

# Thermo Fisher Scientific - Gothenburg Zero Waste to Landfill Certification 2020

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*30<sup>th</sup> October 2020*



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# Introduction

## Background

This report outlines the findings of a Thermo Fisher Leadership Level Zero Waste Requirement Certification audit conducted by Valpak Limited (Valpak) on behalf of Thermo Fisher Scientific Inc. (Thermo Fisher) at the company's site in Gothenburg, Sweden.

The audit took place during September/October 2020 and included a review of documentation/data to confirm waste streams and treatment processes. The audit was conducted with Daniel Midvik (Thermo Fisher Scientific).

## Scope of the Audit

The audit covered the following site:

Thermo Fisher Scientific  
MacDonald House  
Arendalsvägen 16  
418 78 Göteborg  
Sweden

The audit covers the period of 2020.

## Definition – Leadership Level Zero Waste Requirement

Thermo Fisher Leadership Level – Zero Waste requirements are that each site shall attain a 90% or better recycling diversion rate from landfill for non-hazardous waste, where waste is incinerated for energy only as a last resort:

- Incineration, if any, must be compliant with minimum guidelines
- Recycling diversion rate is 70% or higher
- An external audit with external validation must be performed to ensure zero waste criteria is being met
- An Internal annual audit must be performed to ensure Zero waste requirements are being met
- External validation must be performed every three (3) years to establish the recycling diversion rate and compliance with incineration standards
- Sites must have met the compliance level - Waste Minimisation I requirements

They also state that actions taken to achieve 70% recycling diversion rate should include:

- Eliminate all recyclables from waste streams
- If your waste hauler handles recycling off site, site needs to audit to confirm waste diversion rate
- Consistently recycle materials at highest possible use
- Partner with the business functions to optimise supply, production, and distribution systems to reduce waste

- Maximise use of recycled content in operations, including production areas, offices, break rooms, and in the construction or remodeling of new buildings

## Background

### The Company

Thermo Fisher has revenues of \$25 billion and more than 75,000 employees globally<sup>1</sup>. Its mission is to “enable our customers to make the world healthier, cleaner and safer. We help our customers accelerate life sciences research, solve complex analytical challenges, improve patient diagnostics and increase laboratory productivity. Through our premier brands – Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific and Unity Lab Services – we offer an unmatched combination of innovative technologies, purchasing convenience and comprehensive support”<sup>2</sup>.

Thermo Fisher was audited on September/October 2020 by Valpak Ltd to provide external verification of the Thermo Fisher Gothenburg site against the Environmental Health & Safety Achievement Program Leadership Level Zero Waste requirement.

The requirement establishes a culture of conservation leadership at Thermo Fisher. It also aims to establish the standards, practices and tools necessary to operate as a zero-waste site in a manner that leads to a more sustainable future through the elimination, reduction, and recycling of wastes.

## Waste Management

### Waste Management on Site

To reduce waste and achieve zero waste to landfill, Thermo Fisher Scientific has implemented several initiatives on site, these include:

#### Break room

Recycling / Sorting Stations have been installed. Plastic, paper, glass and cans are sorted. There is also a sorting station for food that is used for biofuel. In the break room there are no disposable plates, mugs or cutlery. Everything that is used can be washed in the dishwashers.



<sup>1</sup> <https://corporate.thermofisher.com/en/home.html>

<sup>2</sup> <http://corporate.thermofisher.com/en/about-us.html>



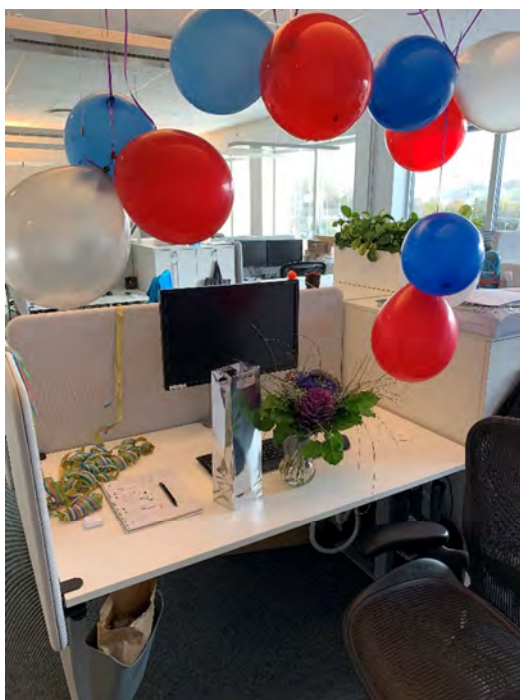
## Sorting Station 1 in the Breakroom



## Sorting station 2 in the breakroom.



Offices – paper bags used in the bins, bags are used more than once



Plants in office are grown in hydro culture. Reducing the need for soil in plants. Additionally, they act as natural air fresheners improving the air quality without increasing the ventilation system.

### Recycling house



Various waste receptacles are used to source segregate materials for recycling by Renova<sup>3</sup>.

<sup>3</sup> <https://www.renova.se/en/about-renova/>

## Warehouse Reducing Waste

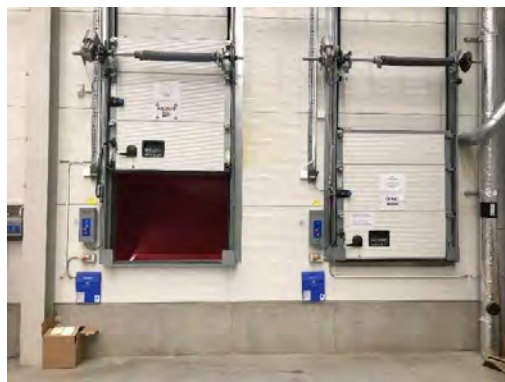


Recycling stations throughout the warehouse for paper / cardboard and plastic



All packaging plastic is captured and recycled

Compactors are used to help compress the waste to help improve the efficiency of collection. The compactors are reached from indoors in order to reduce the energy loss by opening doors.





Raising staff awareness of waste management/recycling policies and procedures on site is done using:

- Signage
- Noticeboards
- Internal communications

## Documentation

Data is documented in two locations:

- Remotely: waste data and statistics are stored in the Thermo Fisher Scientific account on Renova's customer portal on it's website (<https://www.renova.se/en/renova-customer-portal/>).
- Locally: waste data and statistics are also stored in excel on the local Microsoft Teams Channel.

## Waste Arising on Site

From 1<sup>st</sup> August 2019 to 31<sup>st</sup> July 2020, Thermo Fisher Scientific (Gothenburg) produced 34 tonnes of waste, of which 0.14 tonnes is hazardous waste. Although the focus of this audit is non-hazardous waste the hazardous waste has been included for completeness to demonstrate it is being recorded and managed appropriately.

Figure 1 provides details of the waste arisings on site and treatment methods.

Figure 1 - Wastes Arising at Thermo Fisher Scientific (Gothenburg)

	Waste / Recyclate	Annual Quantity (kg)	Waste Management Company	Waste Treatment	Evidence
	Wellpapp (Corrugated cardboard)	12,820	Renova	Recycled	Waste Management Report
	Hård- och mjukplast, verksamheter (Hard and soft plastics, operational)	3,858	Renova	Recycled	Waste Management Report
	Kontorspapper (Office paper)	1,311	Renova	Recycled	Waste Management Report
	Lösningsmedel ( >20 MJ/kg ) (Solvent)	807	Renova	Recycled	Waste Management Report
	Avfall till sortering (Waste for sorting: Glass, wood, porcelain, metal and steel)	358	Renova	Recycled	Waste Management Report
	Pappersförpackningar (Paper packaging)	247	Renova	Recycled	Waste Management Report
	Elektronik, ej producentansvar (Electronics, not producer responsibility)	95	Renova	Recycled	Waste Management Report
	Syror, oorganiska (Acids, inorganic)	87	Renova	Recycled	Waste Management Report
	Baser (Bases)	70	Renova	Recycled	Waste Management Report
	Småbatterier (Small batteries)	28	Renova	Recycled	Waste Management Report
	Aerosoler övriga (Aerosols)	6	Renova	Recycled	Waste Management Report
	Syror, organiska Acids, organic	1	Renova	Recycled	Waste Management Report
	Fint brännbart verksamhetsavfall (Fine combustible operational waste)	14,060	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report

	Lösningssmedel halogenerade (Solvents halogenated)	61	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report
	Mat - kompost (Kretslopp&Vatten) Food - compost	50	Renova	80% Recycled / 20% EfW	Waste Management Report
	Restavfall -kontor (Kretslopp&Vatten) Residual waste office	300	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report
Haz	Brännbart avfall till FA (Combustible waste to (FA Farligt avfall = Dangerous goods, Renova has permission to incinerate certain chemicals))	27	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report
Haz	Riskavfall läkemedel (Hazardous waste drugs)	23	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report
Haz	Småkemikalier, oorganiska (Small chemicals, inorganic)	39	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report
Haz	Småkemikalier, ej ADR (Small chemicals, not ADR)	22	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report

Haz	Småkemikalier, organiska Small chemicals, organic	19	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report
Haz	Klorerade syror Chlorinated acids	11	Renova	EfW (70%) Bottom Ash/Metals Recycling (30%)	Waste Management Report
Haz	Kvicksilverbrytare termometrar (Mercury switch thermometers)	1	Renova	Landfill	Waste Management Report
Haz	Småkemikalier, kvicksilver Small chemicals, mercury	1	Renova	Landfill	Waste Management Report
<b>TOTAL</b>		<b>34,302</b>			



## Continuous Improvement

Thermo Fisher Scientific has an extensive Environmental Health & Safety Achievement Program in place, which uses lean manufacturing, six sigma and KPIs etc. Thermo Fisher Scientific has several continuous improvement projects specifically aimed at the Gothenburg Site through EHS / Facilities / Sustainability Initiatives, these include:

- Food from the canteen is collected and used as biofuel by the local energy company.
- Reducing the amount of paper that is used, with an example of this moving over to electronic invoices for the customers.
- Awareness campaign, making sure that all employees are aware of the way to sort and recycle.
- Utilising the ATEA recycle bins for Waste Electrical and Electronic Equipment (WEEE) recycling.
- Reuse inbound packaging material for outbound shipments in order to reduce waste.
- In the warehouse they have a program of Sort and Recycle all materials in order to reduce the general waste.
- Forklifts recharge on low voltage in order to reduce electrical usage.

## Audit for Leadership Level Zero Waste Requirement

During September/October 2020 a zero waste audit was conducted at the Thermo Fisher Gothenburg site. This involved:

- Introduction and questionnaire
- Remote audit to identify and observe the non-hazardous waste streams and waste management practices
- Closing interview/email confirmation

The table below provides information about the actions taken on the site to meet the Leadership Level Zero Waste requirements.

### Leadership Level – Zero Waste Requirement

	Requirement	Action Taken
4.1	<b>Each site shall attain 90% or better recycling diversion rate from landfill for non-hazardous waste, where waste is incinerated for energy only as a last resort.</b>	Achieved.  The site is achieving a 100% diversion from landfill of non-hazardous waste. All other material is treated by waste either prevention, re-use, recycling/composting or Energy from Waste (EfW) / Anaerobic Digestion (AD). Ash from EfW is also recycled ( <a href="https://www.renova.se/en/Sustainability/">https://www.renova.se/en/Sustainability/</a> ).
4.1.1	Incineration, if any, must be compliant with minimum guidelines – see reference documents	Achieved.  The EfW facility used is Renova AB, von Utfallsgatan 29, 415 07 Göteborg, Västra Götaland.  Information regarding the EfW facility can be found at:  <a href="https://www.renova.se/en/our-facilities/">https://www.renova.se/en/our-facilities/</a>
4.1.2	Recycling diversion rate is 70% or higher.	Achieved.  Approximately 34 tonnes of non-hazardous waste arises on site, of which 24 tonnes is reused or recycled. 10 tonnes are treated by EfW/AD.  <b>Waste Prevention, Reuse and Recycling Rate: 70.4%</b>
4.1.3	An external audit with external validation must be performed to ensure zero waste criteria is being met.	Achieved.  This report presents the findings from the external audit and validation for 2020.
4.1.4	An Internal <b>annual</b> audit must be performed to ensure Zero waste requirements are being met	Achieved.  Waste and recycling data are collated on a monthly basis and is continually monitored against targets to ensure they are met as well as any other environmental improvements which are as a consequence of waste management and recycling.
4.1.5	External validation must be performed every three (3) years to establish the recycling diversion	Achieved.


	rate and compliance with incineration standards.	This report presents the findings from the external audit and validation for 2020.
4.1.6	Sites must have met the prevention level - Waste Minimization I requirements – see reference documents.	See section below 'Waste Minimisation Requirement'
4.2	<b>Actions taken to achieve 70% recycling diversion rate should include:</b>	
4.2.1	Eliminate all recyclables from waste streams.	Achieved.  Thermo Fisher Scientific Gothenburg is achieving a high level of recycling and is working with Renova (and other contractors) to increase its recycling rate. Valpak is satisfied Thermo Fisher Scientific are taking all practicable steps to recycle as much as possible.
4.2.2	If your waste hauler handles recycling off site, site needs to audit to confirm waste diversion rate.	Achieved.  Thermo Fisher Scientific has conducted review of how the contractor Renova is working. Their sustainability work is available online ( <a href="https://www.renova.se/en/our-facilities/">https://www.renova.se/en/our-facilities/</a> ).  It should also be noted that the Renova Group is owned by ten municipalities in Western Sweden, and as such, this brings credibility to the waste trail and reporting.
4.2.3	Consistently recycle materials at highest possible use.	Achieved.  Thermo Fisher uses a single reputable waste contractor (Renova) and continuously works with them to recycle their material into the best possible end markets.
4.2.4	Partner with the business functions to optimize supply, production, and distribution systems to reduce waste.	Achieved.  Thermo Fisher Scientific has several continuous improvement projects specifically aimed at the Gothenburg Site through EHS / Facilities / Sustainability Initiatives. A list of current initiatives with other business functions is provided above.  These are good examples of knowledge sharing between business functions to optimize supply, production, and distribution systems to reduce waste.
4.2.5	Maximize use of recycled content in operations, including production areas, offices, break rooms, and in the construction or remodelling of new buildings.	Achieved.  See pictures above.
5.1	Demonstrate community thought and action leadership in reducing waste e.g. neighbourhood activities / community clean up.	Achieved.  Examples include: <ul style="list-style-type: none"> <li>• Global volunteering day each year</li> </ul>

		<ul style="list-style-type: none"> <li>• Litter picking around facility</li> <li>• Work with landlord and other companies to make sure that the surrounding areas are nice and clean</li> </ul>
5.2	Effort and communication should be made to promote recycling and awareness in house to ensure visibility of zero waste projects.	<p>Achieved.</p> <p>Thermo Fisher Scientific Gothenburg has several continuous improvement projects specifically aimed at the Gothenburg site through EHS / Facilities / Sustainability Initiatives. A list of current initiatives with other business functions is provided above. This has been taken from the internal presentation used by the organisation to help promote good practice and facilitate knowledge transfer.</p>



## Waste Minimisation Requirement

4.1	Each site must establish a Green Committee and a Green Committee Charter. See Appendix 5.2 (Green Committee Charter) for a sample charter.	<p>Achieved.</p> <p>In Gothenburg they have a group working together. "Sustainability – Gothenburg, Sweden" Set up in Microsoft Teams and meets on a regular basis. In this team they work with the inbound – business – outbound pollution and the waste from their operations.</p> <p>Their current focus is on the Business operation and the waste, trying to reduce their carbon footprint based on the baseline.</p> <p>Copy of Environmental Policy and all information required in Green Committee Charter – Gothenburg site provided during audit.</p>
4.2	Each site must establish recycling activities appropriate to the local available infrastructure to collect recyclables. Recycling activity shall, at minimum, focus on paper, plastic, glass, aluminium, cardboard, and electronics and other IT equipment.	<p>Achieved.</p> <p>See Figure 1.</p>
4.3	Each site must collect waste disposal data and provide monthly updates to Global EHS Metrics. These data are found on the shipping papers or invoices from the waste haulers. EHS should work with Facilities to ensure proper tracking and reporting of this information.	<p>Achieved.</p> <p>See Figure 1. Reporting evidence was also provided during audit.</p>
4.4	Each site must identify and quantify all of the site's non-hazardous waste streams. In partnership with the Facilities department and Global Environmental Sustainability, conduct a survey to identify sources and patterns of waste streams. This survey must be documented and shall identify largest waste streams.	<p>Achieved.</p> <p>See Figure 1. Evidence was also provided during audit.</p>
4.5	Perform a desktop analysis to identify waste minimization opportunities and complete a cost benefit analysis to prioritize all proposed waste minimization measures. Determine whether a 3rd party waste survey is appropriate for your site.	<p>Achieved.</p> <p>See Figure 1.</p>

4.6	When a waste survey is warranted, the site should engage their local waste contractor/waste management company (or other qualified entity) to perform a waste survey. This survey must cover all types of waste generated at the site and updated as needed.	Achieved.
4.7	Each site must update and prioritize the site's project list with a timeline to execute on the approved waste minimization opportunities. Identify projects that require funding or implementation. The funding may be for items such as expenses for engineering studies, capital funding for site-related modifications or purchase of equipment. As new opportunities emerge, new projects may be added.	Achieved.  Presentation of Gothenburg EHS productivity projects provided during audit. This also included an update of current progress of each.
4.8	Each site must perform follow-up evaluations on waste minimization projects to determine if the projects were successful.	Achieved.  Presentation of Gothenburg EHS productivity projects provided during audit. This also included an update of current progress of each.
4.9	Upon completion and verification of these projects, the site must collect brief (1-page or less) stories to show the impacts of these projects. These should be submitted to Global Environmental Sustainability and communicated to the site to raise awareness and celebrate success. These stories are essential to conduct sustainability awareness campaigns in forums such as investor calls, Global Citizenship Report, and LifeLink.	Achieved.  The Gothenburg Site was mentioned among the other Swedish sites in the Thermo Fisher Scientific CSR report 2017.   <p><b>Taking the lead to become fossil fuel free</b></p> <p>Inspired by the unprecedented Paris Agreement, in which nearly 200 countries agreed to establish an action plan to prevent global temperatures from rising more than 2°C, Sweden is striving to be the first country to be 100% fossil fuel free.</p> <p>Since 2015, our sites throughout Sweden have implemented the following initiatives to reduce their overall environmental impact:</p> <ul style="list-style-type: none"> <li>• Construction of biological wastewater treatment plant that treats 70,000 cubic meters of water annually</li> <li>• Construction of a BREEAM* certified distribution center in 2017</li> <li>• Provision of 22% of the sites' power usage by renewable energy sources—approx. 2,645 MWh</li> <li>• Installation of 5 electric vehicle charging stations</li> <li>• Installation of insulated windows</li> </ul> <p><small>* BREEAM is the world's leading sustainability assessment method for master planning projects, infrastructure and buildings. It recognizes and reflects the value in higher performing assets across the built-environment lifecycle, from new construction to in-use and refurbishment.</small></p> <p>Many of the actions they have made has further improved their CO2 footprint. In the summer of 2020, the site Gothenburg was awarded with a certification that the electricity they consume is "Good Environmental Choice" eco-label criteria set by The Swedish Society for Nature Conservations (SSNC). The electricity is from renewable sources such as Water, wind and Biofuel.</p>

## Key Findings

### Waste Treatment

Thermo Fisher Scientific Gothenburg has demonstrated that the site achieving the Leadership Level Zero Waste Requirement. An overview of waste management performance on site is provided in Figure 3.

Figure 2 - Waste Treatment

Waste / Recyclate	Annual Quantity (T)	Annual Quantity (%)
Re-used	0.0	0.0%
Recycled / Composted	24.0	70.4%
Recovery (EfW, RDF, Biomass etc.)	10.1	29.6%
Landfill	0.0	0.0%
<b>TOTAL</b>	<b>34.2</b>	<b>100.0%</b>

Thermo Fisher Scientific Gothenburg has demonstrated that not only are they sending zero non-hazardous waste to landfill but that they have also achieved a good reuse/recycling/composting rate of 70.4%.

### Recommendations

The audit identified that the Thermo Fisher Gothenburg site is proactive in managing its waste and continually looks for ways to improve waste management on site. In order to build on this success to date, the following recommendations should be considered:

- **Continue to increase staff awareness:** Efforts should be made to build on the excellent work being undertaken and reinforce the message to staff of which waste and recycling bins to use. This is particularly important in large organisations which can have a turnover of staff.
- **Conduct waste composition analysis:** A waste composition analysis (this can be done visually or by physically sorting/weighing the waste) should be conducted to identify if waste/recyclate is being segregated effectively and to identify if any recyclate remains in the general waste stream, which could be recycled. This will help inform future recycling/awareness raising initiatives.
- **Segregate wooden pallets from the Fint brännbart verksamhetsavfall:** During the audit it was identified that this waste stream contained approximately 50% wooden pallets. It is recommended that these are removed from this waste stream and sent for recycling. This will reduce reliance on EfW and divert more material for recycling.
- **Perform review of reuse practices on site:** During the audit there was very little reuse highlighted in the data/examples provided, however it was clear that this was more a case of it not being recorded rather than it not happening on site. Going forward examples and quantities of reuse should be captured.

## Zero Waste to Landfill Certification

### Award

The findings of this audit confirm that the site is certified by Valpak for achieving the Thermo Fisher Leadership Gold Level Zero Waste Requirement from **1 November 2020 to 31 October 2023**<sup>4</sup>.

With zero non-hazardous waste from site going to landfill it also means that the Gothenburg site has achieved the Thermo Fisher gold standard for non-hazardous waste diversion from landfill<sup>5</sup>.



### Thermo Fisher's Three Levels of Zero Waste



### Logo

An electronic copy of the Zero Waste to Landfill Certified logo has been provided to Thermo Fisher to use for the duration of the award period: 01 November 2020 to 31 October 2023.

The logo can be used on any marketing material relating to the sites approved by this audit for the period of certification.

### Disclaimer

Certification has been granted based on the information and data provided by Daniel Midvik (Thermo Fisher Scientific), which is assumed to be accurate and correct and is documented within this report. Valpak does not accept any liability for any of this supplied information or data being inaccurate or incorrect.

<sup>4</sup> Valpak certification is normally provided for a two-year period with an interim audit conducted after year one; however, this audit has been conducted against the Thermo Fisher Leadership Level Zero Waste Requirement, which does not require an external audit at this site for another three years.

<sup>5</sup> <http://assets.thermofisher.com/TFS-Assets/BID/brochures/thermo-fisher-zero-waste-2020-guide.pdf>



Certification to Zero Waste to Landfill by Valpak requires that an organisation sends no waste or recyclate directly to landfill; it must all be treated through re-use, recycling or recovery. However, it is acknowledged that some recycling and waste treatment processes can produce by-products/residues. Examples of this could be Incinerator Bottom Ash (IBA) from an Energy from Waste (EfW) facility or contaminated/rejected material from a recycling process.

Where this occurs and is a significant proportion of the waste/recyclate, organisations must ensure that it is sent for further treatment through re-use, recycling or recovery and that it does not go to landfill. An example of this could be IBA being recycled into a construction aggregate. Where by-products/residues are minimal, it is acknowledged that some of these materials may potentially end up in landfill; however, where practical organisations should look to divert this through re-use, recycling or recovery.