR** recognition for 14 consecutive years thanks to our low energy consumption and design features like our insulated doors and hoods. All Hobart electric dishmachines are ENERGY STAR 3.0 certified to provide you with the most options for energy efficiency (excludes the AMTL).



## ADDITIONAL RESOURCES



THERE'S CLEAN, AND THEN  
THERE'S HOBART CLEAN.  
Learn more at  
[HobartClean.com](http://HobartClean.com)

For more information and detailed help specifying a dishwasher for your operation, contact our team at 888-378-1338.

[Check out and download helpful articles and resources at warewash.hobartcorp.com/reusables](http://warewash.hobartcorp.com/reusables)



For more information about Hobart Commercial Dishwashers, visit [HobartClean.com](http://HobartClean.com)

**HOBART**

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Hobart  
701 S. Ridge Ave.  
Troy, Ohio 45373  
1-937-332-3000

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