

ENVIRONMENTAL PRODUCT DECLARATION

# SOLAR GARD ARCHITECTURAL SOLAR-CONTROL WINDOW FILMS

WINDOW FILMS



*Solar Gard Architectural Window Films provide privacy and protection from the sun, keeping occupants comfortable and reducing cooling loads.*



Solar Gard, a subsidiary of Saint-Gobain, is a leading North American manufacturer of architectural solar control window films. Solar Gard embraces a culture of sustainability from top to bottom. Saint-Gobain has received the ENERGY STAR Sustained-Excellence award for four consecutive years. Solar Gard has implemented a waste and recycling management program with our suppliers and accountability programs with our employees. We continue to improve the energy efficiency of our facilities and have achieved ENERGY STAR certification. Our packaging materials contain a significant percentage of recycled content and are 100% recyclable. Most significantly, the energy savings and corresponding reduced environmental impacts realized by our products far exceeds the environmental impacts required to make, distribute, and install the film in most cases. We choose to quantify, validate, and transparently communicate our impacts and the resulting benefits through the publication of an Environmental Product Declaration



# ENVIRONMENTAL PRODUCT DECLARATION





Autumn Bronze 30, Grey/Silver/Grey 10, Hilite 40/70, LX 40/70, Slate 10/20/30/40, Sterling 20/40/50/60/70, TrueVue 5/15/30/40, Stainless Steel 10/20/30/35/50, Solar Bronze 20/35/50, Silver 20/35/50, Silver AG 25/50, Sentinel Silver 20/35 OSW, Sentinel Stainless Steel 15/25/40/45 OSW, Sentinel 4Mil Clear OSW, Quant/Sil/Quant 10/20  
Architectural Solar-Control Window Films

According to ISO 14025

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.



PROGRAM OPERATOR	UL Environment	
DECLARATION HOLDER	Solar Gard Saint-Gobain	
DECLARATION NUMBER	4786359772	
DECLARED PRODUCT	Architectural Solar-Control Window Films	
REFERENCE PCR	Construction Products and CPC 54 Construction Services version 1.2	
DATE OF ISSUE	August 18, 2014	
PERIOD OF VALIDITY	5 Years	
CONTENTS OF THE DECLARATION	Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications	
The PCR review was conducted by:	Moderator: Martin Erlandsson	
	IVL Swedish Environmental Research Institute	
	Martin.erlandsson@ivi.se	
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL		
	Wade Stout, UL Environment	
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:		
	Thomas Gloria, Life-Cycle Services, LLC	



## Product Classification and Description

### Product Description

Solar Gard window films are made of complex layers of various coated materials that control how the sun's radiation passes through glass. Proprietary combinations of metals, such as stainless steel, gold, and silver, give each film its unique solar performance capability and color. Solar Gard window films are professionally installed by retrofitting them to the inside or outside surface of glass. Outside Weatherable (OSW) films, attached to the outside, provide a solution for windows where the risks of glass breakage or seal failure are too high, or where the interior has limited accessibility.

The films are protected with a scratch-resistant coating, inspected and put through stringent endurance tests to provide a quality product. To ensure customer satisfaction, Solar Gard offers product warranties, many of which last a lifetime.

Solar Gard's window films are made primarily of polyethylene terephthalate (PET) with packaging that includes a cardboard box, polystyrene core, polyethylene sleeve, and polyethylene pad plugs. The product is classed under UN CPC Code 36920 – Articles of Plastic n.e.c.

### Product Styles

This EPD covers the architectural solar-control window films. There are 41 types of architectural solar-control window films, each with their own solar-thermal properties. The films are produced in four different widths, measured in inches. The two larger widths (60" and 72") are used to make narrower widths (36" and 48") of finished product by slitting. The 60-inch width was selected as representative for this analysis as this width is the most popular in sales and production across all product lines. In addition to these films and sizes, there are two options for adhering the film, pressure sensitive (PS) and clear dry adhesive (CDA). The following table shows the list of film products and the most popular adhesive type for each product as represented in this EPD.

#### FEATURES AND BENEFITS

Solar Gard architectural solar control window films are used to reduce solar heat gain while:

- Providing **energy savings** by reducing air-conditioner use
- Improving year-round **comfort**
- Protecting against **ultraviolet damage** and **fading**
- Diminishing bothersome **glare**
- Enhancing exterior **appearance**



Production	Adhesive Options	Most Popular Adhesive
Autumn Bronze 30	CDA	CDA
Grey/Silver/Grey 10	CDA/PS	PS
Hilite 40	PS	PS
LX 40	PS	PS
Hilite 70	CDA/PS	PS
LX 70	CDA/PS	PS
Slate 10	CDA	CDA
Slate 20	CDA	CDA
Slate 30	CDA	CDA
Slate 40	CDA	CDA
Sterling 20	CDA/PS	PS
Sterling 40	CDA/PS	CDA
Sterling 50	CDA/PS	PS
Sterling 60	CDA/PS	PS
Sterling 70	CDA/PS	PS
TrueVue 5	CDA/PS	CDA
TrueVue 15	CDA/PS	CDA
TrueVue 30	CDA/PS	CDA
TrueVue 40	CDA/PS	CDA
Stainless Steel 10	PS	PS
Stainless Steel 20	CDA/PS	PS
Stainless Steel 30	PS	PS
Stainless Steel 35	CDA	CDA
Stainless Steel 50	CDA/PS	CDA
Solar Bronze 20	CDA/PS	CDA
Solar Bronze 35	CDA/PS	CDA
Solar Bronze 50	CDA	CDA
Silver 20	CDA/PS	PS
Silver 35	CDA/PS	CDA
Silver 50	CDA/PS	PS
Silver AG 25	CDA	CDA
Silver AG 50	CDA	CDA
Sentinel Silver 20 OSW	PS	PS
Sentinel Silver 35 OSW	PS	PS
Sentinel Stainless Steel 15 OSW	PS	PS
Sentinel Stainless Steel 25 OSW	PS	PS
Sentinel Stainless Steel 40 OSW	PS	PS
Sentinel Stainless Steel 45 OSW	PS	PS
Sentinel 4Mil Clear OSW	PS	PS
Quant/Sil/Quant 10	CDA	CDA
Quant/Sil/Quant 20	CDA	CDA

Table 1: Window Films and Adhesive Options Covered





## Range of Application

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Architectural solar-control window films can be applied to any building with windows, including commercial facilities.

## Product Standard

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- |  |              |
|--|--------------|
| - National Fenestration Rating Council           | NFRC 100-300 |
| - Solar Heat Gain Coefficient Range              | 0.18 - 0.82  |
| - Visible Light Transmission Range               | 0.05 - 0.89  |
| - U-Factor Range (BTUhr/SqFt F)                  | 0.75 - 1.07  |
| - UN CPC Code 36920 – Articles of Plastic n.e.c. |              |

## Accreditation

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- ISO9001 Quality Management System
- ISO14001 Environmental Management System
- California Climate Action Leader
- Clinton Climate Initiative



## Product Composition

### Declared Unit

The declared unit is one square meter (1 m<sup>2</sup>) of film installed on an existing window.

### Product Content

- *Polyethylene terephthalate (PET) Film*: visibly clear thin film of PET, the major component of window film. PET is a thermoplastic polymer resin of the polyester family, which is derived from petroleum.
- *Hardcoat*: scratch-resistant chemical coating that is placed on the exposed surface of the window film.
- *Metal*: thin layer of one or more metals that is sputtered onto the window film.
- *PS/CDA Adhesive*: pressure sensitive (PS) or clear dry adhesive (CDA) that is used to adhere the window film to the window.
- *Release Liner*: made from PET and used to protect the PS/CDA adhesive during storage and transportation. The release liner is removed immediately prior to installation.

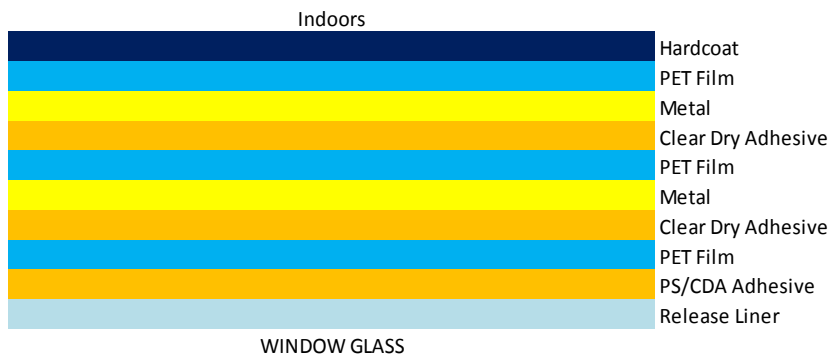
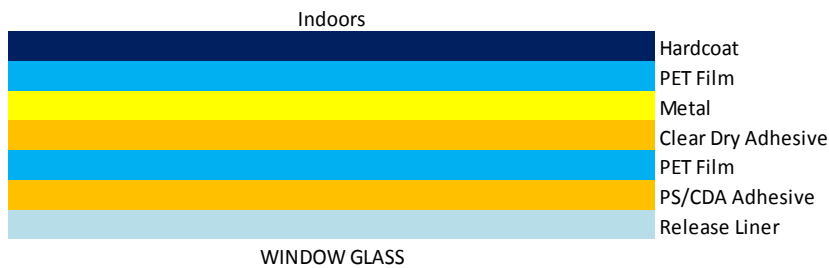


Figure 1: Material Content of 2-Ply and 3-Ply Window Films

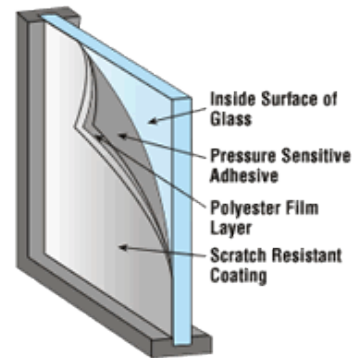


Figure 2: Product Application Exploded View

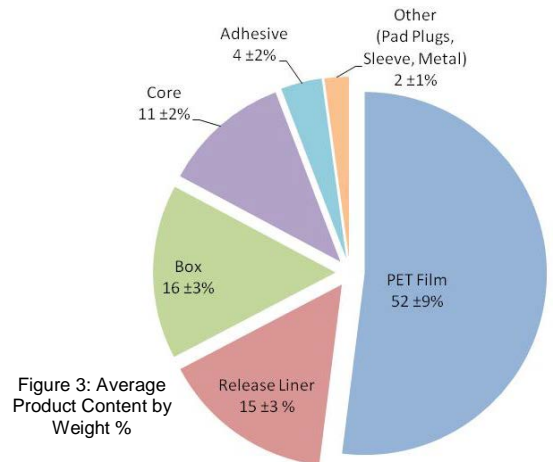


Figure 3: Average Product Content by Weight %

### Packaging Content

- *Box*: Shipping box made from 60% recycled cardboard and 40% virgin recyclable fiber.
- *Core*: a tube made of high impact polystyrene (HIPS), around which the finished roll of film is wrapped.
- *Pad Plugs*: made from high density polyethylene (HDPE), used to close the box at each end.
- *Polytube Sleeve*: made from low density polyethylene (LDPE), covers and protects the roll of film during shipping.

## Life Cycle Stages

### EPD Scope

The life cycle analysis performed for this EPD includes upstream, core, and downstream stages as illustrated in Figure 4. It permits a “cradle-to-gate with options” EPD, comprising the entire lifecycle from raw material acquisition and transportation, window film production, transportation to customer, use, to final disposal and recycling scenarios.

### Time Boundary

Data for this LCA was collected for the 2011 and 2012 calendar years.

### Cut-off Criteria

The cut-off criteria established for the study include materials, energy, and emissions data. For the purposes of this study, the criteria are as follows:

- Mass – Chemicals with a combined weight less than 1% of the mass of the modeled product may be excluded, providing its environmental relevance is not a concern.
- Data Gaps – Data gaps include the following:
  - One chemical, which composed of 0.5% of the total weight, was not included in this study because environmental impact information was not available from the supplier or from the EcolInvent database.
  - Data deemed proprietary to some of Solar Gard’s suppliers were unavailable, and thus not included in this study.
  - Data deemed proprietary to Solar Gard (such as the metals used) were made available for the analysis and the peer review; however that information has been excluded from this declaration.
  - Refrigerant leakage was not included in the scope of this study.
  - Human toxicity impact factors were not included in the scope of this study.

When inventory data was unavailable for use in this study, inventory data for a substitute product that is known to have a similar environmental impact was used, or the product was excluded altogether. The majority of unavailable inventory data fell below the 1% by weight cutoff, and was simply excluded from the study.

### Background Data

SimaPro v7.3 software system was used for modeling the life cycle of the Solar Gard architectural solar-control window film. A report from I Boustead for PlasticsEurope entitled, *Eco-profiles of the European Plastics Industry – PET FILM PRODUCTION* (including Packaging), from March 2005 was also referenced.

### System Boundaries

As depicted in Figure 5 the LCA for this EPD encompasses the whole product life cycle, from upstream extraction of the raw materials, to manufacturing, transportation, use stage, and end-of-life. Environmental impacts from

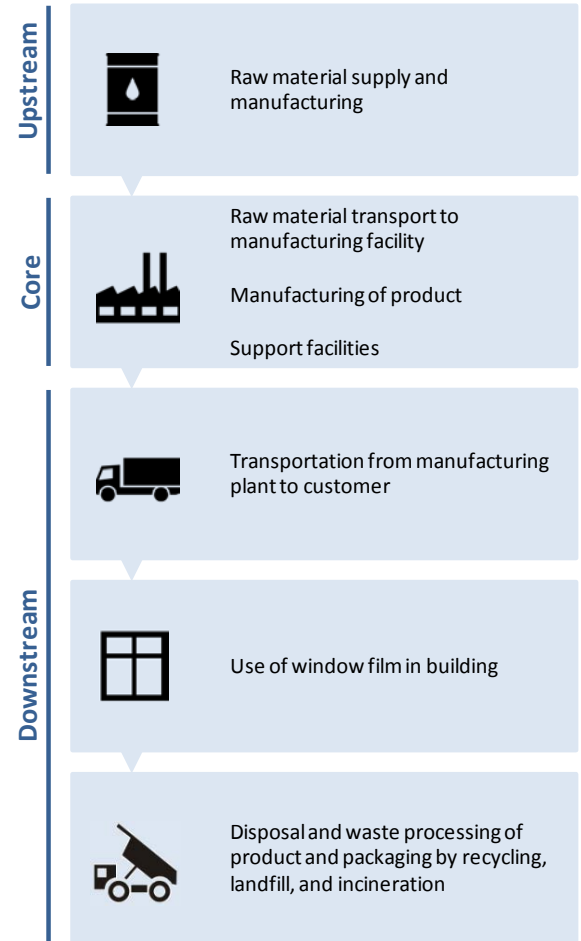


Figure 4: Life Cycle Stages Considered in LCA

infrastructure, construction, production equipment, and tools that are not directly consumed in the production process, personnel-related impacts, such as transportation to and from work, and water use are not accounted for in the LCIA.

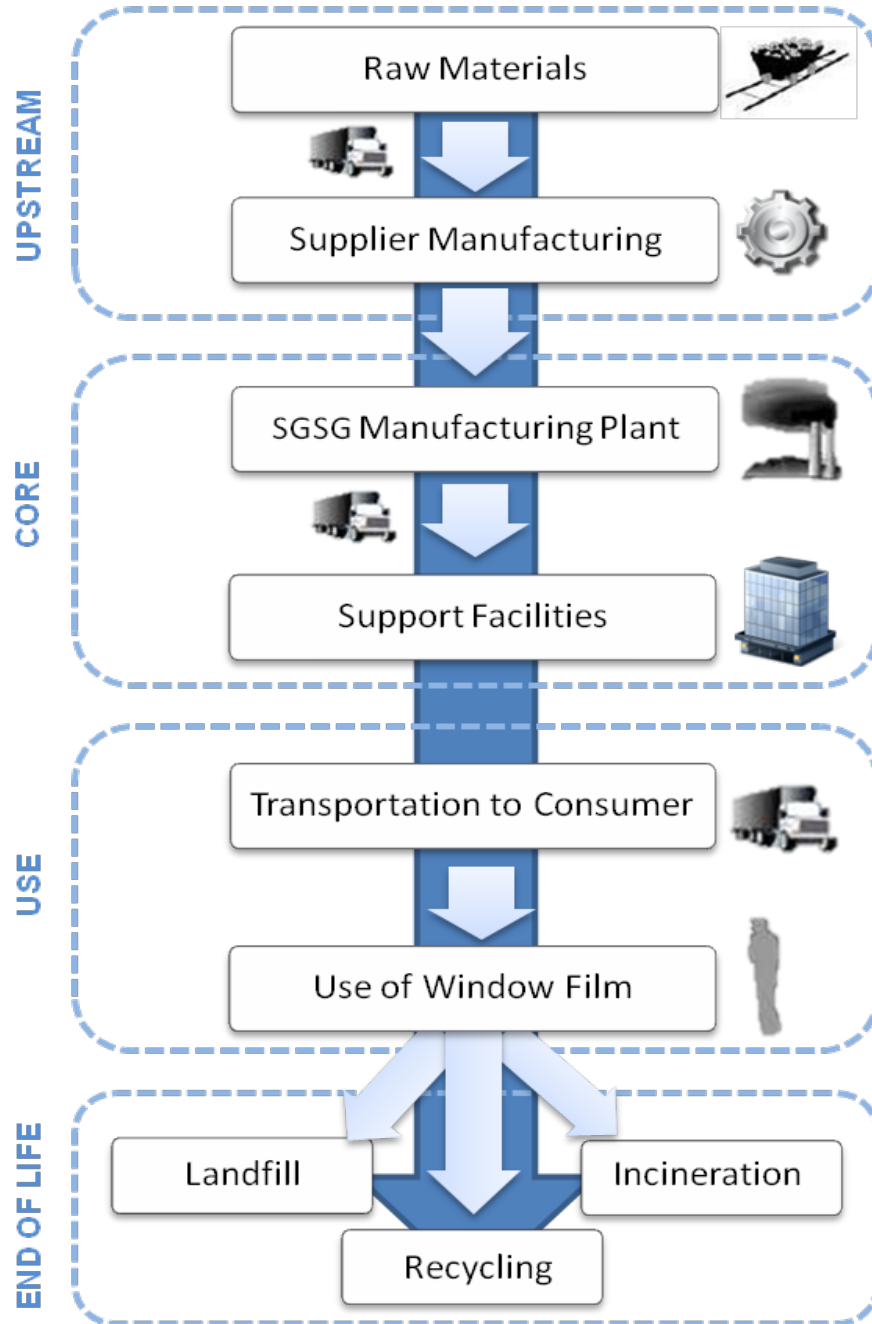


Figure 5: EPD System Boundary





## Raw Materials

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### Major Assumptions

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Raw material data is based on Solar Gard's Bills of Material (BOMs) for the years 2011-2012, which quantify all the materials (packaging, plastics, metals, solvents and other chemicals) used for the production of master rolls (60"wide) for each type of window film, including scrap PET from the process that is recycled. Energy and material information was taken from the EcoInvent v2.2 database, which accounts for substances and energy employed in the extraction and processing of raw materials.

### Transport of Raw Materials

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Transport of supplies to Solar Gard is based on standard truck delivery scenarios provided by EcoInvent v2.2 database, calculated based on distance from the point of shipment to Solar Gard and the weight of material.

## Production of the Window Film

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### Production Process

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The films are produced by taking one or more layers of PET film, and coating one side with a variety of metals (sputtering). Each film has a very specific amount and type of metal associated with it. The coated films are then laminated together to form a single composite film. Thick films will incorporate many layers, while thin films are comprised of only a few layers. Next, the films are coated with a variety of chemicals to ensure durability and scratch resiliency. Lastly, an adhesive and a liner are applied to the film. There are two types of adhesive, a pressure-sensitive adhesive (PS), and a clear dry adhesive (CDA). The liner protects the adhesive during storage and transportation, and is removed prior to installation.

### Manufacturing of Product

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All products are manufactured in San Diego, California. An audit of Solar Gard's San Diego facility in December 2009 provided the inventory of all equipment used in manufacturing of window films, including capacity, emissions, and productivity. For specific equipment involved in the manufacturing process (slitting, sputtering, metalizing, bonding, chemical mixing), energy use was calculated on the basis of equipment electrical capacity and duration of use per square meter of film. The environmental impact embodied in scrap PET was treated as an avoided product.

### Support Facilities

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The energy associated with general purpose equipment and supporting facilities was allocated to the films in this EPD, based on their percent of total production by area ISO 14004 Environmental Management System.

### Health, Safety and Environmental Aspects During Production

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- ISO 9001 Quality Management System
- ISO 14004 Environmental Management System
- BEARS Safety Program (Because Employees are Responsible for Safety)



## Delivery and Installation

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### Delivery

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Records of customer sales were used to generate the transportation data for the use stage. Materials were either transported directly to the customer, or transported to a distribution center and then to customers. Customer locations were organized into 25 global regions with consistent climate conditions, including 6 climate zones in the USA, as defined by ASHRAE. Transportation distances for the finished products were calculated using Google Earth based on distance from San Diego to and a central city in the product's destination country. Emissions were calculated using standard aircraft and truck emissions data from the EcolInvent v2.2 database. Solar Gard uses FedEx Ground for all of its domestic product transportation, and DHL for its international product transportation.

### Installation

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The installation of the product involves the cleaning of the window, removal and disposal of the protective liner, and adhesion of the film to the glass with any bubbles smoothed out.

### Health, Safety and Environmental Aspects

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As the release liner is removed from the window film no substantial amounts of volatile organic compounds are released into the atmosphere. The amount of material emissions from installation is considered to be zero, and were not included in this EPD.

### Waste

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During the manufacturing, solvents are reclaimed at a rate of 7.2%, while the remaining solvent is sent to an oxidizer to be incinerated. Scrap PET from the manufacturing process is sent back to the suppliers for recycling.

### Packaging

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The packaging is made up of four components: core, sleeve, box, and pad plugs. The core, a tube made of high impact polystyrene (HIPS), is what the finished film is wrapped around. The sleeve covers and protects the roll of film, and is made from low density polyethylene (LDPE). A box of 60% recycled cardboard and 40% virgin, recyclable, fiber is used to protect the film, and indicates the film type. Pad plugs, made from high density polyethylene (HDPE), are used to close the box at each end.



## Use Stage

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### Product Lifetime

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The use of the film is conservatively estimated for a period of 15 years for interior films and 7.5 years for exterior (OSW) films. This duration is consistent with the 12 to 25 year range for useful life estimated by the International Window Film Association based on installations across the United States. The duration is also consistent with the US Department of Energy Weatherization Assistance Program, which uses a 15-year calculation for window films. The lifetime for Outside Weatherable films is lower due to the fact that weather conditions can be unpredictable and have a destructive physical effect on the film.

### Use Stage Assumptions

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Use stage operational energy was calculated for each type of film in each geographic zone, based on models of standard-sized commercial buildings that use air conditioning simulated using CAPSOL software. Energy consumption from electricity (for cooling) and natural gas (for heating) was simulated for each building with and without solar-control window films. The net energy savings (or, in some cases, penalty) is the result of the difference between the amounts of energy required by a building without and with solar-control film.

### Cleaning and Maintenance

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Maintenance, repair, replacement and refurbishment are not expected during the lifetime and thus not considered as part of the LCA. After installation, the film does not require any special maintenance, besides occasional cleaning with water or diluted mild soap (not exceeding general routine cleaning), and no repairs are performed. Window cleaning practices utilized prior to the installation of window film can be carried out as usual. The scratch resilient hardcoat on the exposed surface of the film protects it from premature wear.

### Prevention of Structural Damage

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The films are intended for commercial and residential applications, and are intended to last for the life of the window.

### Health Aspects During Usage

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Solar Gard architectural solar film products conform to CRI Green Label Plus indoor air quality testing program.

## Singular Effects

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### Fire

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- NFPA Fire Rating Class A as per NFPA 101 Life Safety Code (ASTM E-84 test method)
- ASTM D-1929 Ignition Properties
  - Flash Ignition 373C/704F
  - Self Ignition 445C/834F
  - Melt Point 249C Bullet level 1

### Water & Mechanical Damage

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The product coatings are impervious to moisture when applied properly, sustaining no damage from water or cleaning. The durable film hardcoat is tested to Taber abrasion test, according to ASTM D-1044 with a haze change result of <5%. Normal contact and cleaning of applied solar control films will not affect the product during its useful fifteen year life.



## End of Life

### Disposal

The product may be recycled, or disposed of by more traditional methods, such as landfill or incineration. Calculation of the end-of-life environmental impact is based on EcoInvent v2.2 data for incineration, recycling, and landfill in the geographical region that the film was sold. End-of-life data were available for the United Kingdom, USA, France, the Netherlands (applied to Scandinavia), and Switzerland (applied to Germany and Spain); for other geographic regions, USA data were used as the default.

## Use of Natural Resources and Other Indicators

### Natural Resources

The following tables present the consumption of natural resources per square meter of the each window film stemming from its entire lifecycle, including upstream, core, and disposal. These include both non-renewable and renewable material and energy resources.

Parameter	Autumn Bronze 30	Grey Silver Grey 10	Hilite 40 / LX 40	Hilite 70 / LX 70	Quantum Silver Quantum 10	Quantum Silver Quantum 20
Use of Renewable Primary energy excluding renewable primary energy resources used as raw materials (MJ)	4.3E-01	4.0E-01	9.7E-01	1.8E+00	4.1E-01	4.1E-01
Use of renewable primary energy resources used as raw materials (MJ)	0	0	0	0	0	0
Total use of renewable primary energy resources (MJ)	4.3E-01	4.0E-01	9.7E-01	1.8E+00	4.1E-01	4.1E-01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	2.1E+01	1.6E+01	6.0E+01	7.7E+01	2.2E+01	2.1E+01
Use of non-renewable primary energy resources used as raw materials	6.0E+00	5.6E+00	5.6E+00	5.7E+00	6.1E+00	6.1E+00
Total use of non-renewable primary energy resources	2.7E+01	2.2E+01	6.5E+01	8.3E+01	2.8E+01	2.8E+01
Use of secondary material (kg)	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02
Use of renewable secondary fuels (MJ)	0	0	0	0	0	0
Use of net fresh water (m3)	3.5E-03	3.2E-03	2.1E-02	4.6E-02	3.5E-03	3.5E-03

Table 2: Use of Resources





Parameter	Sentinel 4 Mil Clear OSW	Sentinel Silver 20 OSW	Sentinel Silver 35 OSW	Sentinel Stainless Steel 15 OSW	Sentinel Stainless Steel 25 OSW	Sentinel Stainless Steel 40 OSW
Use of Renewable Primary energy excluding renewable primary energy resources used as raw materials (MJ)	4.6E-01	4.5E-01	4.5E-01	4.5E-01	4.5E-01	4.5E-01
Use of renewable primary energy resources used as raw materials (MJ)	0	0	0	0	0	0
Total use of renewable primary energy resources (MJ)	4.6E-01	4.5E-01	4.5E-01	4.5E-01	4.5E-01	4.5E-01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	2.5E+01	2.2E+01	2.2E+01	2.3E+01	2.2E+01	2.2E+01
Use of non-renewable primary energy resources used as raw materials	8.2E+00	4.9E+00	4.9E+00	4.9E+00	4.9E+00	4.9E+00
Total use of non-renewable primary energy resources	3.3E+01	2.7E+01	2.7E+01	2.8E+01	2.7E+01	2.7E+01
Use of secondary material (kg)	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02
Use of renewable secondary fuels (MJ)	0	0	0	0	0	0
Use of net fresh water (m3)	4.6E-03	4.2E-03	4.2E-03	4.3E-03	4.3E-03	4.2E-03

Table 3: Use of Resources

Parameter	Sentinel Stainless Steel 45 OSW	Silver 20	Silver 35	Silver 50	Silver AG Low-E 25	Silver AG Low-E 50
Use of Renewable Primary energy excluding renewable primary energy resources used as raw materials (MJ)	4.5E-01	4.1E-01	4.1E-01	4.1E-01	7.3E-01	5.8E-01
Use of renewable primary energy resources used as raw materials (MJ)	0	0	0	0	0	0
Total use of renewable primary energy resources (MJ)	4.5E-01	4.1E-01	4.1E-01	4.1E-01	7.3E-01	5.8E-01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	2.2E+01	2.0E+01	2.0E+01	2.0E+01	2.2E+01	2.2E+01
Use of non-renewable primary energy resources used as raw materials	4.9E+00	5.6E+00	5.2E+00	5.7E+00	5.2E+00	5.0E+00
Total use of non-renewable primary energy resources	2.7E+01	2.6E+01	2.6E+01	2.5E+01	2.8E+01	2.7E+01





<b>Use of secondary material (kg)</b>	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02
<b>Use of renewable secondary fuels (MJ)</b>	0	0	0	0	0	0
<b>Use of net fresh water (m3)</b>	4.2E-03	3.3E-03	3.4E-03	3.3E-03	4.4E-03	4.0E-03

Table 4: Use of Resources

Parameter	Slate 10	Slate 20	Slate 30	Slate 40	Solar Bronze 20	Solar Bronze 35	Solar Bronze 50
<b>Use of Renewable Primary energy excluding renewable primary energy resources used as raw materials (MJ)</b>	7.1E-01	6.1E-01	5.7E-01	5.3E-01	4.2E-01	4.1E-01	4.9E-01
<b>Use of renewable primary energy resources used as raw materials (MJ)</b>	0	0	0	0	0	0	0
<b>Total use of renewable primary energy resources (MJ)</b>	7.1E-01	6.1E-01	5.7E-01	5.3E-01	4.2E-01	4.1E-01	4.9E-01
<b>Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials</b>	2.4E+01	2.3E+01	2.2E+01	2.2E+01	1.9E+01	1.9E+01	1.9E+01
<b>Use of non-renewable primary energy resources used as raw materials</b>	5.8E+00	5.8E+00	5.8E+00	5.8E+00	5.0E+00	5.0E+00	5.0E+00
<b>Total use of non-renewable primary energy resources</b>	3.0E+01	2.9E+01	2.8E+01	2.7E+01	2.4E+01	2.4E+01	2.4E+01
<b>Use of secondary material (kg)</b>	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02
<b>Use of renewable secondary fuels (MJ)</b>	0	0	0	0	0	0	0
<b>Use of net fresh water (m3)</b>	4.1E-03	3.7E-03	3.6E-03	3.5E-03	3.3E-03	3.3E-03	3.4E-03

Table 5: Use of Resources

Parameter	Stainless Steel 10	Stainless Steel 20	Stainless Steel 30	Stainless Steel 40	Stainless Steel 50	Sterling 20	Sterling 40
<b>Use of Renewable Primary energy excluding renewable primary energy resources used as raw materials (MJ)</b>	4.1E-01	4.0E-01	4.0E-01	3.9E-01	3.9E-01	6.8E-01	5.8E-01
<b>Use of renewable primary energy resources used as raw materials (MJ)</b>	0	0	0	0	0	0	0
<b>Total use of renewable primary energy resources (MJ)</b>	4.1E-01	4.0E-01	4.0E-01	3.9E-01	3.9E-01	6.8E-01	5.8E-01



<b>Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials</b>	1.9E+01	1.9E+01	1.9E+01	1.8E+01	1.7E+01	2.1E+01	1.9E+01
<b>Use of non-renewable primary energy resources used as raw materials</b>	5.8E+00	5.8E+00	5.8E+00	5.8E+00	5.8E+00	5.7E+00	5.7E+00
<b>Total use of non-renewable primary energy resources</b>	2.5E+01	2.5E+01	2.4E+01	2.3E+01	2.3E+01	2.7E+01	2.5E+01
<b>Use of secondary material (kg)</b>	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02
<b>Use of renewable secondary fuels (MJ)</b>	0	0	0	0	0	0	0
<b>Use of net fresh water (m3)</b>	3.0E-03	3.0E-03	3.0E-03	3.1E-03	3.1E-03	3.9E-03	3.7E-03

Table 6: Use of Resources

Parameter	Sterling 50	Sterling 60	Sterling 70	TrueVue 5	TrueVue 15	TrueVue 30	TrueVue 40
<b>Use of Renewable Primary energy excluding renewable primary energy resources used as raw materials (MJ)</b>	5.5E-01	5.1E-01	4.6E-01	6.6E-01	6.6E-01	5.3E-01	5.0E-01
<b>Use of renewable primary energy resources used as raw materials (MJ)</b>	0	0	0	0	0	0	0
<b>Total use of renewable primary energy resources (MJ)</b>	5.5E-01	5.1E-01	4.6E-01	6.6E-01	6.6E-01	5.3E-01	5.0E-01
<b>Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials</b>	2.0E+01	1.9E+01	1.9E+01	2.0E+01	2.0E+01	1.8E+01	1.8E+01
<b>Use of non-renewable primary energy resources used as raw materials</b>	5.7E+00	5.7E+00	5.7E+00	4.5E+00	4.5E+00	4.5E+00	4.5E+00
<b>Total use of non-renewable primary energy resources</b>	2.5E+01	2.5E+01	2.5E+01	2.4E+01	2.4E+01	2.3E+01	2.3E+01
<b>Use of secondary material (kg)</b>	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02
<b>Use of renewable secondary fuels (MJ)</b>	0	0	0	0	0	0	0
<b>Use of net fresh water (m3)</b>	3.5E-03	3.4E-03	3.2E-03	3.9E-03	3.9E-03	3.5E-03	3.4E-03

Table 7: Use of Resources



## Net Environmental Impact

### Net Environmental Impact

Solar-control window film reduces the solar heat gain through the windows where it is installed, reducing the need for cooling in summer and, thus, the use of electricity by air conditioning systems. For the same reason, window films may increase the need for heating in winter and, hence, the use of oil or natural gas by boilers. The difference in energy between the heating (penalty) and cooling (savings) systems of the building where the films are installed is allocated to the film on a square meter basis and labeled as operational energy. In the majority of cases, the operational energy for these films is negative, meaning that the energy savings from reduced cooling are higher than the energy penalty from increased heating. The extent of these savings is determined by climate conditions. For this LCA, 25 regions were considered; reference cities whose climate data was used in simulations for each region are listed on the right.

The net environmental impact for each product and each impact category is the difference between the embodied environmental impact and the operational energy environmental impact from the use stage, as shown in the equation below.

	<i>LCA Climate Zone</i>	<i>Reference City</i>
North America	ASHRAE Zone 1,2	Phoenix
	ASHRAE Zone 3	Las Vegas
	ASHRAE Zone 4	Washington, D.C.
	ASHRAE Zone 5	Boston
	ASHRAE Zone 6,7	Denver
	Canada	Toronto
	Mexico	Mexico City
Europe	France	Nice
	Northern Europe	Frankfurt
	Russia	Moscow
	Scandinavia	Stockholm
	Southern Europe	Madrid
	United Kingdom	London
Asia and Pacific	Australia	Melbourne
	China, Mid-East Coast	Shanghai
	China, North-East	Beijing
	China, South-East	Hong Kong
	India	Bombay
	Japan	Tokyo
	Malaysia	Kuching
	Middle East	Riyadh
	Turkey	Istanbul
South America	Argentina	Buenos Aires
	Brazil	Rio de Janeiro
	Venezuela	Caracas

#### Net Impact

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#### Embodied Impact

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#### Use Stage Operational Energy

- Negative if the environmental impact avoided during use stage is greater than the embodied impact
- Positive when the use of film does *not* generate enough energy savings to offset the embodied impact

- Raw materials and their delivery to SGSG San Diego
- Manufacturing at SGSG
- Transportation to customer
- Product end-of-life

- Cooling energy saved during summer
- Additional heating energy required in winter







## Potential Environmental Impact

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### Potential Environmental Impact

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The tables below present the five categories of environmental impacts (acidification, eutrophication, global warming potential, ozone layer depletion potential, and photochemical oxidation) embodied in 1 square meter of installed film, as well as the operational energy of the use stage, for films of every type, sold and installed in each of the 25 geographic regions. A negative net impact indicates the emissions avoided by using window films, while a positive net impact indicates an increase in emissions in the region.





North America- ASHRAE Zones 1-5

		Per 15 Years ( per square meter)	Final Product Transportation	Autumn Bronze 30			Grey Silver Grey 10			LX40/Hilite 40			LX70/ Hilite 70		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.5E+00	7.4E+02	2.3E-02	1.2E+00	1.1E+03	1.7E-02	2.4E+00	9.9E+02	2.5E-02	3.7E+00	7.3E+02	2.1E-02
		ODP (kg CFC-11 eq)	4.8E-13	6.9E-08	-6.2E-07	4.8E-10	6.9E-08	-9.8E-07	3.5E-10	1.5E-07	-1.1E-06	5.0E-10	2.6E-07	-8.9E-07	4.3E-10
		POP (kg C2H4 eq)	2.9E-06	7.0E-04	3.9E-01	1.0E-06	5.8E-04	5.6E-01	7.9E-07	8.4E-04	5.2E-01	1.1E-06	1.2E-03	3.8E-01	9.4E-07
		AP (kg SO2 eq)	6.3E-05	8.2E-03	7.0E+00	2.7E-05	5.6E-03	1.0E+01	2.1E-05	1.1E-02	9.3E+00	2.8E-05	2.2E-02	6.9E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	2.4E-01	2.9E-05	7.2E-04	3.4E-01	2.1E-05	2.2E-03	3.1E-01	3.0E-05	6.5E-02	2.3E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-6.8E-07	3.4E-09	7.4E-07	-1.1E-06	2.5E-09	1.2E-06	-1.2E-06	3.6E-09	3.7E-03	-9.6E-07	3.0E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	1.0E+04	5.9E-02	2.0E+01	1.5E+04	4.5E-02	4.0E+01	1.4E+04	6.1E-02	5.6E+01	1.0E+04	5.4E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.5E+00	9.8E+02	2.3E-02	1.2E+00	9.2E+02	1.7E-02	2.4E+00	8.5E+02	2.5E-02	3.7E+00	7.9E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.9E-08	2.6E-08	4.8E-10	6.9E-08	-6.5E-07	3.5E-10	1.5E-07	-9.7E-07	5.0E-10	2.6E-07	-5.8E-07	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	5.1E-01	1.0E-06	5.8E-04	4.9E-01	7.9E-07	8.4E-04	4.5E-01	1.1E-06	1.2E-03	4.2E-01	9.4E-07
		AP (kg SO2 eq)	6.0E-05	8.2E-03	9.2E+00	2.7E-05	5.6E-03	8.7E+00	2.1E-05	1.1E-02	8.0E+00	2.8E-05	2.2E-02	7.5E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	3.1E-01	2.9E-05	7.2E-04	2.9E-01	2.1E-05	2.2E-03	2.7E-01	3.0E-05	6.5E-02	2.5E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	2.0E-08	3.4E-09	7.4E-07	-7.1E-07	2.5E-09	1.2E-06	-1.1E-06	3.6E-09	3.7E-03	-6.3E-07	3.0E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	1.4E+04	5.9E-02	2.0E+01	1.3E+04	4.5E-02	4.0E+01	1.2E+04	6.1E-02	5.6E+01	1.1E+04	5.4E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.5E+00	6.8E+02	2.3E-02	1.2E+00	6.4E+02	1.7E-02	2.4E+00	6.0E+02	2.5E-02	3.7E+00	5.6E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.9E-08	-7.5E-06	4.8E-10	6.9E-08	-7.6E-06	3.5E-10	1.5E-07	-6.2E-06	5.0E-10	2.6E-07	-6.1E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	3.8E-01	1.0E-06	5.8E-04	3.6E-01	7.9E-07	8.4E-04	3.3E-01	1.1E-06	1.2E-03	3.1E-01	9.4E-07
		AP (kg SO2 eq)	6.0E-05	8.2E-03	6.8E+00	2.7E-05	5.6E-03	6.5E+00	2.1E-05	1.1E-02	6.0E+00	2.8E-05	2.2E-02	5.6E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	2.2E-01	2.9E-05	7.2E-04	2.1E-01	2.1E-05	2.2E-03	2.0E-01	3.0E-05	6.5E-02	1.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-8.1E-06	3.4E-09	7.4E-07	-8.2E-06	2.5E-09	1.2E-06	-6.7E-06	3.6E-09	3.7E-03	-6.6E-06	3.0E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	9.3E+03	5.9E-02	2.0E+01	8.8E+03	4.5E-02	4.0E+01	8.2E+03	6.1E-02	5.6E+01	7.6E+03	5.4E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.5E+00	6.3E+02	2.3E-02	1.2E+00	6.1E+02	1.7E-02	2.4E+00	5.6E+02	2.5E-02	3.7E+00	5.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.9E-08	-8.5E-06	4.8E-10	6.9E-08	-8.3E-06	3.5E-10	1.5E-07	-6.8E-06	5.0E-10	2.6E-07	-6.3E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	3.5E-01	1.0E-06	5.8E-04	3.4E-01	7.9E-07	8.4E-04	3.1E-01	1.1E-06	1.2E-03	2.9E-01	9.4E-07
AP (kg SO2 eq)		6.0E-05	8.2E-03	6.4E+00	2.7E-05	5.6E-03	6.1E+00	2.1E-05	1.1E-02	5.7E+00	2.8E-05	2.2E-02	5.3E+00	2.5E-05	
EP (kg PO4 eq)		1.1E-05	1.2E-03	2.1E-01	2.9E-05	7.2E-04	2.0E-01	2.1E-05	2.2E-03	1.8E-01	3.0E-05	6.5E-02	1.7E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.8E-06	-9.2E-06	3.4E-09	7.4E-07	-8.9E-06	2.5E-09	1.2E-06	-7.4E-06	3.6E-09	3.7E-03	-6.8E-06	3.0E-09	
AD -fossil fuels (MJ)		1.6E-01	2.5E+01	8.7E+03	5.9E-02	2.0E+01	8.3E+03	4.5E-02	4.0E+01	7.7E+03	6.1E-02	5.6E+01	7.2E+03	5.4E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Quantum Silver Quantum 10			Quantum Silver Quantum 20			Silver AG 25 Low-E			Silver AG Low-e 50		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.5E+00	1.1E+03	2.4E-02	1.5E+00	8.6E+02	2.4E-02	1.5E+00	1.3E+02	2.0E-02	1.5E+00	8.7E+02	2.0E-02
		ODP (kg CFC-11 eq)	4.8E-13	7.0E-08	-1.1E-06	4.8E-10	7.0E-08	-9.9E-07	4.8E-10	7.3E-08	1.4E-06	4.1E-10	7.2E-08	-2.2E-07	4.1E-10
		POP (kg C2H4 eq)	2.9E-06	7.0E-04	6.0E-01	1.0E-06	6.9E-04	4.5E-01	1.0E-06	7.1E-04	6.5E-02	9.1E-07	6.8E-04	4.6E-01	9.1E-07
		AP (kg SO2 eq)	6.3E-05	8.2E-03	1.1E+01	2.7E-05	8.0E-03	8.1E+00	2.7E-05	9.6E-03	1.2E+00	2.4E-05	8.5E-03	8.2E+00	2.4E-05
		EP (kg PO4 eq)	1.1E-05	8.5E-04	3.6E-01	2.9E-05	8.5E-04	2.7E-01	2.9E-05	1.5E-03	4.1E-02	2.5E-05	1.2E-03	2.8E-01	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-1.2E-06	3.4E-09	7.6E-07	-1.1E-06	3.4E-09	7.7E-04	1.6E-06	2.9E-09	4.1E-04	-2.4E-07	2.9E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	1.6E+04	5.9E-02	2.5E+01	1.2E+04	5.9E-02	2.5E+01	1.9E+03	5.2E-02	2.4E+01	1.2E+04	5.2E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.5E+00	9.4E+02	2.4E-02	1.5E+00	7.0E+02	2.4E-02	1.5E+00	1.1E+03	2.0E-02	1.5E+00	7.9E+02	2.0E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.0E-08	-9.4E-07	4.8E-10	7.0E-08	-3.9E-07	4.8E-10	7.3E-08	-1.2E-06	4.1E-10	7.2E-08	-8.3E-07	4.1E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	5.0E-01	1.0E-06	6.9E-04	3.6E-01	1.0E-06	7.1E-04	6.0E-01	9.1E-07	6.8E-04	4.2E-01	9.1E-07
		AP (kg SO2 eq)	6.0E-05	8.2E-03	8.9E+00	2.7E-05	8.0E-03	6.5E+00	2.7E-05	9.6E-03	1.1E+01	2.4E-05	8.5E-03	7.5E+00	2.4E-05
		EP (kg PO4 eq)	1.1E-05	8.5E-04	3.0E-01	2.9E-05	8.5E-04	2.2E-01	2.9E-05	1.5E-03	3.6E-01	2.5E-05	1.2E-03	2.5E-01	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-1.0E-06	3.4E-09	7.6E-07	-4.2E-07	3.4E-09	7.7E-04	-1.3E-06	2.9E-09	4.1E-04	-9.1E-07	2.9E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	1.3E+04	5.9E-02	2.5E+01	9.6E+03	5.9E-02	2.5E+01	1.6E+04	5.2E-02	2.4E+01	1.1E+04	5.2E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.5E+00	6.6E+02	2.4E-02	1.5E+00	5.1E+02	2.4E-02	1.5E+00	7.9E+02	2.0E-02	1.5E+00	5.5E+02	2.0E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.0E-08	-8.0E-06	4.8E-10	7.0E-08	-3.1E-06	4.8E-10	7.3E-08	-7.0E-06	4.1E-10	7.2E-08	-4.6E-06	4.1E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	3.7E-01	1.0E-06	6.9E-04	2.7E-01	1.0E-06	7.1E-04	4.3E-01	9.1E-07	6.8E-04	3.0E-01	9.1E-07
		AP (kg SO2 eq)	6.0E-05	8.2E-03	6.6E+00	2.7E-05	8.0E-03	4.9E+00	2.7E-05	9.6E-03	7.8E+00	2.4E-05	8.5E-03	5.4E+00	2.4E-05
		EP (kg PO4 eq)	1.1E-05	8.5E-04	2.2E-01	2.9E-05	8.5E-04	1.6E-01	2.9E-05	1.5E-03	2.6E-01	2.5E-05	1.2E-03	1.8E-01	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-8.6E-06	3.4E-09	7.6E-07	-3.3E-06	3.4E-09	7.7E-04	-7.5E-06	2.9E-09	4.1E-04	-5.0E-06	2.9E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	9.0E+03	5.9E-02	2.5E+01	7.0E+03	5.9E-02	2.5E+01	1.1E+04	5.2E-02	2.4E+01	7.6E+03	5.2E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.5E+00	6.2E+02	2.4E-02	1.5E+00	4.6E+02	2.4E-02	1.5E+00	7.0E+02	2.0E-02	1.5E+00	5.2E+02	2.0E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.0E-08	-8.2E-06	4.8E-10	7.0E-08	-5.6E-06	4.8E-10	7.3E-08	-1.1E-05	4.1E-10	7.2E-08	-3.2E-06	4.1E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	3.5E-01	1.0E-06	6.9E-04	2.6E-01	1.0E-06	7.1E-04	3.9E-01	9.1E-07	6.8E-04	2.8E-01	9.1E-07
AP (kg SO2 eq)		6.0E-05	8.2E-03	6.3E+00	2.7E-05	8.0E-03	4.7E+00	2.7E-05	9.6E-03	7.2E+00	2.4E-05	8.5E-03	5.1E+00	2.4E-05	
EP (kg PO4 eq)		1.1E-05	8.5E-04	2.0E-01	2.9E-05	8.5E-04	1.5E-01	2.9E-05	1.5E-03	2.3E-01	2.5E-05	1.2E-03	1.7E-01	2.5E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.9E-07	-8.9E-06	3.4E-09	7.6E-07	-6.1E-06	3.4E-09	7.7E-04	-1.2E-05	2.9E-09	4.1E-04	-3.5E-06	2.9E-09	
AD -fossil fuels (MJ)		1.6E-01	2.6E+01	8.5E+03	5.9E-02	2.5E+01	6.4E+03	5.9E-02	2.5E+01	9.5E+03	5.2E-02	2.4E+01	7.2E+03	5.2E-02	



Per 15 Years ( per square meter)		Final Product Transportation	Silver 20			Silver 35			Silver 50			Slate 10			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.3E+00	1.2E+03	2.2E-02	1.3E+00	9.6E+02	2.0E-02	1.3E+00	6.6E+02	2.2E-02	1.6E+00	1.3E+03	2.2E-02
		ODP (kg CFC-11 eq)	4.8E-13	7.1E-08	-9.0E-07	4.4E-10	6.9E-08	-1.1E-06	4.1E-10	7.1E-08	-9.3E-07	4.4E-10	6.6E-08	-1.8E-06	4.6E-10
		POP (kg C2H4 eq)	2.9E-06	6.7E-04	6.1E-01	9.7E-07	6.1E-04	5.1E-01	9.0E-07	6.6E-04	3.5E-01	9.7E-07	7.9E-04	6.7E-01	9.9E-07
		AP (kg SO2 eq)	6.3E-05	6.9E-03	1.1E+01	2.6E-05	6.7E-03	9.1E+00	2.4E-05	6.7E-03	6.2E+00	2.6E-05	1.1E-02	1.2E+01	2.6E-05
		EP (kg PO4 eq)	1.1E-05	7.9E-04	3.7E-01	2.7E-05	7.8E-04	3.1E-01	2.5E-05	7.8E-04	2.1E-01	2.7E-05	1.4E-03	4.1E-01	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	-9.8E-07	3.2E-09	7.1E-07	-1.1E-06	2.9E-09	7.8E-07	-1.0E-06	3.2E-09	7.1E-04	-2.0E-06	3.3E-09
		AD -fossil fuels (MJ)	1.6E-01	2.4E+01	1.6E+04	5.5E-02	2.3E+01	1.3E+04	5.2E-02	2.3E+01	9.1E+03	5.5E-02	2.7E+01	1.8E+04	5.7E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.3E+00	1.2E+03	2.2E-02	1.3E+00	9.5E+02	2.0E-02	1.3E+00	7.0E+02	2.2E-02	1.6E+00	1.2E+03	2.2E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.1E-08	-1.1E-06	4.4E-10	6.9E-08	-6.2E-07	4.1E-10	7.1E-08	-6.2E-07	4.4E-10	6.6E-08	-1.1E-06	4.6E-10
		POP (kg C2H4 eq)	9.9E-06	6.7E-04	6.4E-01	9.7E-07	6.1E-04	5.0E-01	9.0E-07	6.6E-04	3.7E-01	9.7E-07	7.9E-04	6.2E-01	9.9E-07
		AP (kg SO2 eq)	6.0E-05	6.9E-03	1.1E+01	2.6E-05	6.7E-03	8.9E+00	2.4E-05	6.7E-03	6.6E+00	2.6E-05	1.1E-02	1.1E+01	2.6E-05
		EP (kg PO4 eq)	1.1E-05	7.9E-04	3.9E-01	2.7E-05	7.8E-04	3.0E-01	2.5E-05	7.8E-04	2.2E-01	2.7E-05	1.4E-03	3.8E-01	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	-1.2E-06	3.2E-09	7.1E-07	-6.7E-07	2.9E-09	7.8E-07	-6.7E-07	3.2E-09	7.1E-04	-1.2E-06	3.3E-09
		AD -fossil fuels (MJ)	1.6E-01	2.4E+01	1.7E+04	5.5E-02	2.3E+01	1.3E+04	5.2E-02	2.3E+01	9.7E+03	5.5E-02	2.7E+01	1.6E+04	5.7E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.3E+00	8.3E+02	2.2E-02	1.3E+00	6.7E+02	2.0E-02	1.3E+00	4.8E+02	2.2E-02	1.6E+00	8.1E+02	2.2E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.1E-08	-1.0E-05	4.4E-10	6.9E-08	-6.4E-06	4.1E-10	7.1E-08	-6.4E-06	4.4E-10	6.6E-08	-1.1E-05	4.6E-10
		POP (kg C2H4 eq)	9.9E-06	6.7E-04	4.6E-01	9.7E-07	6.1E-04	3.7E-01	9.0E-07	6.6E-04	2.7E-01	9.7E-07	7.9E-04	4.5E-01	9.9E-07
		AP (kg SO2 eq)	6.0E-05	6.9E-03	8.4E+00	2.6E-05	6.7E-03	6.6E+00	2.4E-05	6.7E-03	4.9E+00	2.6E-05	1.1E-02	8.2E+00	2.6E-05
		EP (kg PO4 eq)	1.1E-05	7.9E-04	2.7E-01	2.7E-05	7.8E-04	2.2E-01	2.5E-05	7.8E-04	1.6E-01	2.7E-05	1.4E-03	2.7E-01	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	-1.1E-05	3.2E-09	7.1E-07	-6.9E-06	2.9E-09	7.8E-07	-6.9E-06	3.2E-09	7.1E-04	-1.2E-05	3.3E-09
		AD -fossil fuels (MJ)	1.6E-01	2.4E+01	1.1E+04	5.5E-02	2.3E+01	9.2E+03	5.2E-02	2.3E+01	6.6E+03	5.5E-02	2.7E+01	1.1E+04	5.7E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.3E+00	7.5E+02	2.2E-02	1.3E+00	6.1E+02	2.0E-02	1.3E+00	4.3E+02	2.2E-02	1.6E+00	7.4E+02	2.2E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.1E-08	-1.4E-05	4.4E-10	6.9E-08	-9.4E-06	4.1E-10	7.1E-08	-9.4E-06	4.4E-10	6.6E-08	-1.3E-05	4.6E-10
		POP (kg C2H4 eq)	9.9E-06	6.7E-04	4.3E-01	9.7E-07	6.1E-04	3.4E-01	9.0E-07	6.6E-04	2.5E-01	9.7E-07	7.9E-04	4.3E-01	9.9E-07
AP (kg SO2 eq)		6.0E-05	6.9E-03	7.8E+00	2.6E-05	6.7E-03	6.2E+00	2.4E-05	6.7E-03	4.6E+00	2.6E-05	1.1E-02	7.7E+00	2.6E-05	
EP (kg PO4 eq)		1.1E-05	7.9E-04	2.5E-01	2.7E-05	7.8E-04	2.0E-01	2.5E-05	7.8E-04	1.5E-01	2.7E-05	1.4E-03	2.5E-01	2.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.8E-07	-1.6E-05	3.2E-09	7.1E-07	-1.0E-05	2.9E-09	7.8E-07	-1.0E-05	3.2E-09	7.1E-04	-1.5E-05	3.3E-09	
AD -fossil fuels (MJ)		1.6E-01	2.4E+01	1.0E+04	5.5E-02	2.3E+01	8.3E+03	5.2E-02	2.3E+01	5.9E+03	5.5E-02	2.7E+01	1.0E+04	5.7E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	Slate 20			Slate 30			Slate 40			Solar Bronze 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.5E+00	1.1E+03	2.2E-02	1.5E+00	9.4E+02	2.2E-02	1.5E+00	7.2E+02	2.2E-02	1.3E+00	1.3E+03	1.9E-02
		ODP (kg CFC-11 eq)	4.8E-13	6.5E-08	-1.2E-06	4.6E-10	6.5E-08	-9.1E-07	4.6E-10	6.4E-08	-4.5E-07	4.6E-10	6.8E-08	-1.5E-06	3.9E-10
		POP (kg C2H4 eq)	2.9E-06	7.5E-04	5.7E-01	9.9E-07	7.3E-04	4.9E-01	9.9E-07	7.1E-04	3.8E-01	9.9E-07	6.2E-04	6.6E-01	8.8E-07
		AP (kg SO2 eq)	6.3E-05	9.8E-03	1.0E+01	2.6E-05	9.3E-03	8.8E+00	2.6E-05	8.9E-03	6.8E+00	2.6E-05	6.9E-03	1.2E+01	2.3E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	3.4E-01	2.7E-05	1.1E-03	3.0E-01	2.7E-05	1.0E-03	2.3E-01	2.7E-05	7.8E-04	4.0E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-1.3E-06	3.2E-09	3.8E-04	-9.9E-07	3.2E-09	2.9E-04	-5.0E-07	3.2E-09	7.8E-07	-1.6E-06	2.8E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	1.5E+04	5.7E-02	2.6E+01	1.3E+04	5.7E-02	2.5E+01	9.9E+03	5.7E-02	2.3E+01	1.7E+04	5.0E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.5E+00	1.0E+03	2.2E-02	1.5E+00	8.7E+02	2.2E-02	1.5E+00	7.2E+02	2.2E-02	1.3E+00	1.2E+03	1.9E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-7.9E-07	4.6E-10	6.5E-08	-7.7E-07	4.6E-10	6.4E-08	-1.8E-07	4.6E-10	6.8E-08	-1.1E-06	3.9E-10
		POP (kg C2H4 eq)	9.9E-06	7.5E-04	5.2E-01	9.9E-07	7.3E-04	4.6E-01	9.9E-07	7.1E-04	3.7E-01	9.9E-07	6.2E-04	6.3E-01	8.8E-07
		AP (kg SO2 eq)	6.0E-05	9.8E-03	9.4E+00	2.6E-05	9.3E-03	8.2E+00	2.6E-05	8.9E-03	6.7E+00	2.6E-05	6.9E-03	1.1E+01	2.3E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	3.2E-01	2.7E-05	1.1E-03	2.8E-01	2.7E-05	1.0E-03	2.3E-01	2.7E-05	7.8E-04	3.8E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-8.6E-07	3.2E-09	3.8E-04	-8.4E-07	3.2E-09	2.9E-04	-2.0E-07	3.2E-09	7.8E-07	-1.2E-06	2.8E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	1.4E+04	5.7E-02	2.6E+01	1.2E+04	5.7E-02	2.5E+01	9.9E+03	5.7E-02	2.3E+01	1.7E+04	5.0E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.5E+00	7.0E+02	2.2E-02	1.5E+00	6.0E+02	2.2E-02	1.5E+00	5.0E+02	2.2E-02	1.3E+00	8.1E+02	1.9E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-7.9E-06	4.6E-10	6.5E-08	-8.0E-06	4.6E-10	6.4E-08	-5.6E-06	4.6E-10	6.8E-08	-1.1E-05	3.9E-10
		POP (kg C2H4 eq)	9.9E-06	7.5E-04	3.9E-01	9.9E-07	7.3E-04	3.4E-01	9.9E-07	7.1E-04	2.8E-01	9.9E-07	6.2E-04	4.5E-01	8.8E-07
		AP (kg SO2 eq)	6.0E-05	9.8E-03	7.0E+00	2.6E-05	9.3E-03	6.1E+00	2.6E-05	8.9E-03	5.0E+00	2.6E-05	6.9E-03	8.2E+00	2.3E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	2.3E-01	2.7E-05	1.1E-03	2.0E-01	2.7E-05	1.0E-03	1.6E-01	2.7E-05	7.8E-04	2.7E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-8.5E-06	3.2E-09	3.8E-04	-8.6E-06	3.2E-09	2.9E-04	-6.0E-06	3.2E-09	7.8E-07	-1.1E-05	2.8E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	9.6E+03	5.7E-02	2.6E+01	8.3E+03	5.7E-02	2.5E+01	6.9E+03	5.7E-02	2.3E+01	1.1E+04	5.0E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.5E+00	6.2E+02	2.2E-02	1.5E+00	5.6E+02	2.2E-02	1.5E+00	4.7E+02	2.2E-02	1.3E+00	7.3E+02	1.9E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-1.2E-05	4.6E-10	6.5E-08	-9.5E-06	4.6E-10	6.4E-08	-6.1E-06	4.6E-10	6.8E-08	-1.5E-05	3.9E-10
		POP (kg C2H4 eq)	9.9E-06	7.5E-04	3.6E-01	9.9E-07	7.3E-04	3.2E-01	9.9E-07	7.1E-04	2.6E-01	9.9E-07	6.2E-04	4.2E-01	8.8E-07
AP (kg SO2 eq)		6.0E-05	9.8E-03	6.5E+00	2.6E-05	9.3E-03	5.8E+00	2.6E-05	8.9E-03	4.7E+00	2.6E-05	6.9E-03	7.7E+00	2.3E-05	
EP (kg PO4 eq)		1.1E-05	1.2E-03	2.1E-01	2.7E-05	1.1E-03	1.9E-01	2.7E-05	1.0E-03	1.6E-01	2.7E-05	7.8E-04	2.5E-01	2.4E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.7E-04	-1.3E-05	3.2E-09	3.8E-04	-1.0E-05	3.2E-09	2.9E-04	-6.6E-06	3.2E-09	7.8E-07	-1.6E-05	2.8E-09	
AD -fossil fuels (MJ)		1.6E-01	2.6E+01	8.5E+03	5.7E-02	2.6E+01	7.6E+03	5.7E-02	2.5E+01	6.5E+03	5.7E-02	2.3E+01	1.0E+04	5.0E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Solar Bronze 35			Solar Bronze 50			Stainless Steel 10			Stainless Steel 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.3E+00	1.1E+03	1.9E-02	1.3E+00	9.0E+02	1.9E-02	1.3E+00	2.1E+03	2.1E-02	1.3E+00	1.6E+03	2.1E-02
		ODP (kg CFC-11 eq)	4.8E-13	6.8E-08	-9.0E-07	3.9E-10	6.9E-08	-7.8E-07	3.9E-10	6.5E-08	-1.5E-06	4.3E-10	6.5E-08	-1.0E-06	4.3E-10
		POP (kg C2H4 eq)	2.9E-06	6.1E-04	5.6E-01	8.8E-07	6.1E-04	4.7E-01	8.8E-07	6.6E-04	1.1E+00	9.5E-07	6.6E-04	8.3E-01	9.5E-07
		AP (kg SO2 eq)	6.3E-05	6.8E-03	1.0E+01	2.3E-05	6.8E-03	8.5E+00	2.3E-05	6.9E-03	1.9E+01	2.5E-05	6.8E-03	1.5E+01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.7E-04	3.4E-01	2.4E-05	8.1E-04	2.9E-01	2.4E-05	7.3E-04	6.5E-01	2.6E-05	7.2E-04	5.0E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-9.8E-07	2.8E-09	1.2E-06	-8.5E-07	2.8E-09	8.4E-07	-1.7E-06	3.1E-09	7.8E-07	-1.1E-06	3.1E-09
	AD -fossil fuels (MJ)	1.6E-01	2.2E+01	1.5E+04	5.0E-02	2.3E+01	1.3E+04	5.0E-02	2.3E+01	2.8E+04	5.4E-02	2.3E+01	2.2E+04	5.4E-02	
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.3E+00	1.0E+03	1.9E-02	1.3E+00	9.1E+02	1.9E-02	1.3E+00	1.3E+03	2.1E-02	1.3E+00	1.0E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.8E-08	-7.7E-07	3.9E-10	6.9E-08	-7.7E-07	3.9E-10	6.5E-08	1.0E-05	4.3E-10	6.5E-08	8.4E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.1E-04	5.5E-01	8.8E-07	6.1E-04	4.8E-01	8.8E-07	6.6E-04	8.8E-01	9.5E-07	6.6E-04	6.9E-01	9.5E-07
		AP (kg SO2 eq)	6.0E-05	6.8E-03	9.8E+00	2.3E-05	6.8E-03	8.6E+00	2.3E-05	6.9E-03	1.2E+01	2.5E-05	6.8E-03	9.3E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.7E-04	3.3E-01	2.4E-05	8.1E-04	2.9E-01	2.4E-05	7.3E-04	7.3E-01	2.6E-05	7.2E-04	5.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-8.4E-07	2.8E-09	1.2E-06	-8.4E-07	2.8E-09	8.4E-07	3.8E-05	3.1E-09	7.8E-07	3.0E-05	3.1E-09
	AD -fossil fuels (MJ)	1.6E-01	2.2E+01	1.4E+04	5.0E-02	2.3E+01	1.3E+04	5.0E-02	2.3E+01	1.9E+04	5.4E-02	2.3E+01	1.5E+04	5.4E-02	
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.3E+00	7.2E+02	1.9E-02	1.3E+00	6.3E+02	1.9E-02	1.3E+00	2.0E+03	2.1E-02	1.3E+00	1.6E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.8E-08	-8.2E-06	3.9E-10	6.9E-08	-8.2E-06	3.9E-10	6.5E-08	-4.7E-06	4.3E-10	6.5E-08	-4.4E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.1E-04	4.0E-01	8.8E-07	6.1E-04	3.5E-01	8.8E-07	6.6E-04	6.6E-01	9.5E-07	6.6E-04	5.1E-01	9.5E-07
		AP (kg SO2 eq)	6.0E-05	6.8E-03	7.2E+00	2.3E-05	6.8E-03	6.4E+00	2.3E-05	6.9E-03	1.1E+01	2.5E-05	6.8E-03	8.2E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.7E-04	2.4E-01	2.4E-05	8.1E-04	2.1E-01	2.4E-05	7.3E-04	5.5E-01	2.6E-05	7.2E-04	4.3E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-8.8E-06	2.8E-09	1.2E-06	-8.8E-06	2.8E-09	8.4E-07	9.4E-06	3.1E-09	7.8E-07	6.5E-06	3.1E-09
	AD -fossil fuels (MJ)	1.6E-01	2.2E+01	9.9E+03	5.0E-02	2.3E+01	8.6E+03	5.0E-02	2.3E+01	2.6E+04	5.4E-02	2.3E+01	2.0E+04	5.4E-02	
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.3E+00	6.6E+02	1.9E-02	1.3E+00	5.7E+02	1.9E-02	1.3E+00	1.3E+03	2.1E-02	1.3E+00	1.0E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.8E-08	-1.1E-05	3.9E-10	6.9E-08	-1.1E-05	3.9E-10	6.5E-08	1.4E-05	4.3E-10	6.5E-08	1.5E-05	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.1E-04	3.7E-01	8.8E-07	6.1E-04	3.3E-01	8.8E-07	6.6E-04	4.2E-01	9.5E-07	6.6E-04	3.4E-01	9.5E-07
AP (kg SO2 eq)		6.0E-05	6.8E-03	6.8E+00	2.3E-05	6.8E-03	6.0E+00	2.3E-05	6.9E-03	7.8E+00	2.5E-05	6.8E-03	6.2E+00	2.5E-05	
EP (kg PO4 eq)		1.1E-05	7.7E-04	2.2E-01	2.4E-05	8.1E-04	1.9E-01	2.4E-05	7.3E-04	2.7E+00	2.6E-05	7.2E-04	2.1E+00	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.5E-07	-1.2E-05	2.8E-09	1.2E-06	-1.2E-05	2.8E-09	8.4E-07	7.4E-04	3.1E-09	7.8E-07	5.9E-04	3.1E-09	
AD -fossil fuels (MJ)	1.6E-01	2.2E+01	9.0E+03	5.0E-02	2.3E+01	7.8E+03	5.0E-02	2.3E+01	1.8E+04	5.4E-02	2.3E+01	1.5E+04	5.4E-02		



		Per 15 Years (per square meter)	Final Product Transportation	Stainless Steel 30			Stainless Steel 35			Stainless Steel 50			Sterling 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.3E+00	1.3E+03	2.1E-02	1.2E+00	1.1E+03	1.9E-02	1.2E+00	1.0E+03	1.9E-02	1.4E+00	2.1E+03	2.1E-02
		ODP (kg CFC-11 eq)	4.8E-13	6.5E-08	-7.1E-07	4.3E-10	6.2E-08	7.7E-09	3.9E-10	6.2E-08	-5.6E-07	3.9E-10	6.8E-08	-1.2E-06	4.3E-10
		POP (kg C2H4 eq)	2.9E-06	6.4E-04	6.9E-01	9.5E-07	5.9E-04	5.6E-01	8.7E-07	5.8E-04	5.3E-01	8.7E-07	7.1E-04	1.1E+00	9.5E-07
		AP (kg SO2 eq)	6.3E-05	6.5E-03	1.2E+01	2.5E-05	6.4E-03	1.0E+01	2.3E-05	6.2E-03	9.5E+00	2.3E-05	8.7E-03	2.0E+01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.1E-04	4.1E-01	2.6E-05	7.0E-04	3.4E-01	2.3E-05	6.9E-04	3.2E-01	2.3E-05	1.3E-03	6.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-7.8E-07	3.1E-09	6.5E-07	0.0E+00	2.8E-09	6.4E-07	-6.1E-07	2.8E-09	6.7E-04	-1.3E-06	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	1.8E+04	5.4E-02	2.2E+01	1.5E+04	5.0E-02	2.1E+01	1.4E+04	5.0E-02	2.4E+01	2.9E+04	5.4E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.3E+00	8.7E+02	2.1E-02	1.2E+00	7.4E+02	1.9E-02	1.2E+00	7.5E+02	1.9E-02	1.4E+00	1.4E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	7.0E-06	4.3E-10	6.2E-08	6.3E-06	3.9E-10	6.2E-08	8.7E-06	3.9E-10	6.8E-08	1.1E-05	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.4E-04	5.8E-01	9.5E-07	5.9E-04	4.9E-01	8.7E-07	5.8E-04	5.5E-01	8.7E-07	7.1E-04	9.4E-01	9.5E-07
		AP (kg SO2 eq)	6.0E-05	6.5E-03	7.8E+00	2.5E-05	6.4E-03	6.6E+00	2.3E-05	6.2E-03	6.6E+00	2.3E-05	8.7E-03	1.3E+01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.1E-04	4.8E-01	2.6E-05	7.0E-04	4.1E-01	2.3E-05	6.9E-04	4.9E-01	2.3E-05	1.3E-03	7.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	2.5E-05	3.1E-09	6.5E-07	2.2E-05	2.8E-09	6.4E-07	3.1E-05	2.8E-09	6.7E-04	4.0E-05	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	1.2E+04	5.4E-02	2.2E+01	1.0E+04	5.0E-02	2.1E+01	1.1E+04	5.0E-02	2.4E+01	2.0E+04	5.4E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.3E+00	1.3E+03	2.1E-02	1.2E+00	1.1E+03	1.9E-02	1.2E+00	8.8E+02	1.9E-02	1.4E+00	2.0E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-4.8E-06	4.3E-10	6.2E-08	1.5E-06	3.9E-10	6.2E-08	-5.5E-06	3.9E-10	6.8E-08	-6.7E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.4E-04	4.3E-01	9.5E-07	5.9E-04	3.6E-01	8.7E-07	5.8E-04	3.1E-01	8.7E-07	7.1E-04	6.7E-01	9.5E-07
		AP (kg SO2 eq)	6.0E-05	6.5E-03	6.9E+00	2.5E-05	6.4E-03	5.8E+00	2.3E-05	6.2E-03	5.1E+00	2.3E-05	8.7E-03	1.1E+01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.1E-04	3.5E-01	2.6E-05	7.0E-04	3.0E-01	2.3E-05	6.9E-04	2.5E-01	2.3E-05	1.3E-03	5.5E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	4.1E-06	3.1E-09	6.5E-07	9.3E-06	2.8E-09	6.4E-07	3.8E-08	2.8E-09	6.7E-04	6.8E-06	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	1.7E+04	5.4E-02	2.2E+01	1.4E+04	5.0E-02	2.1E+01	1.1E+04	5.0E-02	2.4E+01	2.6E+04	5.4E-02
ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.3E+00	8.7E+02	2.1E-02	1.2E+00	7.7E+02	1.9E-02	1.2E+00	7.8E+02	1.9E-02	1.4E+00	1.3E+03	2.1E-02	
	ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	1.1E-05	4.3E-10	6.2E-08	1.4E-05	3.9E-10	6.2E-08	1.2E-05	3.9E-10	6.8E-08	1.4E-05	4.3E-10	
	POP (kg C2H4 eq)	9.9E-06	6.4E-04	2.8E-01	9.5E-07	5.9E-04	2.5E-01	8.7E-07	5.8E-04	2.3E-01	8.7E-07	7.1E-04	4.5E-01	9.5E-07	
	AP (kg SO2 eq)	6.0E-05	6.5E-03	5.2E+00	2.5E-05	6.4E-03	4.5E+00	2.3E-05	6.2E-03	4.3E+00	2.3E-05	8.7E-03	8.2E+00	2.5E-05	
	EP (kg PO4 eq)	1.1E-05	7.1E-04	1.8E+00	2.6E-05	7.0E-04	1.5E+00	2.3E-05	6.9E-04	1.9E+00	2.3E-05	1.3E-03	2.9E+00	2.6E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	5.0E-04	3.1E-09	6.5E-07	4.3E-04	2.8E-09	6.4E-07	5.3E-04	2.8E-09	6.7E-04	7.9E-04	3.1E-09	
	AD -fossil fuels (MJ)	1.6E-01	2.3E+01	1.2E+04	5.4E-02	2.2E+01	1.1E+04	5.0E-02	2.1E+01	1.1E+04	5.0E-02	2.4E+01	1.9E+04	5.4E-02	



Per 15 Years (per square meter)		Final Product Transportation	Sterling 40			Sterling 50			Sterling 60			Sterling 70			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.3E+00	1.7E+03	1.9E-02	1.3E+00	1.4E+03	2.1E-02	1.3E+00	1.0E+03	2.1E-02	1.3E+00	1.5E+03	2.1E-02
		ODP (kg CFC-11 eq)	4.8E-13	6.4E-08	-7.1E-07	3.9E-10	6.7E-08	-5.9E-07	4.3E-10	6.6E-08	-5.5E-07	4.3E-10	6.6E-08	-1.8E-07	4.3E-10
		POP (kg C2H4 eq)	2.9E-06	6.3E-04	8.7E-01	8.7E-07	6.7E-04	7.4E-01	9.4E-07	6.6E-04	5.2E-01	9.4E-07	6.5E-04	8.0E-01	9.4E-07
		AP (kg SO2 eq)	6.3E-05	7.7E-03	1.6E+01	2.3E-05	7.5E-03	1.3E+01	2.5E-05	7.2E-03	9.4E+00	2.5E-05	6.9E-03	1.4E+01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.1E-03	5.2E-01	2.3E-05	1.0E-03	4.5E-01	2.6E-05	9.4E-04	3.2E-01	2.6E-05	8.4E-04	4.9E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	-7.8E-07	2.8E-09	3.6E-04	-6.5E-07	3.1E-09	2.7E-04	-6.0E-07	3.1E-09	1.7E-04	-2.1E-07	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	2.3E+04	5.0E-02	2.3E+01	2.0E+04	5.4E-02	2.3E+01	1.4E+04	5.4E-02	2.3E+01	2.1E+04	5.4E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.3E+00	1.1E+03	1.9E-02	1.3E+00	9.9E+02	2.1E-02	1.3E+00	7.6E+02	2.1E-02	1.3E+00	1.1E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.4E-08	8.8E-06	3.9E-10	6.7E-08	7.6E-06	4.3E-10	6.6E-08	6.3E-06	4.3E-10	6.6E-08	1.3E-05	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.3E-04	7.6E-01	8.7E-07	6.7E-04	6.6E-01	9.4E-07	6.6E-04	5.1E-01	9.4E-07	6.5E-04	8.1E-01	9.4E-07
		AP (kg SO2 eq)	6.0E-05	7.7E-03	1.0E+01	2.3E-05	7.5E-03	9.0E+00	2.5E-05	7.2E-03	6.8E+00	2.5E-05	6.9E-03	9.8E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.1E-03	6.3E-01	2.3E-05	1.0E-03	5.5E-01	2.6E-05	9.4E-04	4.2E-01	2.6E-05	8.4E-04	7.3E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	3.3E-05	2.8E-09	3.6E-04	2.8E-05	3.1E-09	2.7E-04	2.2E-05	3.1E-09	1.7E-04	4.6E-05	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	1.6E+04	5.0E-02	2.3E+01	1.4E+04	5.4E-02	2.3E+01	1.1E+04	5.4E-02	2.3E+01	1.6E+04	5.4E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.3E+00	1.6E+03	1.9E-02	1.3E+00	1.4E+03	2.1E-02	1.3E+00	9.9E+02	2.1E-02	1.3E+00	1.3E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.4E-08	-5.1E-06	3.9E-10	6.7E-08	-5.4E-06	4.3E-10	6.6E-08	-3.7E-06	4.3E-10	6.6E-08	-5.6E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.3E-04	5.4E-01	8.7E-07	6.7E-04	4.7E-01	9.4E-07	6.6E-04	3.5E-01	9.4E-07	6.5E-04	4.6E-01	9.4E-07
		AP (kg SO2 eq)	6.0E-05	7.7E-03	8.7E+00	2.3E-05	7.5E-03	7.6E+00	2.5E-05	7.2E-03	5.7E+00	2.5E-05	6.9E-03	7.5E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.1E-03	4.4E-01	2.3E-05	1.0E-03	3.8E-01	2.6E-05	9.4E-04	2.8E-01	2.6E-05	8.4E-04	3.6E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	5.4E-06	2.8E-09	3.6E-04	3.4E-06	3.1E-09	2.7E-04	2.5E-06	3.1E-09	1.7E-04	2.7E-06	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	2.1E+04	5.0E-02	2.3E+01	1.8E+04	5.4E-02	2.3E+01	1.3E+04	5.4E-02	2.3E+01	1.7E+04	5.4E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.3E+00	1.1E+03	1.9E-02	1.3E+00	9.7E+02	2.1E-02	1.3E+00	7.5E+02	2.1E-02	1.3E+00	1.1E+03	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.4E-08	1.4E-05	3.9E-10	6.7E-08	1.1E-05	4.3E-10	6.6E-08	1.0E-05	4.3E-10	6.6E-08	1.8E-05	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.3E-04	3.7E-01	8.7E-07	6.7E-04	3.2E-01	9.4E-07	6.6E-04	2.5E-01	9.4E-07	6.5E-04	3.3E-01	9.4E-07
AP (kg SO2 eq)		6.0E-05	7.7E-03	6.8E+00	2.3E-05	7.5E-03	5.9E+00	2.5E-05	7.2E-03	4.5E+00	2.5E-05	6.9E-03	6.1E+00	2.5E-05	
EP (kg PO4 eq)		1.1E-05	1.1E-03	2.3E+00	2.3E-05	1.0E-03	2.0E+00	2.6E-05	9.4E-04	1.6E+00	2.6E-05	8.4E-04	2.7E+00	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.4E-04	6.4E-04	2.8E-09	3.6E-04	5.6E-04	3.1E-09	2.7E-04	4.3E-04	3.1E-09	1.7E-04	7.6E-04	3.1E-09	
AD -fossil fuels (MJ)		1.6E-01	2.3E+01	1.6E+04	5.0E-02	2.3E+01	1.4E+04	5.4E-02	2.3E+01	1.1E+04	5.4E-02	2.3E+01	1.6E+04	5.4E-02	





		Per 15 Years (per square meter)	Final Product Transportation	TrueVue 5			TrueVue 15			TrueVue 30			TrueVue 40		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.3E+00	1.5E+03	1.8E-02	1.3E+00	1.4E+03	1.8E-02	1.2E+00	1.0E+03	1.8E-02	1.2E+00	7.8E+02	1.8E-02
		ODP (kg CFC-11 eq)	4.8E-13	6.5E-08	-1.7E-06	3.6E-10	6.5E-08	-1.6E-06	3.6E-10	6.4E-08	-1.1E-06	3.5E-10	6.3E-08	-6.6E-07	3.5E-10
		POP (kg C2H4 eq)	2.9E-06	6.2E-04	7.7E-01	8.1E-07	6.2E-04	7.4E-01	8.1E-07	5.8E-04	5.2E-01	8.1E-07	5.7E-04	4.1E-01	8.1E-07
		AP (kg SO2 eq)	6.3E-05	7.9E-03	1.4E+01	2.1E-05	7.9E-03	1.3E+01	2.1E-05	6.8E-03	9.4E+00	2.1E-05	6.6E-03	7.3E+00	2.1E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	4.6E-01	2.2E-05	1.2E-03	4.5E-01	2.2E-05	9.6E-04	3.2E-01	2.2E-05	8.9E-04	2.5E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-1.9E-06	2.5E-09	6.3E-04	-1.7E-06	2.5E-09	3.3E-04	-1.2E-06	2.5E-09	2.5E-04	-7.2E-07	2.5E-09
		AD -fossil fuels (MJ)	1.6E-01	2.2E+01	2.0E+04	4.6E-02	2.2E+01	1.9E+04	4.6E-02	2.1E+01	1.4E+04	4.6E-02	2.1E+01	1.1E+04	4.6E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.3E+00	1.3E+03	1.8E-02	1.3E+00	1.2E+03	1.8E-02	1.2E+00	8.7E+02	1.8E-02	1.2E+00	6.9E+02	1.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-1.4E-06	3.6E-10	6.5E-08	-9.4E-07	3.6E-10	6.4E-08	-9.3E-07	3.5E-10	6.3E-08	-1.5E-07	3.5E-10
		POP (kg C2H4 eq)	9.9E-06	6.2E-04	6.6E-01	8.1E-07	6.2E-04	6.4E-01	8.1E-07	5.8E-04	4.6E-01	8.1E-07	5.7E-04	3.6E-01	8.1E-07
		AP (kg SO2 eq)	6.0E-05	7.9E-03	1.2E+01	2.1E-05	7.9E-03	1.2E+01	2.1E-05	6.8E-03	8.2E+00	2.1E-05	6.6E-03	6.5E+00	2.1E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	4.0E-01	2.2E-05	1.2E-03	3.9E-01	2.2E-05	9.6E-04	2.8E-01	2.2E-05	8.9E-04	2.2E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-1.5E-06	2.5E-09	6.3E-04	-1.0E-06	2.5E-09	3.3E-04	-1.0E-06	2.5E-09	2.5E-04	-1.6E-07	2.5E-09
		AD -fossil fuels (MJ)	1.6E-01	2.2E+01	1.7E+04	4.6E-02	2.2E+01	1.7E+04	4.6E-02	2.1E+01	1.2E+04	4.6E-02	2.1E+01	9.6E+03	4.6E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.3E+00	8.6E+02	1.8E-02	1.3E+00	8.4E+02	1.8E-02	1.2E+00	6.1E+02	1.8E-02	1.2E+00	4.8E+02	1.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-1.1E-05	3.6E-10	6.5E-08	-1.1E-05	3.6E-10	6.4E-08	-6.4E-06	3.5E-10	6.3E-08	-5.6E-06	3.5E-10
		POP (kg C2H4 eq)	9.9E-06	6.2E-04	4.8E-01	8.1E-07	6.2E-04	4.7E-01	8.1E-07	5.8E-04	3.4E-01	8.1E-07	5.7E-04	2.7E-01	8.1E-07
		AP (kg SO2 eq)	6.0E-05	7.9E-03	8.7E+00	2.1E-05	7.9E-03	8.4E+00	2.1E-05	6.8E-03	6.1E+00	2.1E-05	6.6E-03	4.8E+00	2.1E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	2.8E-01	2.2E-05	1.2E-03	2.8E-01	2.2E-05	9.6E-04	2.0E-01	2.2E-05	8.9E-04	1.6E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-1.2E-05	2.5E-09	6.3E-04	-1.2E-05	2.5E-09	3.3E-04	-6.9E-06	2.5E-09	2.5E-04	-6.0E-06	2.5E-09
		AD -fossil fuels (MJ)	1.6E-01	2.2E+01	1.2E+04	4.6E-02	2.2E+01	1.1E+04	4.6E-02	2.1E+01	8.4E+03	4.6E-02	2.1E+01	6.6E+03	4.6E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.3E+00	7.7E+02	1.8E-02	1.3E+00	7.6E+02	1.8E-02	1.2E+00	5.6E+02	1.8E-02	1.2E+00	4.6E+02	1.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-1.5E-05	3.6E-10	6.5E-08	-1.4E-05	3.6E-10	6.4E-08	-8.2E-06	3.5E-10	6.3E-08	-4.9E-06	3.5E-10
		POP (kg C2H4 eq)	9.9E-06	6.2E-04	4.5E-01	8.1E-07	6.2E-04	4.4E-01	8.1E-07	5.8E-04	3.2E-01	8.1E-07	5.7E-04	2.5E-01	8.1E-07
AP (kg SO2 eq)		6.0E-05	7.9E-03	8.1E+00	2.1E-05	7.9E-03	7.9E+00	2.1E-05	6.8E-03	5.7E+00	2.1E-05	6.6E-03	4.6E+00	2.1E-05	
EP (kg PO4 eq)		1.1E-05	1.2E-03	2.6E-01	2.2E-05	1.2E-03	2.5E-01	2.2E-05	9.6E-04	1.9E-01	2.2E-05	8.9E-04	1.5E-01	2.1E-05	
AD- non fossil (kg Sb eq)		0.0E+00	6.4E-04	-1.7E-05	2.5E-09	6.3E-04	-1.5E-05	2.5E-09	3.3E-04	-8.8E-06	2.5E-09	2.5E-04	-5.3E-06	2.5E-09	
AD -fossil fuels (MJ)		1.6E-01	2.2E+01	1.1E+04	4.6E-02	2.2E+01	1.0E+04	4.6E-02	2.1E+01	7.7E+03	4.6E-02	2.1E+01	6.3E+03	4.6E-02	



Per 15 Years (per square meter)		Final Product Transportation	Sentinel Stainless Steel 15 OSW			Sentinel Stainless Steel 25 OSW			Sentinel Stainless Steel 40 OSW			Sentinel Stainless Steel 45 OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.6E+00	6.3E+02	2.1E-02	1.5E+00	5.2E+02	2.1E-02	1.5E+00	3.8E+02	2.1E-02	1.5E+00	3.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	4.8E-13	8.9E-08	-7.0E-07	4.3E-10	8.9E-08	-4.6E-07	4.3E-10	8.9E-08	-3.8E-07	4.3E-10	8.8E-08	-3.9E-07	4.3E-10
		POP (kg C2H4 eq)	2.9E-06	6.9E-04	3.3E-01	9.5E-07	6.6E-04	2.7E-01	9.5E-07	6.5E-04	2.0E-01	9.5E-07	6.5E-04	1.7E-01	9.5E-07
		AP (kg SO2 eq)	6.3E-05	7.9E-03	5.9E+00	2.5E-05	7.4E-03	4.9E+00	2.5E-05	7.2E-03	3.6E+00	2.5E-05	7.2E-03	3.0E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.1E-03	2.0E-01	2.6E-05	1.0E-03	1.7E-01	2.6E-05	1.0E-03	1.2E-01	2.6E-05	1.0E-03	1.0E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	-7.6E-07	3.1E-09	1.1E-06	-5.0E-07	3.1E-09	1.1E-06	-4.2E-07	3.1E-09	1.1E-06	-4.2E-07	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	8.7E+03	5.4E-02	2.5E+01	7.2E+03	5.4E-02	2.5E+01	5.2E+03	5.4E-02	2.5E+01	4.4E+03	5.4E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.6E+00	7.2E+02	2.1E-02	1.5E+00	6.2E+02	2.1E-02	1.5E+00	4.8E+02	2.1E-02	1.5E+00	4.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.9E-08	-7.6E-07	4.3E-10	8.9E-08	-3.3E-07	4.3E-10	8.9E-08	-5.0E-07	4.3E-10	8.8E-08	-2.6E-07	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.9E-04	3.8E-01	9.5E-07	6.6E-04	3.3E-01	9.5E-07	6.5E-04	2.5E-01	9.5E-07	6.5E-04	2.2E-01	9.5E-07
		AP (kg SO2 eq)	6.0E-05	7.9E-03	6.8E+00	2.5E-05	7.4E-03	5.9E+00	2.5E-05	7.2E-03	4.6E+00	2.5E-05	7.2E-03	4.0E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.1E-03	2.3E-01	2.6E-05	1.0E-03	2.0E-01	2.6E-05	1.0E-03	1.5E-01	2.6E-05	1.0E-03	1.3E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	-8.2E-07	3.1E-09	1.1E-06	-3.6E-07	3.1E-09	1.1E-06	-5.5E-07	3.1E-09	1.1E-06	-2.9E-07	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	1.0E+04	5.4E-02	2.5E+01	8.6E+03	5.4E-02	2.5E+01	6.7E+03	5.4E-02	2.5E+01	5.9E+03	5.4E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.6E+00	4.8E+02	2.1E-02	1.5E+00	4.2E+02	2.1E-02	1.5E+00	3.3E+02	2.1E-02	1.5E+00	3.0E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.9E-08	-7.9E-06	4.3E-10	8.9E-08	-6.0E-06	4.3E-10	8.9E-08	-4.2E-06	4.3E-10	8.8E-08	-3.3E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.9E-04	2.7E-01	9.5E-07	6.6E-04	2.4E-01	9.5E-07	6.5E-04	1.9E-01	9.5E-07	6.5E-04	1.6E-01	9.5E-07
		AP (kg SO2 eq)	6.0E-05	7.9E-03	5.0E+00	2.5E-05	7.4E-03	4.3E+00	2.5E-05	7.2E-03	3.4E+00	2.5E-05	7.2E-03	3.0E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.1E-03	1.6E-01	2.6E-05	1.0E-03	1.4E-01	2.6E-05	1.0E-03	1.1E-01	2.6E-05	1.0E-03	9.7E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	-8.5E-06	3.1E-09	1.1E-06	-6.5E-06	3.1E-09	1.1E-06	-4.5E-06	3.1E-09	1.1E-06	-3.6E-06	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	6.6E+03	5.4E-02	2.5E+01	5.8E+03	5.4E-02	2.5E+01	4.6E+03	5.4E-02	2.5E+01	4.1E+03	5.4E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.6E+00	4.3E+02	2.1E-02	1.5E+00	3.8E+02	2.1E-02	1.5E+00	3.1E+02	2.1E-02	1.5E+00	2.8E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.9E-08	-1.0E-05	4.3E-10	8.9E-08	-7.4E-06	4.3E-10	8.9E-08	-4.7E-06	4.3E-10	8.8E-08	-3.7E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.9E-04	2.5E-01	9.5E-07	6.6E-04	2.2E-01	9.5E-07	6.5E-04	1.8E-01	9.5E-07	6.5E-04	1.6E-01	9.5E-07
AP (kg SO2 eq)		6.0E-05	7.9E-03	4.6E+00	2.5E-05	7.4E-03	4.0E+00	2.5E-05	7.2E-03	3.2E+00	2.5E-05	7.2E-03	2.8E+00	2.5E-05	
EP (kg PO4 eq)		1.1E-05	1.1E-03	1.5E-01	2.6E-05	1.0E-03	1.3E-01	2.6E-05	1.0E-03	1.0E-01	2.6E-05	1.0E-03	9.2E-02	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.2E-06	-1.1E-05	3.1E-09	1.1E-06	-8.0E-06	3.1E-09	1.1E-06	-5.1E-06	3.1E-09	1.1E-06	-4.0E-06	3.1E-09	
AD -fossil fuels (MJ)		1.6E-01	2.6E+01	5.9E+03	5.4E-02	2.5E+01	5.2E+03	5.4E-02	2.5E+01	4.3E+03	5.4E-02	2.5E+01	3.8E+03	5.4E-02	



Per 15 Years ( per square meter)		Final Product Transportation	Sentinel Silver 20 OSW			Sentinel Silver 35 OSW			Sentinel 4 Mil Clear OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 1,2	GWP (kg CO2)	1.3E-02	1.5E+00	7.3E+02	2.1E-02	1.5E+00	5.7E+02	2.1E-02	1.8E+00	4.0E+01	3.8E-02
		ODP (kg CFC-11 eq)	4.8E-13	8.7E-08	-7.8E-07	4.3E-10	8.7E-08	-5.6E-07	4.3E-10	9.5E-08	-3.7E-08	7.9E-10
		POP (kg C2H4 eq)	2.9E-06	6.6E-04	3.9E-01	9.5E-07	6.5E-04	3.0E-01	9.5E-07	8.0E-04	2.1E-02	1.6E-06
		AP (kg SO2 eq)	6.3E-05	7.3E-03	6.9E+00	2.5E-05	7.1E-03	5.4E+00	2.5E-05	9.4E-03	3.8E-01	4.3E-05
		EP (kg PO4 eq)	1.1E-05	1.0E-03	2.3E-01	2.6E-05	1.0E-03	1.8E-01	2.6E-05	1.2E-03	1.3E-02	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-8.5E-07	3.1E-09	1.1E-06	-6.1E-07	3.1E-09	1.2E-06	-4.0E-08	5.6E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	1.0E+04	5.4E-02	2.5E+01	7.9E+03	5.4E-02	3.1E+01	5.5E+02	9.1E-02
	ASHRAE Climate Zone 3	GWP (kg CO2)	1.3E-02	1.5E+00	7.5E+02	2.1E-02	1.5E+00	6.4E+02	2.1E-02	1.8E+00	1.4E+02	3.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.7E-08	-9.0E-07	4.3E-10	8.7E-08	-3.8E-07	4.3E-10	9.5E-08	-5.0E-08	7.9E-10
		POP (kg C2H4 eq)	9.9E-06	6.6E-04	4.0E-01	9.5E-07	6.5E-04	3.4E-01	9.5E-07	8.0E-04	7.3E-02	1.6E-06
		AP (kg SO2 eq)	6.0E-05	7.3E-03	7.1E+00	2.5E-05	7.1E-03	6.0E+00	2.5E-05	9.4E-03	1.3E+00	4.3E-05
		EP (kg PO4 eq)	1.1E-05	1.0E-03	2.4E-01	2.6E-05	1.0E-03	2.0E-01	2.6E-05	1.2E-03	4.4E-02	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-9.8E-07	3.1E-09	1.1E-06	-4.2E-07	3.1E-09	1.2E-06	-5.6E-08	5.6E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	1.0E+04	5.4E-02	2.5E+01	8.9E+03	5.4E-02	3.1E+01	1.9E+03	9.1E-02
	ASHRAE Climate Zone 4	GWP (kg CO2)	1.3E-02	1.5E+00	5.2E+02	2.1E-02	1.5E+00	4.3E+02	2.1E-02	1.8E+00	9.7E+01	3.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.7E-08	-9.7E-06	4.3E-10	8.7E-08	-6.8E-06	4.3E-10	9.5E-08	-1.2E-06	7.9E-10
		POP (kg C2H4 eq)	9.9E-06	6.6E-04	3.0E-01	9.5E-07	6.5E-04	2.4E-01	9.5E-07	8.0E-04	5.4E-02	1.6E-06
		AP (kg SO2 eq)	6.0E-05	7.3E-03	5.4E+00	2.5E-05	7.1E-03	4.4E+00	2.5E-05	9.4E-03	9.7E-01	4.3E-05
		EP (kg PO4 eq)	1.1E-05	1.0E-03	1.7E-01	2.6E-05	1.0E-03	1.4E-01	2.6E-05	1.2E-03	3.2E-02	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-1.1E-05	3.1E-09	1.1E-06	-7.3E-06	3.1E-09	1.2E-06	-1.3E-06	5.6E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	7.0E+03	5.4E-02	2.5E+01	5.9E+03	5.4E-02	3.1E+01	1.3E+03	9.1E-02
	ASHRAE Climate Zone 5	GWP (kg CO2)	1.3E-02	1.5E+00	4.6E+02	2.1E-02	1.5E+00	3.9E+02	2.1E-02	1.8E+00	9.7E+01	3.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.7E-08	-1.3E-05	4.3E-10	8.7E-08	-8.6E-06	4.3E-10	9.5E-08	-5.7E-07	7.9E-10
		POP (kg C2H4 eq)	9.9E-06	6.6E-04	2.7E-01	9.5E-07	6.5E-04	2.3E-01	9.5E-07	8.0E-04	5.2E-02	1.6E-06
AP (kg SO2 eq)		6.0E-05	7.3E-03	5.0E+00	2.5E-05	7.1E-03	4.1E+00	2.5E-05	9.4E-03	9.4E-01	4.3E-05	
EP (kg PO4 eq)		1.1E-05	1.0E-03	1.6E-01	2.6E-05	1.0E-03	1.3E-01	2.6E-05	1.2E-03	3.1E-02	4.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.1E-06	-1.4E-05	3.1E-09	1.1E-06	-9.3E-06	3.1E-09	1.2E-06	-6.1E-07	5.6E-09	
AD -fossil fuels (MJ)		1.6E-01	2.5E+01	6.2E+03	5.4E-02	2.5E+01	5.3E+03	5.4E-02	3.1E+01	1.3E+03	9.1E-02	



North America- ASHRAE Zones 6-7, Canada, Mexico

		Per 15 Years ( per square meter)	Final Product Transportation	Autumn Bronze 30			Grey Silver Grey 10			LX40/Hilite 40			LX70/ Hilite 70		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.5E+00	7.1E+02	2.3E-02	1.2E+00	6.8E+02	1.7E-02	2.4E+00	6.4E+02	2.5E-02	3.7E+00	5.9E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.9E-08	-1.2E-05	4.8E-10	6.9E-08	-1.2E-05	3.5E-10	1.5E-07	-8.9E-06	5.0E-10	2.6E-07	-8.5E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	4.0E-01	1.0E-06	5.8E-04	3.9E-01	7.9E-07	8.4E-04	3.6E-01	1.1E-06	1.2E-03	3.3E-01	9.4E-07
		AP (kg SO2 eq)	6.0E-05	8.2E-03	7.3E+00	2.7E-05	5.6E-03	7.0E+00	2.1E-05	1.1E-02	6.5E+00	2.8E-05	2.2E-02	6.0E+00	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	2.4E-01	2.9E-05	7.2E-04	2.3E-01	2.1E-05	2.2E-03	2.1E-01	3.0E-05	6.5E-02	2.0E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-1.3E-05	3.4E-09	7.4E-07	-1.2E-05	2.5E-09	1.2E-06	-9.6E-06	3.6E-09	3.7E-03	-9.2E-06	3.0E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	9.7E+03	5.9E-02	2.0E+01	9.3E+03	4.5E-02	4.0E+01	8.7E+03	6.1E-02	5.6E+01	8.1E+03	5.4E-02
	Canada	GWP (kg CO2)	4.4E-02	1.5E+00	1.4E+02	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	1.2E+02	2.5E-02	3.7E+00	1.1E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.9E-08	-5.3E-06	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	-5.0E-06	5.0E-10	2.6E-07	-4.2E-06	4.3E-10
		POP (kg C2H4 eq)	3.4E-05	7.0E-04	2.9E-01	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	2.5E-01	1.1E-06	1.2E-03	2.3E-01	9.4E-07
		AP (kg SO2 eq)	2.0E-04	8.2E-03	1.6E+00	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	1.4E+00	2.8E-05	2.2E-02	1.3E+00	2.5E-05
		EP (kg PO4 eq)	3.8E-05	1.2E-03	3.4E-01	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	3.0E-01	3.0E-05	6.5E-02	2.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	1.9E-05	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	1.6E-05	3.6E-09	3.7E-03	1.6E-05	3.0E-09
	AD -fossil fuels (MJ)	5.4E-01	2.5E+01	2.0E+03	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	1.8E+03	6.1E-02	5.6E+01	1.7E+03	5.4E-02	
	Mexico	GWP (kg CO2)	1.2E-02	1.5E+00	-	2.3E-02	1.2E+00	1.1E+03	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	1.9E-13	6.9E-08	-	4.8E-10	6.9E-08	9.0E-07	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	9.4E-06	7.0E-04	-	1.0E-06	5.8E-04	2.2E-01	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
		AP (kg SO2 eq)	5.7E-05	8.2E-03	-	2.7E-05	5.6E-03	2.8E+00	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05
EP (kg PO4 eq)		1.1E-05	1.2E-03	-	2.9E-05	7.2E-04	2.8E-01	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	1.4E-05	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09	
AD -fossil fuels (MJ)		1.5E-01	2.5E+01	-	5.9E-02	2.0E+01	1.4E+04	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Quantum Silver Quantum 10			Quantum Silver Quantum 20			Silver AG 25 Low-E			Silver AG Low-e 50		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.5E+00	7.0E+02	2.4E-02	1.5E+00	5.2E+02	2.4E-02	1.5E+00	8.1E+02	2.0E-02	1.5E+00	5.9E+02	2.0E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.0E-08	-1.1E-05	4.8E-10	7.0E-08	-7.7E-06	4.8E-10	7.3E-08	-1.2E-05	4.1E-10	7.2E-08	-4.9E-06	4.1E-10
		POP (kg C2H4 eq)	9.9E-06	7.0E-04	4.0E-01	1.0E-06	6.9E-04	2.9E-01	1.0E-06	7.1E-04	4.6E-01	9.1E-07	6.8E-04	3.2E-01	9.1E-07
		AP (kg SO2 eq)	6.0E-05	8.2E-03	7.2E+00	2.7E-05	8.0E-03	5.3E+00	2.7E-05	9.6E-03	8.3E+00	2.4E-05	8.5E-03	5.8E+00	2.4E-05
		EP (kg PO4 eq)	1.1E-05	8.5E-04	2.3E-01	2.9E-05	8.5E-04	1.7E-01	2.9E-05	1.5E-03	2.7E-01	2.5E-05	1.2E-03	1.9E-01	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-1.2E-05	3.4E-09	7.6E-07	-8.3E-06	3.4E-09	7.7E-04	-1.3E-05	2.9E-09	4.1E-04	-5.3E-06	2.9E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	9.6E+03	5.9E-02	2.5E+01	7.1E+03	5.9E-02	2.5E+01	1.1E+04	5.2E-02	2.4E+01	8.2E+03	5.2E-02
	Canada	GWP (kg CO2)	4.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	2.0E+02	2.0E-02	1.5E+00	1.6E+02	2.0E-02
		ODP (kg CFC-11 eq)	6.8E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	4.5E-07	4.1E-10	7.2E-08	3.3E-06	4.1E-10
		POP (kg C2H4 eq)	3.4E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	3.3E-01	9.1E-07	6.8E-04	2.3E-01	9.1E-07
		AP (kg SO2 eq)	2.0E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	1.9E+00	2.4E-05	8.5E-03	1.4E+00	2.4E-05
		EP (kg PO4 eq)	3.8E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	4.0E-01	2.5E-05	1.2E-03	2.8E-01	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	2.8E-05	2.9E-09	4.1E-04	2.3E-05	2.9E-09
		AD -fossil fuels (MJ)	5.4E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	3.0E+03	5.2E-02	2.4E+01	2.4E+03	5.2E-02
	Mexico	GWP (kg CO2)	1.2E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	7.2E+02	2.0E-02
		ODP (kg CFC-11 eq)	1.9E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	1.4E-06	4.1E-10
		POP (kg C2H4 eq)	9.4E-06	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	1.4E-01	9.1E-07
		AP (kg SO2 eq)	5.7E-05	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	1.8E+00	2.4E-05
		EP (kg PO4 eq)	1.1E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	1.8E-01	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	9.9E-06	2.9E-09
		AD -fossil fuels (MJ)	1.5E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	9.0E+03	5.2E-02



Per 15 Years (per square meter)		Final Product Transportation	Silver 20			Silver 35			Silver 50			Slate 10			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.3E+00	8.5E+02	2.2E-02	1.3E+00	6.9E+02	2.0E-02	1.3E+00	5.0E+02	2.2E-02	1.6E+00	8.4E+02	2.2E-02
		ODP (kg CFC-11 eq)	2.0E-13	7.1E-08	-1.8E-05	4.4E-10	6.9E-08	-1.1E-05	4.1E-10	7.1E-08	-1.1E-05	4.4E-10	6.6E-08	-1.7E-05	4.6E-10
		POP (kg C2H4 eq)	9.9E-06	6.7E-04	4.9E-01	9.7E-07	6.1E-04	3.9E-01	9.0E-07	6.6E-04	2.9E-01	9.7E-07	7.9E-04	4.9E-01	9.9E-07
		AP (kg SO2 eq)	6.0E-05	6.9E-03	9.0E+00	2.6E-05	6.7E-03	7.1E+00	2.4E-05	6.7E-03	5.3E+00	2.6E-05	1.1E-02	8.8E+00	2.6E-05
		EP (kg PO4 eq)	1.1E-05	7.9E-04	2.9E-01	2.7E-05	7.8E-04	2.3E-01	2.5E-05	7.8E-04	1.7E-01	2.7E-05	1.4E-03	2.8E-01	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	-2.0E-05	3.2E-09	7.1E-07	-1.2E-05	2.9E-09	7.8E-07	-1.2E-05	3.2E-09	7.1E-04	-1.9E-05	3.3E-09
	AD -fossil fuels (MJ)	1.6E-01	2.4E+01	1.2E+04	5.5E-02	2.3E+01	9.4E+03	5.2E-02	2.3E+01	6.8E+03	5.5E-02	2.7E+01	1.1E+04	5.7E-02	
	Canada	GWP (kg CO2)	4.4E-02	1.3E+00	1.5E+02	2.2E-02	1.3E+00	1.2E+02	2.0E-02	1.3E+00	6.6E+01	2.2E-02	1.6E+00	1.4E+02	2.2E-02
		ODP (kg CFC-11 eq)	6.8E-13	7.1E-08	-9.3E-06	4.4E-10	6.9E-08	-6.5E-06	4.1E-10	7.1E-08	-8.9E-06	4.4E-10	6.6E-08	-9.7E-06	4.6E-10
		POP (kg C2H4 eq)	3.4E-05	6.7E-04	3.5E-01	9.7E-07	6.1E-04	2.7E-01	9.0E-07	6.6E-04	2.0E-01	9.7E-07	7.9E-04	3.4E-01	9.9E-07
		AP (kg SO2 eq)	2.0E-04	6.9E-03	2.0E+00	2.6E-05	6.7E-03	1.6E+00	2.4E-05	6.7E-03	1.2E+00	2.6E-05	1.1E-02	2.0E+00	2.6E-05
		EP (kg PO4 eq)	3.8E-05	7.9E-04	4.2E-01	2.7E-05	7.8E-04	3.3E-01	2.5E-05	7.8E-04	2.4E-01	2.7E-05	1.4E-03	4.1E-01	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	2.0E-05	3.2E-09	7.1E-07	1.7E-05	2.9E-09	7.8E-07	8.3E-06	3.2E-09	7.1E-04	1.9E-05	3.3E-09
	AD -fossil fuels (MJ)	5.4E-01	2.4E+01	2.2E+03	5.5E-02	2.3E+01	1.8E+03	5.2E-02	2.3E+01	9.8E+02	5.5E-02	2.7E+01	2.1E+03	5.7E-02	
	Mexico	GWP (kg CO2)	1.2E-02	1.3E+00	1.2E+03	2.2E-02	1.3E+00	1.0E+03	2.0E-02	1.3E+00	-8.2E+00	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	1.9E-13	7.1E-08	1.3E-06	4.4E-10	6.9E-08	1.0E-06	4.1E-10	7.1E-08	-1.2E-06	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	9.4E-06	6.7E-04	2.3E-01	9.7E-07	6.1E-04	2.0E-01	9.0E-07	6.6E-04	-9.2E-04	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	5.7E-05	6.9E-03	3.0E+00	2.6E-05	6.7E-03	2.5E+00	2.4E-05	6.7E-03	-8.2E-03	2.6E-05	1.1E-02	-	2.6E-05
EP (kg PO4 eq)		1.1E-05	7.9E-04	2.9E-01	2.7E-05	7.8E-04	2.4E-01	2.5E-05	7.8E-04	-1.4E-03	2.7E-05	1.4E-03	-	2.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.8E-07	1.5E-05	3.2E-09	7.1E-07	1.3E-05	2.9E-09	7.8E-07	-1.3E-06	3.2E-09	7.1E-04	-	3.3E-09	
AD -fossil fuels (MJ)	1.5E-01	2.4E+01	1.5E+04	5.5E-02	2.3E+01	1.2E+04	5.2E-02	2.3E+01	-1.3E+02	5.5E-02	2.7E+01	-	5.7E-02		



		Per 15 Years (per square meter)	Final Product Transportation	Slate 20			Slate 30			Slate 40			Solar Bronze 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.5E+00	7.3E+02	2.2E-02	1.5E+00	6.5E+02	2.2E-02	1.5E+00	5.4E+02	2.2E-02	1.3E+00	8.5E+02	1.9E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-1.3E-05	4.6E-10	6.5E-08	-9.7E-06	4.6E-10	6.4E-08	-7.2E-06	4.6E-10	6.8E-08	-1.7E-05	3.9E-10
		POP (kg C2H4 eq)	9.9E-06	7.5E-04	4.1E-01	9.9E-07	7.3E-04	3.7E-01	9.9E-07	7.1E-04	3.0E-01	9.9E-07	6.2E-04	4.9E-01	8.8E-07
		AP (kg SO2 eq)	6.0E-05	9.8E-03	7.5E+00	2.6E-05	9.3E-03	6.6E+00	2.6E-05	8.9E-03	5.4E+00	2.6E-05	6.9E-03	8.8E+00	2.3E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	2.4E-01	2.7E-05	1.1E-03	2.2E-01	2.7E-05	1.0E-03	1.8E-01	2.7E-05	7.8E-04	2.8E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-1.4E-05	3.2E-09	3.8E-04	-1.0E-05	3.2E-09	2.9E-04	-7.8E-06	3.2E-09	7.8E-07	-1.8E-05	2.8E-09
		AD -fossil fuels (MJ)	1.6E-01	2.6E+01	9.9E+03	5.7E-02	2.6E+01	8.9E+03	5.7E-02	2.5E+01	7.4E+03	5.7E-02	2.3E+01	1.2E+04	5.0E-02
	Canada	GWP (kg CO2)	4.4E-02	1.5E+00	1.2E+02	2.2E-02	1.5E+00	1.3E+02	2.2E-02	1.5E+00	1.1E+02	2.2E-02	1.3E+00	1.6E+02	1.9E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	-8.5E-06	4.6E-10	6.5E-08	-4.0E-06	4.6E-10	6.4E-08	-2.6E-06	4.6E-10	6.8E-08	-7.7E-06	3.9E-10
		POP (kg C2H4 eq)	3.4E-05	7.5E-04	2.9E-01	9.9E-07	7.3E-04	2.6E-01	9.9E-07	7.1E-04	2.1E-01	9.9E-07	6.2E-04	3.4E-01	8.8E-07
		AP (kg SO2 eq)	2.0E-04	9.8E-03	1.7E+00	2.6E-05	9.3E-03	1.5E+00	2.6E-05	8.9E-03	1.2E+00	2.6E-05	6.9E-03	2.0E+00	2.3E-05
		EP (kg PO4 eq)	3.8E-05	1.2E-03	3.5E-01	2.7E-05	1.1E-03	3.1E-01	2.7E-05	1.0E-03	2.6E-01	2.7E-05	7.8E-04	4.1E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	1.6E-05	3.2E-09	3.8E-04	1.8E-05	3.2E-09	2.9E-04	1.5E-05	3.2E-09	7.8E-07	2.1E-05	2.8E-09
	AD -fossil fuels (MJ)	5.4E-01	2.6E+01	1.8E+03	5.7E-02	2.6E+01	1.9E+03	5.7E-02	2.5E+01	1.7E+03	5.7E-02	2.3E+01	2.3E+03	5.0E-02	
	Mexico	GWP (kg CO2)	1.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	7.7E+02	2.2E-02	1.3E+00	-	1.9E-02
		ODP (kg CFC-11 eq)	1.9E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	8.3E-07	4.6E-10	6.8E-08	-	3.9E-10
		POP (kg C2H4 eq)	9.4E-06	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	1.5E-01	9.9E-07	6.2E-04	-	8.8E-07
		AP (kg SO2 eq)	5.7E-05	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	1.9E+00	2.6E-05	6.9E-03	-	2.3E-05
EP (kg PO4 eq)		1.1E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	1.9E-01	2.7E-05	7.8E-04	-	2.4E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	9.9E-06	3.2E-09	7.8E-07	-	2.8E-09	
AD -fossil fuels (MJ)		1.5E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	9.6E+03	5.7E-02	2.3E+01	-	5.0E-02	



Per 15 Years (per square meter)		Final Product Transportation	Solar Bronze 35			Solar Bronze 50			Stainless Steel 10			Stainless Steel 20			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.3E+00	7.4E+02	1.9E-02	1.3E+00	6.4E+02	1.9E-02	1.3E+00	3.4E+01	2.1E-02	1.3E+00	4.6E+01	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.8E-08	-1.5E-05	3.9E-10	6.9E-08	-1.5E-05	3.9E-10	6.5E-08	-8.4E-06	4.3E-10	6.5E-08	-3.5E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.1E-04	4.3E-01	8.8E-07	6.1E-04	3.8E-01	8.8E-07	6.6E-04	2.2E-02	9.5E-07	6.6E-04	1.9E-02	9.5E-07
		AP (kg SO2 eq)	6.0E-05	6.8E-03	7.7E+00	2.3E-05	6.8E-03	6.8E+00	2.3E-05	6.9E-03	7.4E-01	2.5E-05	6.8E-03	6.0E-01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.7E-04	2.5E-01	2.4E-05	8.1E-04	2.2E-01	2.4E-05	7.3E-04	3.5E-01	2.6E-05	7.2E-04	2.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-1.6E-05	2.8E-09	1.2E-06	-1.6E-05	2.8E-09	8.4E-07	1.2E-03	3.1E-09	7.8E-07	9.1E-04	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.2E+01	1.0E+04	5.0E-02	2.3E+01	8.7E+03	5.0E-02	2.3E+01	2.6E+02	5.4E-02	2.3E+01	5.1E+02	5.4E-02
	Canada	GWP (kg CO2)	4.4E-02	1.3E+00	1.4E+02	1.9E-02	1.3E+00	1.1E+02	1.9E-02	1.3E+00	6.5E+02	2.1E-02	1.3E+00	5.1E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.8E-08	-5.9E-06	3.9E-10	6.9E-08	-7.2E-06	3.9E-10	6.5E-08	2.7E-05	4.3E-10	6.5E-08	2.2E-05	4.3E-10
		POP (kg C2H4 eq)	3.4E-05	6.1E-04	3.0E-01	8.8E-07	6.1E-04	2.7E-01	8.8E-07	6.6E-04	2.6E-01	9.5E-07	6.6E-04	2.0E-01	9.5E-07
		AP (kg SO2 eq)	2.0E-04	6.8E-03	1.7E+00	2.3E-05	6.8E-03	1.5E+00	2.3E-05	6.9E-03	7.2E+00	2.5E-05	6.8E-03	5.6E+00	2.5E-05
		EP (kg PO4 eq)	3.8E-05	7.7E-04	3.6E-01	2.4E-05	8.1E-04	3.2E-01	2.4E-05	7.3E-04	1.5E+00	2.6E-05	7.2E-04	1.1E+00	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	2.0E-05	2.8E-09	1.2E-06	1.5E-05	2.8E-09	8.4E-07	1.2E-03	3.1E-09	7.8E-07	9.1E-04	3.1E-09
		AD -fossil fuels (MJ)	5.4E-01	2.2E+01	2.1E+03	5.0E-02	2.3E+01	1.7E+03	5.0E-02	2.3E+01	9.5E+03	5.4E-02	2.3E+01	7.5E+03	5.4E-02
	Mexico	GWP (kg CO2)	1.2E-02	1.3E+00	1.1E+03	1.9E-02	1.3E+00	-7.5E+00	1.9E-02	1.3E+00	1.5E+02	2.1E-02	1.3E+00	1.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.9E-13	6.8E-08	1.3E-06	3.9E-10	6.9E-08	-1.1E-06	3.9E-10	6.5E-08	9.8E-06	4.3E-10	6.5E-08	7.9E-06	4.3E-10
		POP (kg C2H4 eq)	9.4E-06	6.1E-04	2.2E-01	8.8E-07	6.1E-04	-8.4E-04	8.8E-07	6.6E-04	2.1E-02	9.5E-07	6.6E-04	1.6E-02	9.5E-07
		AP (kg SO2 eq)	5.7E-05	6.8E-03	2.8E+00	2.3E-05	6.8E-03	-7.6E-03	2.3E-05	6.9E-03	4.8E-01	2.5E-05	6.8E-03	3.8E-01	2.5E-05
EP (kg PO4 eq)		1.1E-05	7.7E-04	2.7E-01	2.4E-05	8.1E-04	-1.3E-03	2.4E-05	7.3E-04	2.1E-01	2.6E-05	7.2E-04	1.7E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.5E-07	1.4E-05	2.8E-09	1.2E-06	-1.2E-06	2.8E-09	8.4E-07	7.5E-04	3.1E-09	7.8E-07	5.9E-04	3.1E-09	
AD -fossil fuels (MJ)		1.5E-01	2.2E+01	1.4E+04	5.0E-02	2.3E+01	-1.2E+02	5.0E-02	2.3E+01	1.9E+03	5.4E-02	2.3E+01	1.5E+03	5.4E-02	





Per 15 Years (per square meter)		Final Product Transportation	Stainless Steel 30			Stainless Steel 35			Stainless Steel 50			Sterling 20			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.3E+00	3.0E+01	2.1E-02	1.2E+00	7.3E+01	1.9E-02	1.2E+00	1.2E+01	1.9E-02	1.4E+00	4.0E+01	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-4.3E-06	4.3E-10	6.2E-08	3.6E-06	3.9E-10	6.2E-08	-5.2E-06	3.9E-10	6.8E-08	-8.4E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.4E-04	1.5E-02	9.5E-07	5.9E-04	1.8E-02	8.7E-07	5.8E-04	1.1E-02	8.7E-07	7.1E-04	2.4E-02	9.5E-07
		AP (kg SO2 eq)	6.0E-05	6.5E-03	4.9E-01	2.5E-05	6.4E-03	4.6E-01	2.3E-05	6.2E-03	3.8E-01	2.3E-05	8.7E-03	7.9E-01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.1E-04	2.3E-01	2.6E-05	7.0E-04	2.0E-01	2.3E-05	6.9E-04	1.8E-01	2.3E-05	1.3E-03	3.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	7.6E-04	3.1E-09	6.5E-07	6.5E-04	2.8E-09	6.4E-07	6.0E-04	2.8E-09	6.7E-04	1.2E-03	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	2.9E+02	5.4E-02	2.2E+01	9.8E+02	5.0E-02	2.1E+01	5.3E+01	5.0E-02	2.4E+01	3.4E+02	5.4E-02
	Canada	GWP (kg CO2)	4.4E-02	1.3E+00	4.2E+02	2.1E-02	1.2E+00	4.3E+02	1.9E-02	1.2E+00	2.2E+02	1.9E-02	1.4E+00	7.0E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	1.6E-05	4.3E-10	6.2E-08	2.5E-05	3.9E-10	6.2E-08	4.8E-06	3.9E-10	6.8E-08	3.0E-05	4.3E-10
		POP (kg C2H4 eq)	3.4E-05	6.4E-04	1.7E-01	9.5E-07	5.9E-04	1.5E-01	8.7E-07	5.8E-04	9.7E-02	8.7E-07	7.1E-04	2.7E-01	9.5E-07
		AP (kg SO2 eq)	2.0E-04	6.5E-03	4.7E+00	2.5E-05	6.4E-03	4.1E+00	2.3E-05	6.2E-03	2.8E+00	2.3E-05	8.7E-03	7.7E+00	2.5E-05
		EP (kg PO4 eq)	3.8E-05	7.1E-04	9.7E-01	2.6E-05	7.0E-04	8.4E-01	2.3E-05	6.9E-04	5.8E-01	2.3E-05	1.3E-03	1.6E+00	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	7.6E-04	3.1E-09	6.5E-07	6.6E-04	2.8E-09	6.4E-07	4.6E-04	2.8E-09	6.7E-04	1.2E-03	3.1E-09
		AD -fossil fuels (MJ)	5.4E-01	2.3E+01	6.1E+03	5.4E-02	2.2E+01	6.3E+03	5.0E-02	2.1E+01	3.2E+03	5.0E-02	2.4E+01	1.0E+04	5.4E-02
	Mexico	GWP (kg CO2)	1.2E-02	1.3E+00	9.6E+01	2.1E-02	1.2E+00	8.8E+01	1.9E-02	1.2E+00	1.2E+02	1.9E-02	1.4E+00	1.6E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.9E-13	6.5E-08	6.4E-06	4.3E-10	6.2E-08	6.4E-06	3.9E-10	6.2E-08	8.3E-06	3.9E-10	6.8E-08	1.1E-05	4.3E-10
		POP (kg C2H4 eq)	9.4E-06	6.4E-04	1.4E-02	9.5E-07	5.9E-04	1.2E-02	8.7E-07	5.8E-04	1.7E-02	8.7E-07	7.1E-04	2.2E-02	9.5E-07
		AP (kg SO2 eq)	5.7E-05	6.5E-03	3.2E-01	2.5E-05	6.4E-03	2.8E-01	2.3E-05	6.2E-03	4.0E-01	2.3E-05	8.7E-03	5.1E-01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	7.1E-04	1.4E-01	2.6E-05	7.0E-04	1.2E-01	2.3E-05	6.9E-04	1.8E-01	2.3E-05	1.3E-03	2.3E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	4.9E-04	3.1E-09	6.5E-07	4.2E-04	2.8E-09	6.4E-07	6.2E-04	2.8E-09	6.7E-04	8.0E-04	3.1E-09
		AD -fossil fuels (MJ)	1.5E-01	2.3E+01	1.2E+03	5.4E-02	2.2E+01	1.2E+03	5.0E-02	2.1E+01	1.6E+03	5.0E-02	2.4E+01	2.0E+03	5.4E-02



Per 15 Years (per square meter)		Final Product Transportation	Sterling 40			Sterling 50			Sterling 60			Sterling 70			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.3E+00	5.0E+01	1.9E-02	1.3E+00	3.5E+01	2.1E-02	1.3E+00	4.0E+01	2.1E-02	1.3E+00	3.6E+01	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.4E-08	-4.1E-06	3.9E-10	6.7E-08	-4.8E-06	4.3E-10	6.6E-08	-1.7E-06	4.3E-10	6.6E-08	-4.8E-06	4.3E-10
		POP (kg C2H4 eq)	9.9E-06	6.3E-04	2.1E-02	8.7E-07	6.7E-04	1.7E-02	9.4E-07	6.6E-04	1.5E-02	9.4E-07	6.5E-04	1.8E-02	9.4E-07
		AP (kg SO2 eq)	6.0E-05	7.7E-03	6.6E-01	2.3E-05	7.5E-03	5.6E-01	2.5E-05	7.2E-03	4.4E-01	2.5E-05	6.9E-03	5.7E-01	2.5E-05
		EP (kg PO4 eq)	1.1E-05	1.1E-03	3.0E-01	2.3E-05	1.0E-03	2.6E-01	2.6E-05	9.4E-04	2.0E-01	2.6E-05	8.4E-04	2.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	1.0E-03	2.8E-09	3.6E-04	8.7E-04	3.1E-09	2.7E-04	6.6E-04	3.1E-09	1.7E-04	8.8E-04	3.1E-09
		AD -fossil fuels (MJ)	1.6E-01	2.3E+01	5.4E+02	5.0E-02	2.3E+01	3.4E+02	5.4E-02	2.3E+01	4.6E+02	5.4E-02	2.3E+01	3.6E+02	5.4E-02
	Canada	GWP (kg CO2)	4.4E-02	1.3E+00	5.7E+02	1.9E-02	1.3E+00	4.9E+02	2.1E-02	1.3E+00	3.9E+02	2.1E-02	1.3E+00	3.5E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.4E-08	2.6E-05	3.9E-10	6.7E-08	2.1E-05	4.3E-10	6.6E-08	1.8E-05	4.3E-10	6.6E-08	1.3E-05	4.3E-10
		POP (kg C2H4 eq)	3.4E-05	6.3E-04	2.2E-01	8.7E-07	6.7E-04	1.9E-01	9.4E-07	6.6E-04	1.5E-01	9.4E-07	6.5E-04	1.5E-01	9.4E-07
		AP (kg SO2 eq)	2.0E-04	7.7E-03	6.2E+00	2.3E-05	7.5E-03	5.4E+00	2.5E-05	7.2E-03	4.1E+00	2.5E-05	6.9E-03	4.1E+00	2.5E-05
		EP (kg PO4 eq)	3.8E-05	1.1E-03	1.3E+00	2.3E-05	1.0E-03	1.1E+00	2.6E-05	9.4E-04	8.4E-01	2.6E-05	8.4E-04	8.4E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	1.0E-03	2.8E-09	3.6E-04	8.7E-04	3.1E-09	2.7E-04	6.7E-04	3.1E-09	1.7E-04	6.7E-04	3.1E-09
		AD -fossil fuels (MJ)	5.4E-01	2.3E+01	8.4E+03	5.0E-02	2.3E+01	7.1E+03	5.4E-02	2.3E+01	5.6E+03	5.4E-02	2.3E+01	5.2E+03	5.4E-02
	Mexico	GWP (kg CO2)	1.2E-02	1.3E+00	1.3E+02	1.9E-02	1.3E+00	1.1E+02	2.1E-02	1.3E+00	8.6E+01	2.1E-02	1.3E+00	1.7E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.9E-13	6.4E-08	8.9E-06	3.9E-10	6.7E-08	7.5E-06	4.3E-10	6.6E-08	5.9E-06	4.3E-10	6.6E-08	1.2E-05	4.3E-10
		POP (kg C2H4 eq)	9.4E-06	6.3E-04	1.8E-02	8.7E-07	6.7E-04	1.5E-02	9.4E-07	6.6E-04	1.2E-02	9.4E-07	6.5E-04	2.4E-02	9.4E-07
		AP (kg SO2 eq)	5.7E-05	7.7E-03	4.1E-01	2.3E-05	7.5E-03	3.6E-01	2.5E-05	7.2E-03	2.8E-01	2.5E-05	6.9E-03	5.5E-01	2.5E-05
EP (kg PO4 eq)		1.1E-05	1.1E-03	1.8E-01	2.3E-05	1.0E-03	1.6E-01	2.6E-05	9.4E-04	1.2E-01	2.6E-05	8.4E-04	2.5E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.4E-04	6.4E-04	2.8E-09	3.6E-04	5.5E-04	3.1E-09	2.7E-04	4.3E-04	3.1E-09	1.7E-04	8.5E-04	3.1E-09	
AD -fossil fuels (MJ)		1.5E-01	2.3E+01	1.7E+03	5.0E-02	2.3E+01	1.4E+03	5.4E-02	2.3E+01	1.1E+03	5.4E-02	2.3E+01	2.3E+03	5.4E-02	



Per 15 Years (per square meter)		Final Product Transportation	TrueVue 5			TrueVue 15			TrueVue 30			TrueVue 40			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.3E+00	8.8E+02	1.8E-02	1.3E+00	8.5E+02	1.8E-02	1.2E+00	6.5E+02	1.8E-02	1.2E+00	5.3E+02	1.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-1.9E-05	3.6E-10	6.5E-08	-2.0E-05	3.6E-10	6.4E-08	-9.6E-06	3.5E-10	6.3E-08	-6.0E-06	3.5E-10
		POP (kg C2H4 eq)	9.9E-06	6.2E-04	5.1E-01	8.1E-07	6.2E-04	5.0E-01	8.1E-07	5.8E-04	3.6E-01	8.1E-07	5.7E-04	2.9E-01	8.1E-07
		AP (kg SO2 eq)	6.0E-05	7.9E-03	9.3E+00	2.1E-05	7.9E-03	9.0E+00	2.1E-05	6.8E-03	6.6E+00	2.1E-05	6.6E-03	5.3E+00	2.1E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	3.0E-01	2.2E-05	1.2E-03	2.9E-01	2.2E-05	9.6E-04	2.1E-01	2.2E-05	8.9E-04	1.7E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-2.1E-05	2.5E-09	6.3E-04	-2.1E-05	2.5E-09	3.3E-04	-1.0E-05	2.5E-09	2.5E-04	-6.4E-06	2.5E-09
		AD -fossil fuels (MJ)	1.6E-01	2.2E+01	1.2E+04	4.6E-02	2.2E+01	1.2E+04	4.6E-02	2.1E+01	8.8E+03	4.6E-02	2.1E+01	7.2E+03	4.6E-02
	Canada	GWP (kg CO2)	4.4E-02	1.3E+00	1.5E+02	1.8E-02	1.3E+00	1.6E+02	1.8E-02	1.2E+00	1.2E+02	1.8E-02	1.2E+00	8.9E+01	1.8E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	-1.0E-05	3.6E-10	6.5E-08	-8.4E-06	3.6E-10	6.4E-08	-5.6E-06	3.5E-10	6.3E-08	-4.9E-06	3.5E-10
		POP (kg C2H4 eq)	3.4E-05	6.2E-04	3.6E-01	8.1E-07	6.2E-04	3.5E-01	8.1E-07	5.8E-04	2.5E-01	8.1E-07	5.7E-04	2.0E-01	8.1E-07
		AP (kg SO2 eq)	2.0E-04	7.9E-03	2.1E+00	2.1E-05	7.9E-03	2.0E+00	2.1E-05	6.8E-03	1.5E+00	2.1E-05	6.6E-03	1.2E+00	2.1E-05
		EP (kg PO4 eq)	3.8E-05	1.2E-03	4.3E-01	2.2E-05	1.2E-03	4.3E-01	2.2E-05	9.6E-04	3.1E-01	2.2E-05	8.9E-04	2.4E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	2.0E-05	2.5E-09	6.3E-04	2.1E-05	2.5E-09	3.3E-04	1.6E-05	2.5E-09	2.5E-04	1.2E-05	2.5E-09
		AD -fossil fuels (MJ)	5.4E-01	2.2E+01	2.2E+03	4.6E-02	2.2E+01	2.4E+03	4.6E-02	2.1E+01	1.7E+03	4.6E-02	2.1E+01	1.3E+03	4.6E-02
	Mexico	GWP (kg CO2)	1.2E-02	1.3E+00	1.6E+03	1.8E-02	1.3E+00	1.6E+03	1.8E-02	1.2E+00	1.2E+03	1.8E-02	1.2E+00	1.0E+03	1.8E-02
		ODP (kg CFC-11 eq)	1.9E-13	6.5E-08	1.7E-06	3.6E-10	6.5E-08	1.8E-06	3.6E-10	6.4E-08	1.8E-06	3.5E-10	6.3E-08	1.7E-06	3.5E-10
		POP (kg C2H4 eq)	9.4E-06	6.2E-04	3.2E-01	8.1E-07	6.2E-04	3.1E-01	8.1E-07	5.8E-04	2.4E-01	8.1E-07	5.7E-04	2.1E-01	8.1E-07
		AP (kg SO2 eq)	5.7E-05	7.9E-03	4.1E+00	2.1E-05	7.9E-03	4.0E+00	2.1E-05	6.8E-03	3.1E+00	2.1E-05	6.6E-03	2.6E+00	2.1E-05
EP (kg PO4 eq)		1.1E-05	1.2E-03	4.0E-01	2.2E-05	1.2E-03	3.9E-01	2.2E-05	9.6E-04	3.0E-01	2.2E-05	8.9E-04	2.6E-01	2.1E-05	
AD- non fossil (kg Sb eq)		0.0E+00	6.4E-04	2.1E-05	2.5E-09	6.3E-04	2.1E-05	2.5E-09	3.3E-04	1.6E-05	2.5E-09	2.5E-04	1.4E-05	2.5E-09	
AD -fossil fuels (MJ)		1.5E-01	2.2E+01	2.0E+04	4.6E-02	2.2E+01	2.0E+04	4.6E-02	2.1E+01	1.5E+04	4.6E-02	2.1E+01	1.3E+04	4.6E-02	



Per 15 Years (per square meter)		Final Product Transportation	TrueVue 5			TrueVue 15			TrueVue 30			TrueVue 40			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.3E+00	8.8E+02	1.8E-02	1.3E+00	8.5E+02	1.8E-02	1.2E+00	6.5E+02	1.8E-02	1.2E+00	5.3E+02	1.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	6.5E-08	-1.9E-05	3.6E-10	6.5E-08	-2.0E-05	3.6E-10	6.4E-08	-9.6E-06	3.5E-10	6.3E-08	-6.0E-06	3.5E-10
		POP (kg C2H4 eq)	9.9E-06	6.2E-04	5.1E-01	8.1E-07	6.2E-04	5.0E-01	8.1E-07	5.8E-04	3.6E-01	8.1E-07	5.7E-04	2.9E-01	8.1E-07
		AP (kg SO2 eq)	6.0E-05	7.9E-03	9.3E+00	2.1E-05	7.9E-03	9.0E+00	2.1E-05	6.8E-03	6.6E+00	2.1E-05	6.6E-03	5.3E+00	2.1E-05
		EP (kg PO4 eq)	1.1E-05	1.2E-03	3.0E-01	2.2E-05	1.2E-03	2.9E-01	2.2E-05	9.6E-04	2.1E-01	2.2E-05	8.9E-04	1.7E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-2.1E-05	2.5E-09	6.3E-04	-2.1E-05	2.5E-09	3.3E-04	-1.0E-05	2.5E-09	2.5E-04	-6.4E-06	2.5E-09
		AD -fossil fuels (MJ)	1.6E-01	2.2E+01	1.2E+04	4.6E-02	2.2E+01	1.2E+04	4.6E-02	2.1E+01	8.8E+03	4.6E-02	2.1E+01	7.2E+03	4.6E-02
	Canada	GWP (kg CO2)	4.4E-02	1.3E+00	1.5E+02	1.8E-02	1.3E+00	1.6E+02	1.8E-02	1.2E+00	1.2E+02	1.8E-02	1.2E+00	8.9E+01	1.8E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	-1.0E-05	3.6E-10	6.5E-08	-8.4E-06	3.6E-10	6.4E-08	-5.6E-06	3.5E-10	6.3E-08	-4.9E-06	3.5E-10
		POP (kg C2H4 eq)	3.4E-05	6.2E-04	3.6E-01	8.1E-07	6.2E-04	3.5E-01	8.1E-07	5.8E-04	2.5E-01	8.1E-07	5.7E-04	2.0E-01	8.1E-07
		AP (kg SO2 eq)	2.0E-04	7.9E-03	2.1E+00	2.1E-05	7.9E-03	2.0E+00	2.1E-05	6.8E-03	1.5E+00	2.1E-05	6.6E-03	1.2E+00	2.1E-05
		EP (kg PO4 eq)	3.8E-05	1.2E-03	4.3E-01	2.2E-05	1.2E-03	4.3E-01	2.2E-05	9.6E-04	3.1E-01	2.2E-05	8.9E-04	2.4E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	2.0E-05	2.5E-09	6.3E-04	2.1E-05	2.5E-09	3.3E-04	1.6E-05	2.5E-09	2.5E-04	1.2E-05	2.5E-09
		AD -fossil fuels (MJ)	5.4E-01	2.2E+01	2.2E+03	4.6E-02	2.2E+01	2.4E+03	4.6E-02	2.1E+01	1.7E+03	4.6E-02	2.1E+01	1.3E+03	4.6E-02
	Mexico	GWP (kg CO2)	1.2E-02	1.3E+00	1.6E+03	1.8E-02	1.3E+00	1.6E+03	1.8E-02	1.2E+00	1.2E+03	1.8E-02	1.2E+00	1.0E+03	1.8E-02
		ODP (kg CFC-11 eq)	1.9E-13	6.5E-08	1.7E-06	3.6E-10	6.5E-08	1.8E-06	3.6E-10	6.4E-08	1.8E-06	3.5E-10	6.3E-08	1.7E-06	3.5E-10
		POP (kg C2H4 eq)	9.4E-06	6.2E-04	3.2E-01	8.1E-07	6.2E-04	3.1E-01	8.1E-07	5.8E-04	2.4E-01	8.1E-07	5.7E-04	2.1E-01	8.1E-07
		AP (kg SO2 eq)	5.7E-05	7.9E-03	4.1E+00	2.1E-05	7.9E-03	4.0E+00	2.1E-05	6.8E-03	3.1E+00	2.1E-05	6.6E-03	2.6E+00	2.1E-05
EP (kg PO4 eq)		1.1E-05	1.2E-03	4.0E-01	2.2E-05	1.2E-03	3.9E-01	2.2E-05	9.6E-04	3.0E-01	2.2E-05	8.9E-04	2.6E-01	2.1E-05	
AD- non fossil (kg Sb eq)		0.0E+00	6.4E-04	2.1E-05	2.5E-09	6.3E-04	2.1E-05	2.5E-09	3.3E-04	1.6E-05	2.5E-09	2.5E-04	1.4E-05	2.5E-09	
AD -fossil fuels (MJ)		1.5E-01	2.2E+01	2.0E+04	4.6E-02	2.2E+01	2.0E+04	4.6E-02	2.1E+01	1.5E+04	4.6E-02	2.1E+01	1.3E+04	4.6E-02	



Per 15 Years (per square meter)		Final Product Transportation	Sentinel Stainless Steel 15 OSW			Sentinel Stainless Steel 25 OSW			Sentinel Stainless Steel 40 OSW			Sentinel Stainless Steel 45 OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO <sub>2</sub> )	1.3E-02	1.6E+00	4.9E+02	2.1E-02	1.5E+00	4.3E+02	2.1E-02	1.5E+00	3.5E+02	2.1E-02	1.5E+00	3.1E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.9E-08	-1.3E-05	4.3E-10	8.9E-08	-9.8E-06	4.3E-10	8.9E-08	-6.3E-06	4.3E-10	8.8E-08	-5.4E-06	4.3E-10
		POP (kg C <sub>2</sub> H <sub>4</sub> eq)	9.9E-06	6.9E-04	2.9E-01	9.5E-07	6.6E-04	2.5E-01	9.5E-07	6.5E-04	2.0E-01	9.5E-07	6.5E-04	1.8E-01	9.5E-07
		AP (kg SO <sub>2</sub> eq)	6.0E-05	7.9E-03	5.3E+00	2.5E-05	7.4E-03	4.6E+00	2.5E-05	7.2E-03	3.6E+00	2.5E-05	7.2E-03	3.2E+00	2.5E-05
		EP (kg PO <sub>4</sub> eq)	1.1E-05	1.1E-03	1.7E-01	2.6E-05	1.0E-03	1.5E-01	2.6E-05	1.0E-03	1.2E-01	2.6E-05	1.0E-03	1.0E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	-1.4E-05	3.1E-09	1.1E-06	-1.1E-05	3.1E-09	1.1E-06	-6.8E-06	3.1E-09	1.1E-06	-5.8E-06	3.1E-09
	AD -fossil fuels (MJ)	1.6E-01	2.6E+01	6.6E+03	5.4E-02	2.5E+01	5.9E+03	5.4E-02	2.5E+01	4.8E+03	5.4E-02	2.5E+01	4.2E+03	5.4E-02	
	Canada	GWP (kg CO <sub>2</sub> )	4.4E-02	1.6E+00	6.9E+01	2.1E-02	1.5E+00	7.0E+01	2.1E-02	1.5E+00	6.1E+01	2.1E-02	1.5E+00	5.7E+01	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	8.9E-08	-8.3E-06	4.3E-10	8.9E-08	-5.7E-06	4.3E-10	8.9E-08	-3.7E-06	4.3E-10	8.8E-08	-2.7E-06	4.3E-10
		POP (kg C <sub>2</sub> H <sub>4</sub> eq)	3.4E-05	6.9E-04	2.0E-01	9.5E-07	6.6E-04	1.8E-01	9.5E-07	6.5E-04	1.4E-01	9.5E-07	6.5E-04	1.2E-01	9.5E-07
		AP (kg SO <sub>2</sub> eq)	2.0E-04	7.9E-03	1.2E+00	2.5E-05	7.4E-03	1.0E+00	2.5E-05	7.2E-03	8.1E-01	2.5E-05	7.2E-03	7.2E-01	2.5E-05
		EP (kg PO <sub>4</sub> eq)	3.8E-05	1.1E-03	2.4E-01	2.6E-05	1.0E-03	2.1E-01	2.6E-05	1.0E-03	1.7E-01	2.6E-05	1.0E-03	1.5E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	8.8E-06	3.1E-09	1.1E-06	9.3E-06	3.1E-09	1.1E-06	8.2E-06	3.1E-09	1.1E-06	7.9E-06	3.1E-09
	AD -fossil fuels (MJ)	5.4E-01	2.6E+01	1.0E+03	5.4E-02	2.5E+01	1.0E+03	5.4E-02	2.5E+01	9.1E+02	5.4E-02	2.5E+01	8.6E+02	5.4E-02	
	Mexico	GWP (kg CO <sub>2</sub> )	1.2E-02	1.6E+00	-	2.1E-02	1.5E+00	4.9E+02	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	3.0E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.9E-13	8.9E-08	-	4.3E-10	8.9E-08	5.4E-07	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	4.2E-07	4.3E-10
		POP (kg C <sub>2</sub> H <sub>4</sub> eq)	9.4E-06	6.9E-04	-	9.5E-07	6.6E-04	9.7E-02	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	5.9E-02	9.5E-07
		AP (kg SO <sub>2</sub> eq)	5.7E-05	7.9E-03	-	2.5E-05	7.4E-03	1.2E+00	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	7.5E-01	2.5E-05
EP (kg PO <sub>4</sub> eq)		1.1E-05	1.1E-03	-	2.6E-05	1.0E-03	1.2E-01	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	7.3E-02	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.2E-06	-	3.1E-09	1.1E-06	6.4E-06	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	3.9E-06	3.1E-09	
AD -fossil fuels (MJ)	1.5E-01	2.6E+01	-	5.4E-02	2.5E+01	6.2E+03	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	3.7E+03	5.4E-02		



Per 15 Years (per square meter)		Final Product Transportation	Sentinel Silver 20 OSW			Sentinel Silver 35 OSW			Sentinel 4 Mil Clear OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
North America	ASHRAE Climate Zone 6,7	GWP (kg CO2)	1.3E-02	1.5E+00	5.2E+02	2.1E-02	1.5E+00	4.5E+02	2.1E-02	1.8E+00	1.1E+02	3.8E-02
		ODP (kg CFC-11 eq)	2.0E-13	8.7E-08	-1.6E-05	4.3E-10	8.7E-08	-1.0E-05	4.3E-10	9.5E-08	-1.2E-06	7.9E-10
		POP (kg C2H4 eq)	9.9E-06	6.6E-04	3.1E-01	9.5E-07	6.5E-04	2.6E-01	9.5E-07	8.0E-04	5.9E-02	1.6E-06
		AP (kg SO2 eq)	6.0E-05	7.3E-03	5.7E+00	2.5E-05	7.1E-03	4.7E+00	2.5E-05	9.4E-03	1.1E+00	4.3E-05
		EP (kg PO4 eq)	1.1E-05	1.0E-03	1.8E-01	2.6E-05	1.0E-03	1.5E-01	2.6E-05	1.2E-03	3.5E-02	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-1.7E-05	3.1E-09	1.1E-06	-1.1E-05	3.1E-09	1.2E-06	-1.3E-06	5.6E-09
		AD -fossil fuels (MJ)	1.6E-01	2.5E+01	7.0E+03	5.4E-02	2.5E+01	6.1E+03	5.4E-02	3.1E+01	1.5E+03	9.1E-02
	Canada	GWP (kg CO2)	4.4E-02	1.5E+00	5.9E+01	2.1E-02	1.5E+00	7.0E+01	2.1E-02	1.8E+00	2.3E+01	3.8E-02
		ODP (kg CFC-11 eq)	6.8E-13	8.7E-08	-1.1E-05	4.3E-10	8.7E-08	-6.2E-06	4.3E-10	9.5E-08	-3.9E-07	7.9E-10
		POP (kg C2H4 eq)	3.4E-05	6.6E-04	2.2E-01	9.5E-07	6.5E-04	1.8E-01	9.5E-07	8.0E-04	4.3E-02	1.6E-06
		AP (kg SO2 eq)	2.0E-04	7.3E-03	1.2E+00	2.5E-05	7.1E-03	1.0E+00	2.5E-05	9.4E-03	2.5E-01	4.3E-05
		EP (kg PO4 eq)	3.8E-05	1.0E-03	2.6E-01	2.6E-05	1.0E-03	2.2E-01	2.6E-05	1.2E-03	5.1E-02	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	6.9E-06	3.1E-09	1.1E-06	9.2E-06	3.1E-09	1.2E-06	3.2E-06	5.6E-09
		AD -fossil fuels (MJ)	5.4E-01	2.5E+01	8.7E+02	5.4E-02	2.5E+01	1.0E+03	5.4E-02	3.1E+01	3.4E+02	9.1E-02
	Mexico	GWP (kg CO2)	1.2E-02	1.5E+00	7.0E+02	2.1E-02	1.5E+00	5.4E+02	2.1E-02	1.8E+00	2.6E+01	3.8E-02
		ODP (kg CFC-11 eq)	1.9E-13	8.7E-08	6.7E-07	4.3E-10	8.7E-08	5.7E-07	4.3E-10	9.5E-08	-9.2E-08	7.9E-10
		POP (kg C2H4 eq)	9.4E-06	6.6E-04	1.4E-01	9.5E-07	6.5E-04	1.1E-01	9.5E-07	8.0E-04	5.1E-03	1.6E-06
		AP (kg SO2 eq)	5.7E-05	7.3E-03	1.8E+00	2.5E-05	7.1E-03	1.4E+00	2.5E-05	9.4E-03	6.6E-02	4.3E-05
		EP (kg PO4 eq)	1.1E-05	1.0E-03	1.7E-01	2.6E-05	1.0E-03	1.3E-01	2.6E-05	1.2E-03	6.3E-03	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	8.9E-06	3.1E-09	1.1E-06	7.0E-06	3.1E-09	1.2E-06	2.1E-07	5.6E-09
		AD -fossil fuels (MJ)	1.5E-01	2.5E+01	8.7E+03	5.4E-02	2.5E+01	6.8E+03	5.4E-02	3.1E+01	3.2E+02	9.1E-02



Europe

Per 15 Years ( per square meter)		Final Product Transportation	Autumn Bronze 30			Grey Silver Grey 10			LX40/Hilite 40			LX70/ Hilite 70			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	-	2.3E-02	1.2E+00	4.9E+02	1.7E-02	2.4E+00	4.5E+02	2.5E-02	3.7E+00	4.4E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.9E-08	-	4.8E-10	6.9E-08	1.6E-05	3.5E-10	1.5E-07	1.5E-05	5.0E-10	2.6E-07	1.7E-05	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	7.0E-04	-	1.0E-06	5.8E-04	3.1E-02	7.9E-07	8.4E-04	2.9E-02	1.1E-06	1.2E-03	2.9E-02	9.4E-07
		AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	5.6E-03	7.1E-01	2.1E-05	1.1E-02	6.5E-01	2.8E-05	2.2E-02	6.3E-01	2.5E-05
		EP (kg PO4 eq)	2.3E-05	1.2E-03	-	2.9E-05	7.2E-04	2.2E+00	2.1E-05	2.2E-03	2.0E+00	3.0E-05	6.5E-02	1.9E+00	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	6.5E-04	2.5E-09	1.2E-06	6.0E-04	3.6E-09	3.7E-03	5.7E-04	3.0E-09
		AD -fossil fuels (MJ)	4.5E-01	2.5E+01	-	5.9E-02	2.0E+01	7.3E+03	4.5E-02	4.0E+01	6.7E+03	6.1E-02	5.6E+01	6.6E+03	5.4E-02
	France	GWP (kg CO2)	4.5E-02	1.5E+00	-	2.3E-02	1.2E+00	1.0E+02	1.7E-02	2.4E+00	9.8E+01	2.5E-02	3.7E+00	8.9E+01	2.1E-02
		ODP (kg CFC-11 eq)	1.6E-09	6.9E-08	-	4.8E-10	6.9E-08	4.0E-06	3.5E-10	1.5E-07	4.0E-06	5.0E-10	2.6E-07	3.5E-06	4.3E-10
		POP (kg C2H4 eq)	5.0E-05	7.0E-04	-	1.0E-06	5.8E-04	2.7E-02	7.9E-07	8.4E-04	2.5E-02	1.1E-06	1.2E-03	2.3E-02	9.4E-07
		AP (kg SO2 eq)	1.6E-04	8.2E-03	-	2.7E-05	5.6E-03	7.2E-01	2.1E-05	1.1E-02	6.6E-01	2.8E-05	2.2E-02	6.1E-01	2.5E-05
		EP (kg PO4 eq)	3.2E-05	1.2E-03	-	2.9E-05	7.2E-04	3.2E-01	2.1E-05	2.2E-03	2.9E-01	3.0E-05	6.5E-02	2.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	3.2E-08	1.8E-06	-	3.4E-09	7.4E-07	1.0E-03	2.5E-09	1.2E-06	9.4E-04	3.6E-09	3.7E-03	8.7E-04	3.0E-09
		AD -fossil fuels (MJ)	6.2E-01	2.5E+01	-	5.9E-02	2.0E+01	1.4E+03	4.5E-02	4.0E+01	1.3E+03	6.1E-02	5.6E+01	1.2E+03	5.4E-02
	Southern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	-	2.3E-02	1.2E+00	6.7E+02	1.7E-02	2.4E+00	6.1E+02	2.5E-02	3.7E+00	5.7E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.9E-08	-	4.8E-10	6.9E-08	3.9E-05	3.5E-10	1.5E-07	3.5E-05	5.0E-10	2.6E-07	3.3E-05	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	7.0E-04	-	1.0E-06	5.8E-04	2.3E-01	7.9E-07	8.4E-04	2.2E-01	1.1E-06	1.2E-03	2.0E-01	9.4E-07
		AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	5.6E-03	6.3E+00	2.1E-05	1.1E-02	5.8E+00	2.8E-05	2.2E-02	5.4E+00	2.5E-05
		EP (kg PO4 eq)	2.3E-05	1.2E-03	-	2.9E-05	7.2E-04	1.3E+00	2.1E-05	2.2E-03	1.2E+00	3.0E-05	6.5E-02	1.1E+00	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	1.0E-03	2.5E-09	1.2E-06	9.5E-04	3.6E-09	3.7E-03	8.8E-04	3.0E-09
		AD -fossil fuels (MJ)	4.5E-01	2.5E+01	-	5.9E-02	2.0E+01	9.8E+03	4.5E-02	4.0E+01	9.0E+03	6.1E-02	5.6E+01	8.3E+03	5.4E-02
	Scandinavia	GWP (kg CO2)	6.4E-02	1.5E+00	-	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	7.0E+01	2.5E-02	3.7E+00	8.1E+01	2.1E-02
		ODP (kg CFC-11 eq)	1.3E-09	6.9E-08	-	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	7.8E-07	5.0E-10	2.6E-07	3.0E-06	4.3E-10
		POP (kg C2H4 eq)	7.2E-05	7.0E-04	-	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	1.1E-02	1.1E-06	1.2E-03	1.2E-02	9.4E-07
AP (kg SO2 eq)		2.4E-04	8.2E-03	-	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	3.4E-01	2.8E-05	2.2E-02	3.3E-01	2.5E-05	
EP (kg PO4 eq)		4.5E-05	1.2E-03	-	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	1.6E-01	3.0E-05	6.5E-02	1.6E-01	2.6E-05	
AD- non fossil (kg Sb eq)		2.6E-08	1.8E-06	-	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	5.9E-04	3.6E-09	3.7E-03	5.6E-04	3.0E-09	
AD -fossil fuels (MJ)		8.7E-01	2.5E+01	-	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	8.0E+02	6.1E-02	5.6E+01	9.9E+02	5.4E-02	
United Kingdom	GWP (kg CO2)	3.4E-02	1.5E+00	-	2.3E-02	1.2E+00	4.0E+02	1.7E-02	2.4E+00	4.1E+02	2.5E-02	3.7E+00	3.4E+02	2.1E-02	
	ODP (kg CFC-11 eq)	2.9E-10	6.9E-08	-	4.8E-10	6.9E-08	4.9E-06	3.5E-10	1.5E-07	8.1E-06	5.0E-10	2.6E-07	4.2E-06	4.3E-10	
	POP (kg C2H4 eq)	3.9E-05	7.0E-04	-	1.0E-06	5.8E-04	5.8E-02	7.9E-07	8.4E-04	5.8E-02	1.1E-06	1.2E-03	4.9E-02	9.4E-07	
	AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	5.6E-03	1.5E+00	2.1E-05	1.1E-02	1.5E+00	2.8E-05	2.2E-02	1.3E+00	2.5E-05	
	EP (kg PO4 eq)	2.4E-05	1.2E-03	-	2.9E-05	7.2E-04	5.6E-01	2.1E-05	2.2E-03	5.5E-01	3.0E-05	6.5E-02	4.7E-01	2.6E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	1.8E-06	-	3.4E-09	7.4E-07	5.7E-04	2.5E-09	1.2E-06	5.6E-04	3.6E-09	3.7E-03	4.8E-04	3.0E-09	
	AD -fossil fuels (MJ)	4.6E-01	2.5E+01	-	5.9E-02	2.0E+01	6.2E+03	4.5E-02	4.0E+01	6.3E+03	6.1E-02	5.6E+01	5.2E+03	5.4E-02	



Per 15 Years (per square meter)		Final Product Transportation	Quantum Silver Quantum 10			Quantum Silver Quantum 20			Silver AG 25 Low-E			Silver AG Low-e 50			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	6.2E+02	2.0E-02	1.5E+00	4.5E+02	2.0E-02
		ODP (kg CFC-11 eq)	5.6E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	2.6E-05	4.1E-10	7.2E-08	2.0E-05	4.1E-10
		POP (kg C2H4 eq)	3.9E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	4.2E-02	9.1E-07	6.8E-04	3.1E-02	9.1E-07
		AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	8.8E-01	2.4E-05	8.5E-03	6.3E-01	2.4E-05
		EP (kg PO4 eq)	2.3E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	2.6E+00	2.5E-05	1.2E-03	1.8E+00	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	7.8E-04	2.9E-09	4.1E-04	5.5E-04	2.9E-09
		AD -fossil fuels (MJ)	4.5E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	9.3E+03	5.2E-02	2.4E+01	6.7E+03	5.2E-02
	France	GWP (kg CO2)	4.5E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	1.3E+02	2.0E-02	1.5E+00	8.9E+01	2.0E-02
		ODP (kg CFC-11 eq)	1.6E-09	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	5.2E-06	4.1E-10	7.2E-08	3.7E-06	4.1E-10
		POP (kg C2H4 eq)	5.0E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	3.3E-02	9.1E-07	6.8E-04	2.3E-02	9.1E-07
		AP (kg SO2 eq)	1.6E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	8.7E-01	2.4E-05	8.5E-03	6.0E-01	2.4E-05
		EP (kg PO4 eq)	3.2E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	3.8E-01	2.5E-05	1.2E-03	2.6E-01	2.5E-05
		AD- non fossil (kg Sb eq)	3.2E-08	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	1.2E-03	2.9E-09	4.1E-04	8.5E-04	2.9E-09
		AD -fossil fuels (MJ)	6.2E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	1.7E+03	5.2E-02	2.4E+01	1.2E+03	5.2E-02
	Southern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	8.0E+02	2.0E-02	1.5E+00	5.7E+02	2.0E-02
		ODP (kg CFC-11 eq)	5.6E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	4.7E-05	4.1E-10	7.2E-08	3.4E-05	4.1E-10
		POP (kg C2H4 eq)	3.9E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	2.8E-01	9.1E-07	6.8E-04	2.0E-01	9.1E-07
		AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	7.7E+00	2.4E-05	8.5E-03	5.3E+00	2.4E-05
		EP (kg PO4 eq)	2.3E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	1.6E+00	2.5E-05	1.2E-03	1.1E+00	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	1.2E-03	2.9E-09	4.1E-04	8.7E-04	2.9E-09
		AD -fossil fuels (MJ)	4.5E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	1.2E+04	5.2E-02	2.4E+01	8.4E+03	5.2E-02
	Scandinavia	GWP (kg CO2)	6.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	1.5E+02	2.0E-02	1.5E+00	1.1E+02	2.0E-02
		ODP (kg CFC-11 eq)	1.3E-09	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	1.1E-05	4.1E-10	7.2E-08	8.5E-06	4.1E-10
		POP (kg C2H4 eq)	7.2E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	2.2E-02	9.1E-07	6.8E-04	1.6E-02	9.1E-07
AP (kg SO2 eq)		2.4E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	5.0E-01	2.4E-05	8.5E-03	3.5E-01	2.4E-05	
EP (kg PO4 eq)		4.5E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	2.2E-01	2.5E-05	1.2E-03	1.5E-01	2.5E-05	
AD- non fossil (kg Sb eq)		2.6E-08	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	7.7E-04	2.9E-09	4.1E-04	5.4E-04	2.9E-09	
AD -fossil fuels (MJ)		8.7E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	2.0E+03	5.2E-02	2.4E+01	1.5E+03	5.2E-02	
United Kingdom	GWP (kg CO2)	3.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	4.8E+02	2.0E-02	1.5E+00	3.7E+02	2.0E-02	
	ODP (kg CFC-11 eq)	2.9E-10	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	7.3E-06	4.1E-10	7.2E-08	9.0E-06	4.1E-10	
	POP (kg C2H4 eq)	3.9E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	6.8E-02	9.1E-07	6.8E-04	5.2E-02	9.1E-07	
	AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	1.8E+00	2.4E-05	8.5E-03	1.3E+00	2.4E-05	
	EP (kg PO4 eq)	2.4E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	6.5E-01	2.5E-05	1.2E-03	4.7E-01	2.5E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	6.7E-04	2.9E-09	4.1E-04	4.8E-04	2.9E-09	
	AD -fossil fuels (MJ)	4.6E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	7.4E+03	5.2E-02	2.4E+01	5.7E+03	5.2E-02	





Per 15 Years (per square meter)		Final Product Transportation	Silver 20			Silver 35			Silver 50			Slate 10			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	6.3E+02	2.2E-02	1.3E+00	5.0E+02	2.0E-02	1.3E+00	3.7E+02	2.2E-02	1.6E+00	6.8E+02	2.2E-02
		ODP (kg CFC-11 eq)	5.6E-13	7.1E-08	2.1E-05	4.4E-10	6.9E-08	1.7E-05	4.1E-10	7.1E-08	1.2E-05	4.4E-10	6.6E-08	2.8E-05	4.6E-10
		POP (kg C2H4 eq)	3.9E-05	6.7E-04	4.1E-02	9.7E-07	6.1E-04	3.3E-02	9.0E-07	6.6E-04	2.4E-02	9.7E-07	7.9E-04	4.6E-02	9.9E-07
		AP (kg SO2 eq)	1.3E-04	6.9E-03	9.2E-01	2.6E-05	6.7E-03	7.3E-01	2.4E-05	6.7E-03	5.4E-01	2.6E-05	1.1E-02	9.6E-01	2.6E-05
		EP (kg PO4 eq)	2.3E-05	7.9E-04	2.8E+00	2.7E-05	7.8E-04	2.2E+00	2.5E-05	7.8E-04	1.7E+00	2.7E-05	1.4E-03	2.8E+00	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	8.5E-04	3.2E-09	7.1E-07	6.7E-04	2.9E-09	7.8E-07	5.0E-04	3.2E-09	7.1E-04	8.5E-04	3.3E-09
		AD -fossil fuels (MJ)	4.5E-01	2.4E+01	9.5E+03	5.5E-02	2.3E+01	7.6E+03	5.2E-02	2.3E+01	5.6E+03	5.5E-02	2.7E+01	1.0E+04	5.7E-02
	France	GWP (kg CO2)	4.5E-02	1.3E+00	1.4E+02	2.2E-02	1.3E+00	1.0E+02	2.0E-02	1.3E+00	7.4E+01	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	1.6E-09	7.1E-08	6.1E-06	4.4E-10	6.9E-08	3.9E-06	4.1E-10	7.1E-08	2.4E-06	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	5.0E-05	6.7E-04	3.6E-02	9.7E-07	6.1E-04	2.8E-02	9.0E-07	6.6E-04	2.0E-02	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	1.6E-04	6.9E-03	9.5E-01	2.6E-05	6.7E-03	7.3E-01	2.4E-05	6.7E-03	5.4E-01	2.6E-05	1.1E-02	-	2.6E-05
		EP (kg PO4 eq)	3.2E-05	7.9E-04	4.2E-01	2.7E-05	7.8E-04	3.2E-01	2.5E-05	7.8E-04	2.4E-01	2.7E-05	1.4E-03	-	2.7E-05
		AD- non fossil (kg Sb eq)	3.2E-08	7.8E-07	1.3E-03	3.2E-09	7.1E-07	1.0E-03	2.9E-09	7.8E-07	7.7E-04	3.2E-09	7.1E-04	-	3.3E-09
		AD -fossil fuels (MJ)	6.2E-01	2.4E+01	1.9E+03	5.5E-02	2.3E+01	1.4E+03	5.2E-02	2.3E+01	9.8E+02	5.5E-02	2.7E+01	-	5.7E-02
	Southern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	8.6E+02	2.2E-02	1.3E+00	6.8E+02	2.0E-02	1.3E+00	5.0E+02	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	5.6E-13	7.1E-08	4.9E-05	4.4E-10	6.9E-08	3.9E-05	4.1E-10	7.1E-08	2.9E-05	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	3.9E-05	6.7E-04	3.0E-01	9.7E-07	6.1E-04	2.4E-01	9.0E-07	6.6E-04	1.8E-01	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	1.3E-04	6.9E-03	8.2E+00	2.6E-05	6.7E-03	6.5E+00	2.4E-05	6.7E-03	4.8E+00	2.6E-05	1.1E-02	-	2.6E-05
		EP (kg PO4 eq)	2.3E-05	7.9E-04	1.7E+00	2.7E-05	7.8E-04	1.3E+00	2.5E-05	7.8E-04	9.9E-01	2.7E-05	1.4E-03	-	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	1.3E-03	3.2E-09	7.1E-07	1.1E-03	2.9E-09	7.8E-07	7.9E-04	3.2E-09	7.1E-04	-	3.3E-09
		AD -fossil fuels (MJ)	4.5E-01	2.4E+01	1.3E+04	5.5E-02	2.3E+01	9.9E+03	5.2E-02	2.3E+01	7.4E+03	5.5E-02	2.7E+01	-	5.7E-02
	Scandinavia	GWP (kg CO2)	6.4E-02	1.3E+00	1.2E+02	2.2E-02	1.3E+00	8.6E+01	2.0E-02	1.3E+00	5.0E+01	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	1.3E-09	7.1E-08	4.5E-06	4.4E-10	6.9E-08	2.1E-06	4.1E-10	7.1E-08	-5.5E-07	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	7.2E-05	6.7E-04	1.9E-02	9.7E-07	6.1E-04	1.4E-02	9.0E-07	6.6E-04	8.5E-03	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	2.4E-04	6.9E-03	5.0E-01	2.6E-05	6.7E-03	3.8E-01	2.4E-05	6.7E-03	2.7E-01	2.6E-05	1.1E-02	-	2.6E-05
		EP (kg PO4 eq)	4.5E-05	7.9E-04	2.4E-01	2.7E-05	7.8E-04	1.8E-01	2.5E-05	7.8E-04	1.3E-01	2.7E-05	1.4E-03	-	2.7E-05
		AD- non fossil (kg Sb eq)	2.6E-08	7.8E-07	8.5E-04	3.2E-09	7.1E-07	6.6E-04	2.9E-09	7.8E-07	4.9E-04	3.2E-09	7.1E-04	-	3.3E-09
		AD -fossil fuels (MJ)	8.7E-01	2.4E+01	1.5E+03	5.5E-02	2.3E+01	1.0E+03	5.2E-02	2.3E+01	5.4E+02	5.5E-02	2.7E+01	-	5.7E-02
United Kingdom	GWP (kg CO2)	3.4E-02	1.3E+00	5.2E+02	2.2E-02	1.3E+00	4.1E+02	2.0E-02	1.3E+00	2.9E+02	2.2E-02	1.6E+00	-	2.2E-02	
	ODP (kg CFC-11 eq)	2.9E-10	7.1E-08	6.5E-06	4.4E-10	6.9E-08	5.8E-06	4.1E-10	7.1E-08	2.7E-06	4.4E-10	6.6E-08	-	4.6E-10	
	POP (kg C2H4 eq)	3.9E-05	6.7E-04	7.5E-02	9.7E-07	6.1E-04	5.9E-02	9.0E-07	6.6E-04	4.2E-02	9.7E-07	7.9E-04	-	9.9E-07	
	AP (kg SO2 eq)	1.3E-04	6.9E-03	2.0E+00	2.6E-05	6.7E-03	1.5E+00	2.4E-05	6.7E-03	1.1E+00	2.6E-05	1.1E-02	-	2.6E-05	
	EP (kg PO4 eq)	2.4E-05	7.9E-04	7.3E-01	2.7E-05	7.8E-04	5.7E-01	2.5E-05	7.8E-04	4.1E-01	2.7E-05	1.4E-03	-	2.7E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	7.8E-07	7.4E-04	3.2E-09	7.1E-07	5.8E-04	2.9E-09	7.8E-07	4.2E-04	3.2E-09	7.1E-04	-	3.3E-09	
	AD -fossil fuels (MJ)	4.6E-01	2.4E+01	8.0E+03	5.5E-02	2.3E+01	6.4E+03	5.2E-02	2.3E+01	4.5E+03	5.5E-02	2.7E+01	-	5.7E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Slate 20			Slate 30			Slate 40			Solar Bronze 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	4.1E+02	2.2E-02	1.3E+00	6.2E+02	1.9E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	1.7E-05	4.6E-10	6.8E-08	2.1E-05	3.9E-10
		POP (kg C2H4 eq)	3.9E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	2.8E-02	9.9E-07	6.2E-04	4.0E-02	8.8E-07
		AP (kg SO2 eq)	1.3E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	5.9E-01	2.6E-05	6.9E-03	9.0E-01	2.3E-05
		EP (kg PO4 eq)	2.3E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	1.7E+00	2.7E-05	7.8E-04	2.7E+00	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	5.1E-04	3.2E-09	7.8E-07	8.3E-04	2.8E-09
		AD -fossil fuels (MJ)	4.5E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	6.2E+03	5.7E-02	2.3E+01	9.3E+03	5.0E-02
	France	GWP (kg CO2)	4.5E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	1.4E+02	1.9E-02
		ODP (kg CFC-11 eq)	1.6E-09	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	6.2E-06	3.9E-10
		POP (kg C2H4 eq)	5.0E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	3.6E-02	8.8E-07
		AP (kg SO2 eq)	1.6E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	9.3E-01	2.3E-05
		EP (kg PO4 eq)	3.2E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	4.1E-01	2.4E-05
		AD- non fossil (kg Sb eq)	3.2E-08	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	1.3E-03	2.8E-09
		AD -fossil fuels (MJ)	6.2E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	1.9E+03	5.0E-02
	Southern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	8.4E+02	1.9E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	4.8E-05	3.9E-10
		POP (kg C2H4 eq)	3.9E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	3.0E-01	8.8E-07
		AP (kg SO2 eq)	1.3E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	8.1E+00	2.3E-05
		EP (kg PO4 eq)	2.3E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	1.7E+00	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	1.3E-03	2.8E-09
		AD -fossil fuels (MJ)	4.5E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	1.2E+04	5.0E-02
	Scandinavia	GWP (kg CO2)	6.4E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	1.2E+02	1.9E-02
		ODP (kg CFC-11 eq)	1.3E-09	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	4.3E-06	3.9E-10
		POP (kg C2H4 eq)	7.2E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	1.8E-02	8.8E-07
AP (kg SO2 eq)		2.4E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	4.9E-01	2.3E-05	
EP (kg PO4 eq)		4.5E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	2.3E-01	2.4E-05	
AD- non fossil (kg Sb eq)		2.6E-08	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	8.3E-04	2.8E-09	
AD -fossil fuels (MJ)		8.7E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	1.4E+03	5.0E-02	
United Kingdom	GWP (kg CO2)	3.4E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	5.1E+02	1.9E-02	
	ODP (kg CFC-11 eq)	2.9E-10	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	6.1E-06	3.9E-10	
	POP (kg C2H4 eq)	3.9E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	7.3E-02	8.8E-07	
	AP (kg SO2 eq)	1.3E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	1.9E+00	2.3E-05	
	EP (kg PO4 eq)	2.4E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	7.1E-01	2.4E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	7.3E-04	2.8E-09	
	AD -fossil fuels (MJ)	4.6E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	7.9E+03	5.0E-02	



Per 15 Years ( per square meter)		Final Product Transportation	Solar Bronze 35			Solar Bronze 50			Stainless Steel 10			Stainless Steel 20			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	5.5E+02	1.9E-02	1.3E+00	4.9E+02	1.9E-02	1.3E+00	4.6E+02	2.1E-02	1.3E+00	3.7E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.8E-08	1.9E-05	3.9E-10	6.9E-08	1.6E-05	3.9E-10	6.5E-08	4.8E-06	4.3E-10	6.5E-08	5.7E-06	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.1E-04	3.6E-02	8.8E-07	6.1E-04	3.1E-02	8.8E-07	6.6E-04	6.6E-02	9.5E-07	6.6E-04	5.3E-02	9.5E-07
		AP (kg SO2 eq)	1.3E-04	6.8E-03	8.0E-01	2.3E-05	6.8E-03	7.1E-01	2.3E-05	6.9E-03	1.7E+00	2.5E-05	6.8E-03	1.4E+00	2.5E-05
		EP (kg PO4 eq)	2.3E-05	7.7E-04	2.4E+00	2.4E-05	8.1E-04	2.1E+00	2.4E-05	7.3E-04	6.5E-01	2.6E-05	7.2E-04	5.0E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	7.3E-04	2.8E-09	1.2E-06	6.5E-04	2.8E-09	8.4E-07	6.6E-04	3.1E-09	7.8E-07	5.2E-04	3.1E-09
		AD -fossil fuels (MJ)	4.5E-01	2.2E+01	8.3E+03	5.0E-02	2.3E+01	7.3E+03	5.0E-02	2.3E+01	7.1E+03	5.4E-02	2.3E+01	5.7E+03	5.4E-02
	France	GWP (kg CO2)	4.5E-02	1.3E+00	1.2E+02	1.9E-02	1.3E+00	1.0E+02	1.9E-02	1.3E+00	9.7E+02	2.1E-02	1.3E+00	7.7E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.6E-09	6.8E-08	5.1E-06	3.9E-10	6.9E-08	4.3E-06	3.9E-10	6.5E-08	5.1E-06	4.3E-10	6.5E-08	4.4E-06	4.3E-10
		POP (kg C2H4 eq)	5.0E-05	6.1E-04	3.1E-02	8.8E-07	6.1E-04	2.7E-02	8.8E-07	6.6E-04	2.3E-01	9.5E-07	6.6E-04	1.8E-01	9.5E-07
		AP (kg SO2 eq)	1.6E-04	6.8E-03	8.1E-01	2.3E-05	6.8E-03	7.1E-01	2.3E-05	6.9E-03	6.3E+00	2.5E-05	6.8E-03	4.9E+00	2.5E-05
		EP (kg PO4 eq)	3.2E-05	7.7E-04	3.6E-01	2.4E-05	8.1E-04	3.1E-01	2.4E-05	7.3E-04	1.8E+00	2.6E-05	7.2E-04	1.4E+00	2.6E-05
		AD- non fossil (kg Sb eq)	3.2E-08	7.5E-07	1.1E-03	2.8E-09	1.2E-06	1.0E-03	2.8E-09	8.4E-07	7.8E-05	3.1E-09	7.8E-07	6.2E-05	3.1E-09
		AD -fossil fuels (MJ)	6.2E-01	2.2E+01	1.6E+03	5.0E-02	2.3E+01	1.4E+03	5.0E-02	2.3E+01	1.5E+04	5.4E-02	2.3E+01	1.2E+04	5.4E-02
	Southern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	7.4E+02	1.9E-02	1.3E+00	6.5E+02	1.9E-02	1.3E+00	-6.4E+00	2.1E-02	1.3E+00	-1.2E+00	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.8E-08	4.3E-05	3.9E-10	6.9E-08	3.8E-05	3.9E-10	6.5E-08	-9.7E-07	4.3E-10	6.5E-08	-1.8E-07	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.1E-04	2.6E-01	8.8E-07	6.1E-04	2.3E-01	8.8E-07	6.6E-04	-7.1E-04	9.5E-07	6.6E-04	-1.3E-04	9.5E-07
		AP (kg SO2 eq)	1.3E-04	6.8E-03	7.1E+00	2.3E-05	6.8E-03	6.2E+00	2.3E-05	6.9E-03	-6.4E-03	2.5E-05	6.8E-03	-1.2E-03	2.5E-05
		EP (kg PO4 eq)	2.3E-05	7.7E-04	1.5E+00	2.4E-05	8.1E-04	1.3E+00	2.4E-05	7.3E-04	-1.1E-03	2.6E-05	7.2E-04	-2.0E-04	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	1.2E-03	2.8E-09	1.2E-06	1.0E-03	2.8E-09	8.4E-07	-1.1E-06	3.1E-09	7.8E-07	-2.0E-07	3.1E-09
		AD -fossil fuels (MJ)	4.5E-01	2.2E+01	1.1E+04	5.0E-02	2.3E+01	9.6E+03	5.0E-02	2.3E+01	-9.9E+01	5.4E-02	2.3E+01	-1.8E+01	5.4E-02
	Scandinavia	GWP (kg CO2)	6.4E-02	1.3E+00	1.0E+02	1.9E-02	1.3E+00	8.3E+01	1.9E-02	1.3E+00	-7.1E+01	2.1E-02	1.3E+00	5.9E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.3E-09	6.8E-08	3.5E-06	3.9E-10	6.9E-08	2.1E-06	3.9E-10	6.5E-08	-1.1E-05	4.3E-10	6.5E-08	-3.4E-06	4.3E-10
		POP (kg C2H4 eq)	7.2E-05	6.1E-04	1.6E-02	8.8E-07	6.1E-04	1.3E-02	8.8E-07	6.6E-04	-7.9E-03	9.5E-07	6.6E-04	1.5E-01	9.5E-07
AP (kg SO2 eq)		2.4E-04	6.8E-03	4.3E-01	2.3E-05	6.8E-03	3.7E-01	2.3E-05	6.9E-03	-7.1E-02	2.5E-05	6.8E-03	4.1E+00	2.5E-05	
EP (kg PO4 eq)		4.5E-05	7.7E-04	2.0E-01	2.4E-05	8.1E-04	1.8E-01	2.4E-05	7.3E-04	-1.2E-02	2.6E-05	7.2E-04	1.2E+00	2.6E-05	
AD- non fossil (kg Sb eq)		2.6E-08	7.5E-07	7.3E-04	2.8E-09	1.2E-06	6.3E-04	2.8E-09	8.4E-07	-1.2E-05	3.1E-09	7.8E-07	4.4E-05	3.1E-09	
AD -fossil fuels (MJ)		8.7E-01	2.2E+01	1.2E+03	5.0E-02	2.3E+01	9.8E+02	5.0E-02	2.3E+01	-1.1E+03	5.4E-02	2.3E+01	8.9E+03	5.4E-02	
United Kingdom	GWP (kg CO2)	3.4E-02	1.3E+00	4.5E+02	1.9E-02	1.3E+00	3.9E+02	1.9E-02	1.3E+00	9.8E+02	2.1E-02	1.3E+00	7.7E+02	2.1E-02	
	ODP (kg CFC-11 eq)	2.9E-10	6.8E-08	5.7E-06	3.9E-10	6.9E-08	4.1E-06	3.9E-10	6.5E-08	7.4E-07	4.3E-10	6.5E-08	9.4E-07	4.3E-10	
	POP (kg C2H4 eq)	3.9E-05	6.1E-04	6.4E-02	8.8E-07	6.1E-04	5.6E-02	8.8E-07	6.6E-04	2.4E-01	9.5E-07	6.6E-04	1.8E-01	9.5E-07	
	AP (kg SO2 eq)	1.3E-04	6.8E-03	1.7E+00	2.3E-05	6.8E-03	1.5E+00	2.3E-05	6.9E-03	6.5E+00	2.5E-05	6.8E-03	5.1E+00	2.5E-05	
	EP (kg PO4 eq)	2.4E-05	7.7E-04	6.2E-01	2.4E-05	8.1E-04	5.4E-01	2.4E-05	7.3E-04	1.8E+00	2.6E-05	7.2E-04	1.4E+00	2.6E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	7.5E-07	6.4E-04	2.8E-09	1.2E-06	5.5E-04	2.8E-09	8.4E-07	7.7E-05	3.1E-09	7.8E-07	6.0E-05	3.1E-09	
	AD -fossil fuels (MJ)	4.6E-01	2.2E+01	6.9E+03	5.0E-02	2.3E+01	5.9E+03	5.0E-02	2.3E+01	1.5E+04	5.4E-02	2.3E+01	1.2E+04	5.4E-02	



Per 15 Years (per square meter)		Final Product Transportation	Stainless Steel 30			Stainless Steel 35			Stainless Steel 50			Sterling 20			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	3.0E+02	2.1E-02	1.2E+00	3.0E+02	1.9E-02	1.2E+00	2.7E+02	1.9E-02	1.4E+00	5.0E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.5E-08	3.9E-06	4.3E-10	6.2E-08	7.6E-06	3.9E-10	6.2E-08	3.1E-06	3.9E-10	6.8E-08	7.4E-06	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.4E-04	4.3E-02	9.5E-07	5.9E-04	4.2E-02	8.7E-07	5.8E-04	3.8E-02	8.7E-07	7.1E-04	7.1E-02	9.5E-07
		AP (kg SO2 eq)	1.3E-04	6.5E-03	1.1E+00	2.5E-05	6.4E-03	1.1E+00	2.3E-05	6.2E-03	1.0E+00	2.3E-05	8.7E-03	1.9E+00	2.5E-05
		EP (kg PO4 eq)	2.3E-05	7.1E-04	4.1E-01	2.6E-05	7.0E-04	3.9E-01	2.3E-05	6.9E-04	3.7E-01	2.3E-05	1.3E-03	6.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	4.2E-04	3.1E-09	6.5E-07	3.9E-04	2.8E-09	6.4E-07	3.8E-04	2.8E-09	6.7E-04	7.0E-04	3.1E-09
	AD -fossil fuels (MJ)	4.5E-01	2.3E+01	4.6E+03	5.4E-02	2.2E+01	4.6E+03	5.0E-02	2.1E+01	4.1E+03	5.0E-02	2.4E+01	7.7E+03	5.4E-02	
	France	GWP (kg CO2)	4.5E-02	1.3E+00	6.5E+02	2.1E-02	1.2E+00	5.6E+02	1.9E-02	1.2E+00	5.6E+02	1.9E-02	1.4E+00	1.0E+03	2.1E-02
		ODP (kg CFC-11 eq)	1.6E-09	6.5E-08	3.6E-06	4.3E-10	6.2E-08	3.8E-06	3.9E-10	6.2E-08	3.0E-06	3.9E-10	6.8E-08	6.0E-06	4.3E-10
		POP (kg C2H4 eq)	5.0E-05	6.4E-04	1.5E-01	9.5E-07	5.9E-04	1.3E-01	8.7E-07	5.8E-04	1.3E-01	8.7E-07	7.1E-04	2.4E-01	9.5E-07
		AP (kg SO2 eq)	1.6E-04	6.5E-03	4.2E+00	2.5E-05	6.4E-03	3.6E+00	2.3E-05	6.2E-03	3.6E+00	2.3E-05	8.7E-03	6.7E+00	2.5E-05
		EP (kg PO4 eq)	3.2E-05	7.1E-04	1.2E+00	2.6E-05	7.0E-04	1.0E+00	2.3E-05	6.9E-04	1.0E+00	2.3E-05	1.3E-03	1.9E+00	2.6E-05
		AD- non fossil (kg Sb eq)	3.2E-08	7.5E-07	5.2E-05	3.1E-09	6.5E-07	4.5E-05	2.8E-09	6.4E-07	4.5E-05	2.8E-09	6.7E-04	8.3E-05	3.1E-09
	AD -fossil fuels (MJ)	6.2E-01	2.3E+01	9.7E+03	5.4E-02	2.2E+01	8.4E+03	5.0E-02	2.1E+01	8.4E+03	5.0E-02	2.4E+01	1.6E+04	5.4E-02	
	Southern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	-1.2E+00	2.1E-02	1.2E+00	-	1.9E-02	1.2E+00	7.9E+02	1.9E-02	1.4E+00	1.2E+03	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.5E-08	-1.8E-07	4.3E-10	6.2E-08	-	3.9E-10	6.2E-08	3.7E-06	3.9E-10	6.8E-08	6.0E-06	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.4E-04	-1.3E-04	9.5E-07	5.9E-04	-	8.7E-07	5.8E-04	3.4E-01	8.7E-07	7.1E-04	5.2E-01	9.5E-07
		AP (kg SO2 eq)	1.3E-04	6.5E-03	-1.2E-03	2.5E-05	6.4E-03	-	2.3E-05	6.2E-03	4.8E+00	2.3E-05	8.7E-03	7.2E+00	2.5E-05
		EP (kg PO4 eq)	2.3E-05	7.1E-04	-2.0E-04	2.6E-05	7.0E-04	-	2.3E-05	6.9E-04	5.4E-01	2.3E-05	1.3E-03	8.2E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-2.0E-07	3.1E-09	6.5E-07	-	2.8E-09	6.4E-07	6.0E-05	2.8E-09	6.7E-04	9.0E-05	3.1E-09
	AD -fossil fuels (MJ)	4.5E-01	2.3E+01	-1.8E+01	5.4E-02	2.2E+01	-	5.0E-02	2.1E+01	8.8E+03	5.0E-02	2.4E+01	1.3E+04	5.4E-02	
	Scandinavia	GWP (kg CO2)	6.4E-02	1.3E+00	4.9E+02	2.1E-02	1.2E+00	4.6E+02	1.9E-02	1.2E+00	3.3E+02	1.9E-02	1.4E+00	8.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.3E-09	6.5E-08	-4.1E-06	4.3E-10	6.2E-08	3.2E-06	3.9E-10	6.2E-08	-5.2E-06	3.9E-10	6.8E-08	-2.8E-06	4.3E-10
		POP (kg C2H4 eq)	7.2E-05	6.4E-04	1.2E-01	9.5E-07	5.9E-04	1.1E-01	8.7E-07	5.8E-04	8.4E-02	8.7E-07	7.1E-04	2.0E-01	9.5E-07
AP (kg SO2 eq)		2.4E-04	6.5E-03	3.4E+00	2.5E-05	6.4E-03	3.0E+00	2.3E-05	6.2E-03	2.4E+00	2.3E-05	8.7E-03	5.6E+00	2.5E-05	
EP (kg PO4 eq)		4.5E-05	7.1E-04	9.7E-01	2.6E-05	7.0E-04	8.3E-01	2.3E-05	6.9E-04	6.8E-01	2.3E-05	1.3E-03	1.6E+00	2.6E-05	
AD- non fossil (kg Sb eq)		2.6E-08	7.5E-07	3.6E-05	3.1E-09	6.5E-07	3.8E-05	2.8E-09	6.4E-07	2.2E-05	2.8E-09	6.7E-04	6.2E-05	3.1E-09	
AD -fossil fuels (MJ)	8.7E-01	2.3E+01	7.4E+03	5.4E-02	2.2E+01	7.0E+03	5.0E-02	2.1E+01	4.9E+03	5.0E-02	2.4E+01	1.2E+04	5.4E-02		
United Kingdom	GWP (kg CO2)	3.4E-02	1.3E+00	6.2E+02	2.1E-02	1.2E+00	-	1.9E-02	1.2E+00	2.9E+02	1.9E-02	1.4E+00	9.8E+02	2.1E-02	
	ODP (kg CFC-11 eq)	2.9E-10	6.5E-08	-3.6E-08	4.3E-10	6.2E-08	-	3.9E-10	6.2E-08	-2.3E-06	3.9E-10	6.8E-08	8.5E-07	4.3E-10	
	POP (kg C2H4 eq)	3.9E-05	6.4E-04	1.5E-01	9.5E-07	5.9E-04	-	8.7E-07	5.8E-04	7.3E-02	8.7E-07	7.1E-04	2.4E-01	9.5E-07	
	AP (kg SO2 eq)	1.3E-04	6.5E-03	4.2E+00	2.5E-05	6.4E-03	-	2.3E-05	6.2E-03	2.0E+00	2.3E-05	8.7E-03	6.5E+00	2.5E-05	
	EP (kg PO4 eq)	2.4E-05	7.1E-04	1.2E+00	2.6E-05	7.0E-04	-	2.3E-05	6.9E-04	5.8E-01	2.3E-05	1.3E-03	1.8E+00	2.6E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	7.5E-07	4.8E-05	3.1E-09	6.5E-07	-	2.8E-09	6.4E-07	2.1E-05	2.8E-09	6.7E-04	7.6E-05	3.1E-09	
AD -fossil fuels (MJ)	4.6E-01	2.3E+01	9.4E+03	5.4E-02	2.2E+01	-	5.0E-02	2.1E+01	4.4E+03	5.0E-02	2.4E+01	1.5E+04	5.4E-02		



		Per 15 Years (per square meter)	Final Product Transportation	Sterling 40			Sterling 50			Sterling 60			Sterling 70		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	4.1E+02	1.9E-02	1.3E+00	3.5E+02	2.1E-02	1.3E+00	2.7E+02	2.1E-02	1.3E+00	4.0E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.4E-08	6.9E-06	3.9E-10	6.7E-08	5.4E-06	4.3E-10	6.6E-08	5.3E-06	4.3E-10	6.6E-08	6.8E-06	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.3E-04	5.8E-02	8.7E-07	6.7E-04	5.0E-02	9.4E-07	6.6E-04	3.8E-02	9.4E-07	6.5E-04	5.7E-02	9.4E-07
		AP (kg SO2 eq)	1.3E-04	7.7E-03	1.5E+00	2.3E-05	7.5E-03	1.3E+00	2.5E-05	7.2E-03	9.7E-01	2.5E-05	6.9E-03	1.5E+00	2.5E-05
		EP (kg PO4 eq)	2.3E-05	1.1E-03	5.5E-01	2.3E-05	1.0E-03	4.7E-01	2.6E-05	9.4E-04	3.6E-01	2.6E-05	8.4E-04	5.4E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	5.6E-04	2.8E-09	3.6E-04	4.8E-04	3.1E-09	2.7E-04	3.6E-04	3.1E-09	1.7E-04	5.5E-04	3.1E-09
	AD -fossil fuels (MJ)	4.5E-01	2.3E+01	6.3E+03	5.0E-02	2.3E+01	5.4E+03	5.4E-02	2.3E+01	4.1E+03	5.4E-02	2.3E+01	6.2E+03	5.4E-02	
	France	GWP (kg CO2)	4.5E-02	1.3E+00	8.4E+02	1.9E-02	1.3E+00	7.3E+02	2.1E-02	1.3E+00	5.6E+02	2.1E-02	1.3E+00	8.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.6E-09	6.4E-08	4.5E-06	3.9E-10	6.7E-08	3.8E-06	4.3E-10	6.6E-08	3.2E-06	4.3E-10	6.6E-08	4.4E-06	4.3E-10
		POP (kg C2H4 eq)	5.0E-05	6.3E-04	2.0E-01	8.7E-07	6.7E-04	1.7E-01	9.4E-07	6.6E-04	1.3E-01	9.4E-07	6.5E-04	1.9E-01	9.4E-07
		AP (kg SO2 eq)	1.6E-04	7.7E-03	5.4E+00	2.3E-05	7.5E-03	4.7E+00	2.5E-05	7.2E-03	3.6E+00	2.5E-05	6.9E-03	5.3E+00	2.5E-05
		EP (kg PO4 eq)	3.2E-05	1.1E-03	1.5E+00	2.3E-05	1.0E-03	1.3E+00	2.6E-05	9.4E-04	1.0E+00	2.6E-05	8.4E-04	1.5E+00	2.6E-05
		AD- non fossil (kg Sb eq)	3.2E-08	4.4E-04	6.8E-05	2.8E-09	3.6E-04	5.9E-05	3.1E-09	2.7E-04	4.5E-05	3.1E-09	1.7E-04	6.6E-05	3.1E-09
	AD -fossil fuels (MJ)	6.2E-01	2.3E+01	1.3E+04	5.0E-02	2.3E+01	1.1E+04	5.4E-02	2.3E+01	8.4E+03	5.4E-02	2.3E+01	1.2E+04	5.4E-02	
	Southern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	9.6E+02	1.9E-02	1.3E+00	-5.6E+00	2.1E-02	1.3E+00	6.4E+02	2.1E-02	1.3E+00	1.1E+03	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.4E-08	3.9E-06	3.9E-10	6.7E-08	-8.6E-07	4.3E-10	6.6E-08	3.1E-06	4.3E-10	6.6E-08	4.9E-06	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.3E-04	4.2E-01	8.7E-07	6.7E-04	-6.3E-04	9.4E-07	6.6E-04	2.8E-01	9.4E-07	6.5E-04	5.0E-01	9.4E-07
		AP (kg SO2 eq)	1.3E-04	7.7E-03	5.8E+00	2.3E-05	7.5E-03	-5.7E-03	2.5E-05	7.2E-03	3.9E+00	2.5E-05	6.9E-03	7.0E+00	2.5E-05
		EP (kg PO4 eq)	2.3E-05	1.1E-03	6.6E-01	2.3E-05	1.0E-03	-9.4E-04	2.6E-05	9.4E-04	4.4E-01	2.6E-05	8.4E-04	7.9E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	7.2E-05	2.8E-09	3.6E-04	-9.3E-07	3.1E-09	2.7E-04	4.9E-05	3.1E-09	1.7E-04	8.7E-05	3.1E-09
	AD -fossil fuels (MJ)	4.5E-01	2.3E+01	1.1E+04	5.0E-02	2.3E+01	-8.7E+01	5.4E-02	2.3E+01	7.2E+03	5.4E-02	2.3E+01	1.3E+04	5.4E-02	
	Scandinavia	GWP (kg CO2)	6.4E-02	1.3E+00	6.6E+02	1.9E-02	1.3E+00	5.7E+02	2.1E-02	1.3E+00	4.5E+02	2.1E-02	1.3E+00	4.9E+02	2.1E-02
		ODP (kg CFC-11 eq)	1.3E-09	6.4E-08	-2.8E-06	3.9E-10	6.7E-08	-3.4E-06	4.3E-10	6.6E-08	3.2E-07	4.3E-10	6.6E-08	-4.0E-06	4.3E-10
		POP (kg C2H4 eq)	7.2E-05	6.3E-04	1.6E-01	8.7E-07	6.7E-04	1.4E-01	9.4E-07	6.6E-04	1.1E-01	9.4E-07	6.5E-04	1.2E-01	9.4E-07
AP (kg SO2 eq)		2.4E-04	7.7E-03	4.5E+00	2.3E-05	7.5E-03	3.9E+00	2.5E-05	7.2E-03	3.0E+00	2.5E-05	6.9E-03	3.4E+00	2.5E-05	
EP (kg PO4 eq)		4.5E-05	1.1E-03	1.3E+00	2.3E-05	1.0E-03	1.1E+00	2.6E-05	9.4E-04	8.5E-01	2.6E-05	8.4E-04	9.6E-01	2.6E-05	
AD- non fossil (kg Sb eq)		2.6E-08	4.4E-04	5.0E-05	2.8E-09	3.6E-04	4.2E-05	3.1E-09	2.7E-04	3.5E-05	3.1E-09	1.7E-04	3.5E-05	3.1E-09	
AD -fossil fuels (MJ)	8.7E-01	2.3E+01	9.9E+03	5.0E-02	2.3E+01	8.6E+03	5.4E-02	2.3E+01	6.8E+03	5.4E-02	2.3E+01	7.3E+03	5.4E-02		
United Kingdom	GWP (kg CO2)	3.4E-02	1.3E+00	-3.4E+01	1.9E-02	1.3E+00	-3.4E+01	2.1E-02	1.3E+00	4.5E+02	2.1E-02	1.3E+00	4.4E+02	2.1E-02	
	ODP (kg CFC-11 eq)	2.9E-10	6.4E-08	-5.2E-06	3.9E-10	6.7E-08	-5.2E-06	4.3E-10	6.6E-08	-2.2E-07	4.3E-10	6.6E-08	-2.0E-06	4.3E-10	
	POP (kg C2H4 eq)	3.9E-05	6.3E-04	-3.9E-03	8.7E-07	6.7E-04	-3.9E-03	9.4E-07	6.6E-04	1.1E-01	9.4E-07	6.5E-04	1.1E-01	9.4E-07	
	AP (kg SO2 eq)	1.3E-04	7.7E-03	-3.5E-02	2.3E-05	7.5E-03	-3.5E-02	2.5E-05	7.2E-03	3.0E+00	2.5E-05	6.9E-03	3.0E+00	2.5E-05	
	EP (kg PO4 eq)	2.4E-05	1.1E-03	-5.8E-03	2.3E-05	1.0E-03	-5.8E-03	2.6E-05	9.4E-04	8.5E-01	2.6E-05	8.4E-04	8.5E-01	2.6E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	4.4E-04	-5.7E-06	2.8E-09	3.6E-04	-5.7E-06	3.1E-09	2.7E-04	3.5E-05	3.1E-09	1.7E-04	3.3E-05	3.1E-09	
AD -fossil fuels (MJ)	4.6E-01	2.3E+01	-5.3E+02	5.0E-02	2.3E+01	-5.3E+02	5.4E-02	2.3E+01	6.8E+03	5.4E-02	2.3E+01	6.6E+03	5.4E-02		



Per 15 Years (per square meter)		Final Product Transportation	TrueVue 5			TrueVue 15			TrueVue 30			TrueVue 40			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	6.6E+02	1.8E-02	1.3E+00	6.5E+02	1.8E-02	1.2E+00	4.6E+02	1.8E-02	1.2E+00	3.9E+02	1.8E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.5E-08	2.2E-05	3.6E-10	6.5E-08	2.2E-05	3.6E-10	6.4E-08	1.6E-05	3.5E-10	6.3E-08	1.6E-05	3.5E-10
		POP (kg C2H4 eq)	3.9E-05	6.2E-04	4.2E-02	8.1E-07	6.2E-04	4.2E-02	8.1E-07	5.8E-04	3.0E-02	8.1E-07	5.7E-04	2.6E-02	8.1E-07
		AP (kg SO2 eq)	1.3E-04	7.9E-03	9.6E-01	2.1E-05	7.9E-03	9.4E-01	2.1E-05	6.8E-03	6.7E-01	2.1E-05	6.6E-03	5.6E-01	2.1E-05
		EP (kg PO4 eq)	2.3E-05	1.2E-03	2.9E+00	2.2E-05	1.2E-03	2.8E+00	2.2E-05	9.6E-04	2.0E+00	2.2E-05	8.9E-04	1.6E+00	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	8.8E-04	2.5E-09	6.3E-04	8.6E-04	2.5E-09	3.3E-04	6.1E-04	2.5E-09	2.5E-04	5.0E-04	2.5E-09
		AD -fossil fuels (MJ)	4.5E-01	2.2E+01	9.9E+03	4.6E-02	2.2E+01	9.8E+03	4.6E-02	2.1E+01	7.0E+03	4.6E-02	2.1E+01	5.9E+03	4.6E-02
	France	GWP (kg CO2)	4.5E-02	1.3E+00	1.5E+02	1.8E-02	1.3E+00	1.4E+02	1.8E-02	1.2E+00	9.8E+01	1.8E-02	1.2E+00	7.2E+01	1.8E-02
		ODP (kg CFC-11 eq)	1.6E-09	6.5E-08	6.5E-06	3.6E-10	6.5E-08	6.1E-06	3.6E-10	6.4E-08	3.8E-06	3.5E-10	6.3E-08	2.3E-06	3.5E-10
		POP (kg C2H4 eq)	5.0E-05	6.2E-04	3.8E-02	8.1E-07	6.2E-04	3.6E-02	8.1E-07	5.8E-04	2.6E-02	8.1E-07	5.7E-04	2.0E-02	8.1E-07
		AP (kg SO2 eq)	1.6E-04	7.9E-03	9.8E-01	2.1E-05	7.9E-03	9.5E-01	2.1E-05	6.8E-03	6.8E-01	2.1E-05	6.6E-03	5.2E-01	2.1E-05
		EP (kg PO4 eq)	3.2E-05	1.2E-03	4.3E-01	2.2E-05	1.2E-03	4.2E-01	2.2E-05	9.6E-04	3.0E-01	2.2E-05	8.9E-04	2.3E-01	2.1E-05
		AD- non fossil (kg Sb eq)	3.2E-08	6.4E-04	1.4E-03	2.5E-09	6.3E-04	1.3E-03	2.5E-09	3.3E-04	9.6E-04	2.5E-09	2.5E-04	7.5E-04	2.5E-09
		AD -fossil fuels (MJ)	6.2E-01	2.2E+01	2.0E+03	4.6E-02	2.2E+01	1.9E+03	4.6E-02	2.1E+01	1.3E+03	4.6E-02	2.1E+01	9.5E+02	4.6E-02
	Southern Europe	GWP (kg CO2)	3.3E-02	1.3E+00	8.9E+02	1.8E-02	1.3E+00	8.7E+02	1.8E-02	1.2E+00	6.2E+02	1.8E-02	1.2E+00	5.1E+02	1.8E-02
		ODP (kg CFC-11 eq)	5.6E-13	6.5E-08	5.2E-05	3.6E-10	6.5E-08	5.0E-05	3.6E-10	6.4E-08	3.6E-05	3.5E-10	6.3E-08	3.0E-05	3.5E-10
		POP (kg C2H4 eq)	3.9E-05	6.2E-04	3.2E-01	8.1E-07	6.2E-04	3.1E-01	8.1E-07	5.8E-04	2.2E-01	8.1E-07	5.7E-04	1.8E-01	8.1E-07
		AP (kg SO2 eq)	1.3E-04	7.9E-03	8.6E+00	2.1E-05	7.9E-03	8.3E+00	2.1E-05	6.8E-03	6.0E+00	2.1E-05	6.6E-03	4.7E+00	2.1E-05
		EP (kg PO4 eq)	2.3E-05	1.2E-03	1.8E+00	2.2E-05	1.2E-03	1.7E+00	2.2E-05	9.6E-04	1.2E+00	2.2E-05	8.9E-04	9.7E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	1.4E-03	2.5E-09	6.3E-04	1.4E-03	2.5E-09	3.3E-04	9.7E-04	2.5E-09	2.5E-04	7.7E-04	2.5E-09
		AD -fossil fuels (MJ)	4.5E-01	2.2E+01	1.3E+04	4.6E-02	2.2E+01	1.3E+04	4.6E-02	2.1E+01	9.2E+03	4.6E-02	2.1E+01	7.4E+03	4.6E-02
	Scandinavia	GWP (kg CO2)	6.4E-02	1.3E+00	7.7E+01	1.8E-02	1.3E+00	9.0E+01	1.8E-02	1.2E+00	4.8E+01	1.8E-02	1.2E+00	7.7E+01	1.8E-02
		ODP (kg CFC-11 eq)	1.3E-09	6.5E-08	-2.6E-06	3.6E-10	6.5E-08	-3.2E-07	3.6E-10	6.4E-08	-2.6E-06	3.5E-10	6.3E-08	3.6E-06	3.5E-10
		POP (kg C2H4 eq)	7.2E-05	6.2E-04	1.4E-02	8.1E-07	6.2E-04	1.5E-02	8.1E-07	5.8E-04	9.0E-03	8.1E-07	5.7E-04	1.1E-02	8.1E-07
AP (kg SO2 eq)		2.4E-04	7.9E-03	4.6E-01	2.1E-05	7.9E-03	4.7E-01	2.1E-05	6.8E-03	3.2E-01	2.1E-05	6.6E-03	2.9E-01	2.1E-05	
EP (kg PO4 eq)		4.5E-05	1.2E-03	2.3E-01	2.2E-05	1.2E-03	2.3E-01	2.2E-05	9.6E-04	1.6E-01	2.2E-05	8.9E-04	1.4E-01	2.1E-05	
AD- non fossil (kg Sb eq)		2.6E-08	6.4E-04	8.5E-04	2.5E-09	6.3E-04	8.4E-04	2.5E-09	3.3E-04	5.9E-04	2.5E-09	2.5E-04	4.8E-04	2.5E-09	
AD -fossil fuels (MJ)		8.7E-01	2.2E+01	7.9E+02	4.6E-02	2.2E+01	9.9E+02	4.6E-02	2.1E+01	4.7E+02	4.6E-02	2.1E+01	9.5E+02	4.6E-02	
United Kingdom	GWP (kg CO2)	3.4E-02	1.3E+00	5.9E+02	1.8E-02	1.3E+00	5.8E+02	1.8E-02	1.2E+00	4.2E+02	1.8E-02	1.2E+00	3.3E+02	1.8E-02	
	ODP (kg CFC-11 eq)	2.9E-10	6.5E-08	9.3E-06	3.6E-10	6.5E-08	1.1E-05	3.6E-10	6.4E-08	8.4E-06	3.5E-10	6.3E-08	6.3E-06	3.5E-10	
	POP (kg C2H4 eq)	3.9E-05	6.2E-04	8.3E-02	8.1E-07	6.2E-04	8.3E-02	8.1E-07	5.8E-04	6.0E-02	8.1E-07	5.7E-04	4.7E-02	8.1E-07	
	AP (kg SO2 eq)	1.3E-04	7.9E-03	2.2E+00	2.1E-05	7.9E-03	2.1E+00	2.1E-05	6.8E-03	1.5E+00	2.1E-05	6.6E-03	1.2E+00	2.1E-05	
	EP (kg PO4 eq)	2.4E-05	1.2E-03	8.0E-01	2.2E-05	1.2E-03	7.8E-01	2.2E-05	9.6E-04	5.6E-01	2.2E-05	8.9E-04	4.4E-01	2.1E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	6.4E-04	8.1E-04	2.5E-09	6.3E-04	7.9E-04	2.5E-09	3.3E-04	5.7E-04	2.5E-09	2.5E-04	4.5E-04	2.5E-09	
	AD -fossil fuels (MJ)	4.6E-01	2.2E+01	9.0E+03	4.6E-02	2.2E+01	8.9E+03	4.6E-02	2.1E+01	6.5E+03	4.6E-02	2.1E+01	5.1E+03	4.6E-02	



Per 15 Years (per square meter)		Final Product Transportation	Sentinel Stainless Steel 15 OSW			Sentinel Stainless Steel 25 OSW			Sentinel Stainless Steel 40 OSW			Sentinel Stainless Steel 45 OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.6E+00	3.6E+02	2.1E-02	1.5E+00	3.2E+02	2.1E-02	1.5E+00	2.5E+02	2.1E-02	1.5E+00	2.3E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	8.9E-08	1.0E-05	4.3E-10	8.9E-08	1.0E-05	4.3E-10	8.9E-08	8.1E-06	4.3E-10	8.8E-08	7.6E-06	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.9E-04	2.3E-02	9.5E-07	6.6E-04	2.1E-02	9.5E-07	6.5E-04	1.6E-02	9.5E-07	6.5E-04	1.5E-02	9.5E-07
		AP (kg SO2 eq)	1.3E-04	7.9E-03	5.4E-01	2.5E-05	7.4E-03	4.7E-01	2.5E-05	7.2E-03	3.7E-01	2.5E-05	7.2E-03	3.3E-01	2.5E-05
		EP (kg PO4 eq)	2.3E-05	1.1E-03	1.7E+00	2.6E-05	1.0E-03	1.4E+00	2.6E-05	1.0E-03	1.1E+00	2.6E-05	1.0E-03	1.0E+00	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	5.0E-04	3.1E-09	1.1E-06	4.4E-04	3.1E-09	1.1E-06	3.4E-04	3.1E-09	1.1E-06	3.0E-04	3.1E-09
		AD -fossil fuels (MJ)	4.5E-01	2.6E+01	5.5E+03	5.4E-02	2.5E+01	4.9E+03	5.4E-02	2.5E+01	3.8E+03	5.4E-02	2.5E+01	3.4E+03	5.4E-02
	France	GWP (kg CO2)	4.5E-02	1.6E+00	8.2E+01	2.1E-02	1.5E+00	7.3E+01	2.1E-02	1.5E+00	5.5E+01	2.1E-02	1.5E+00	4.9E+01	2.1E-02
		ODP (kg CFC-11 eq)	1.6E-09	8.9E-08	3.3E-06	4.3E-10	8.9E-08	3.1E-06	4.3E-10	8.9E-08	2.1E-06	4.3E-10	8.8E-08	2.0E-06	4.3E-10
		POP (kg C2H4 eq)	5.0E-05	6.9E-04	2.1E-02	9.5E-07	6.6E-04	1.9E-02	9.5E-07	6.5E-04	1.4E-02	9.5E-07	6.5E-04	1.3E-02	9.5E-07
		AP (kg SO2 eq)	1.6E-04	7.9E-03	5.6E-01	2.5E-05	7.4E-03	4.9E-01	2.5E-05	7.2E-03	3.8E-01	2.5E-05	7.2E-03	3.3E-01	2.5E-05
		EP (kg PO4 eq)	3.2E-05	1.1E-03	2.5E-01	2.6E-05	1.0E-03	2.1E-01	2.6E-05	1.0E-03	1.7E-01	2.6E-05	1.0E-03	1.5E-01	2.6E-05
		AD- non fossil (kg Sb eq)	3.2E-08	1.2E-06	8.0E-04	3.1E-09	1.1E-06	6.9E-04	3.1E-09	1.1E-06	5.3E-04	3.1E-09	1.1E-06	4.7E-04	3.1E-09
		AD -fossil fuels (MJ)	6.2E-01	2.6E+01	1.1E+03	5.4E-02	2.5E+01	9.7E+02	5.4E-02	2.5E+01	7.2E+02	5.4E-02	2.5E+01	6.5E+02	5.4E-02
	Southern Europe	GWP (kg CO2)	3.3E-02	1.6E+00	5.1E+02	2.1E-02	1.5E+00	4.4E+02	2.1E-02	1.5E+00	3.4E+02	2.1E-02	1.5E+00	3.0E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.6E-13	8.9E-08	2.9E-05	4.3E-10	8.9E-08	2.5E-05	4.3E-10	8.9E-08	2.0E-05	4.3E-10	8.8E-08	1.7E-05	4.3E-10
		POP (kg C2H4 eq)	3.9E-05	6.9E-04	1.8E-01	9.5E-07	6.6E-04	1.6E-01	9.5E-07	6.5E-04	1.2E-01	9.5E-07	6.5E-04	1.1E-01	9.5E-07
		AP (kg SO2 eq)	1.3E-04	7.9E-03	4.9E+00	2.5E-05	7.4E-03	4.2E+00	2.5E-05	7.2E-03	3.3E+00	2.5E-05	7.2E-03	2.9E+00	2.5E-05
		EP (kg PO4 eq)	2.3E-05	1.1E-03	1.0E+00	2.6E-05	1.0E-03	8.7E-01	2.6E-05	1.0E-03	6.8E-01	2.6E-05	1.0E-03	5.9E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	8.0E-04	3.1E-09	1.1E-06	6.9E-04	3.1E-09	1.1E-06	5.4E-04	3.1E-09	1.1E-06	4.7E-04	3.1E-09
		AD -fossil fuels (MJ)	4.5E-01	2.6E+01	7.5E+03	5.4E-02	2.5E+01	6.5E+03	5.4E-02	2.5E+01	5.0E+03	5.4E-02	2.5E+01	4.4E+03	5.4E-02
	Scandinavia	GWP (kg CO2)	6.4E-02	1.6E+00	5.2E+01	2.1E-02	1.5E+00	4.6E+01	2.1E-02	1.5E+00	3.5E+01	2.1E-02	1.5E+00	2.8E+01	2.1E-02
		ODP (kg CFC-11 eq)	1.3E-09	8.9E-08	-3.8E-07	4.3E-10	8.9E-08	-2.4E-07	4.3E-10	8.9E-08	-3.2E-07	4.3E-10	8.8E-08	-6.8E-07	4.3E-10
		POP (kg C2H4 eq)	7.2E-05	6.9E-04	8.8E-03	9.5E-07	6.6E-04	7.6E-03	9.5E-07	6.5E-04	5.9E-03	9.5E-07	6.5E-04	4.9E-03	9.5E-07
		AP (kg SO2 eq)	2.4E-04	7.9E-03	2.7E-01	2.5E-05	7.4E-03	2.4E-01	2.5E-05	7.2E-03	1.9E-01	2.5E-05	7.2E-03	1.6E-01	2.5E-05
		EP (kg PO4 eq)	4.5E-05	1.1E-03	1.4E-01	2.6E-05	1.0E-03	1.2E-01	2.6E-05	1.0E-03	9.2E-02	2.6E-05	1.0E-03	8.0E-02	2.6E-05
		AD- non fossil (kg Sb eq)	2.6E-08	1.2E-06	4.9E-04	3.1E-09	1.1E-06	4.3E-04	3.1E-09	1.1E-06	3.4E-04	3.1E-09	1.1E-06	2.9E-04	3.1E-09
		AD -fossil fuels (MJ)	8.7E-01	2.6E+01	5.7E+02	5.4E-02	2.5E+01	5.0E+02	5.4E-02	2.5E+01	3.8E+02	5.4E-02	2.5E+01	2.9E+02	5.4E-02
United Kingdom	GWP (kg CO2)	3.4E-02	1.6E+00	3.5E+02	2.1E-02	1.5E+00	2.9E+02	2.1E-02	1.5E+00	2.4E+02	2.1E-02	1.5E+00	2.1E+02	2.1E-02	
	ODP (kg CFC-11 eq)	2.9E-10	8.9E-08	6.2E-06	4.3E-10	8.9E-08	3.8E-06	4.3E-10	8.9E-08	5.2E-06	4.3E-10	8.8E-08	4.2E-06	4.3E-10	
	POP (kg C2H4 eq)	3.9E-05	6.9E-04	4.9E-02	9.5E-07	6.6E-04	4.1E-02	9.5E-07	6.5E-04	3.4E-02	9.5E-07	6.5E-04	2.9E-02	9.5E-07	
	AP (kg SO2 eq)	1.3E-04	7.9E-03	1.3E+00	2.5E-05	7.4E-03	1.1E+00	2.5E-05	7.2E-03	8.6E-01	2.5E-05	7.2E-03	7.5E-01	2.5E-05	
	EP (kg PO4 eq)	2.4E-05	1.1E-03	4.6E-01	2.6E-05	1.0E-03	3.9E-01	2.6E-05	1.0E-03	3.1E-01	2.6E-05	1.0E-03	2.7E-01	2.6E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	1.2E-06	4.7E-04	3.1E-09	1.1E-06	4.0E-04	3.1E-09	1.1E-06	3.2E-04	3.1E-09	1.1E-06	2.8E-04	3.1E-09	
	AD -fossil fuels (MJ)	4.6E-01	2.6E+01	5.3E+03	5.4E-02	2.5E+01	4.4E+03	5.4E-02	2.5E+01	3.7E+03	5.4E-02	2.5E+01	3.2E+03	5.4E-02	



Per 15 Years (per square meter)		Final Product Transportation	Sentinel Silver 20 OSW			Sentinel Silver 35 OSW			Sentinel 4 Mil Clear OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Europe	Northern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	3.9E+02	2.1E-02	1.5E+00	3.2E+02	2.1E-02	1.8E+00	7.6E+01	3.8E-02
		ODP (kg CFC-11 eq)	5.6E-13	8.7E-08	1.1E-05	4.3E-10	8.7E-08	9.1E-06	4.3E-10	9.5E-08	2.7E-06	7.9E-10
		POP (kg C2H4 eq)	3.9E-05	6.6E-04	2.4E-02	9.5E-07	6.5E-04	2.0E-02	9.5E-07	8.0E-04	5.0E-03	1.6E-06
		AP (kg SO2 eq)	1.3E-04	7.3E-03	5.8E-01	2.5E-05	7.1E-03	4.7E-01	2.5E-05	9.4E-03	1.1E-01	4.3E-05
		EP (kg PO4 eq)	2.3E-05	1.0E-03	1.8E+00	2.6E-05	1.0E-03	1.5E+00	2.6E-05	1.2E-03	3.3E-01	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	5.5E-04	3.1E-09	1.1E-06	4.4E-04	3.1E-09	1.2E-06	1.0E-04	5.6E-09
	AD -fossil fuels (MJ)	4.5E-01	2.5E+01	5.9E+03	5.4E-02	2.5E+01	4.8E+03	5.4E-02	3.1E+01	1.1E+03	9.1E-02	
	France	GWP (kg CO2)	4.5E-02	1.5E+00	9.0E+01	2.1E-02	1.5E+00	7.4E+01	2.1E-02	1.8E+00	1.6E+01	3.8E-02
		ODP (kg CFC-11 eq)	1.6E-09	8.7E-08	3.6E-06	4.3E-10	8.7E-08	3.0E-06	4.3E-10	9.5E-08	5.8E-07	7.9E-10
		POP (kg C2H4 eq)	5.0E-05	6.6E-04	2.3E-02	9.5E-07	6.5E-04	1.9E-02	9.5E-07	8.0E-04	4.1E-03	1.6E-06
		AP (kg SO2 eq)	1.6E-04	7.3E-03	6.1E-01	2.5E-05	7.1E-03	5.0E-01	2.5E-05	9.4E-03	1.1E-01	4.3E-05
		EP (kg PO4 eq)	3.2E-05	1.0E-03	2.7E-01	2.6E-05	1.0E-03	2.2E-01	2.6E-05	1.2E-03	4.8E-02	4.7E-05
		AD- non fossil (kg Sb eq)	3.2E-08	1.1E-06	8.7E-04	3.1E-09	1.1E-06	7.1E-04	3.1E-09	1.2E-06	1.5E-04	5.6E-09
	AD -fossil fuels (MJ)	6.2E-01	2.5E+01	1.2E+03	5.4E-02	2.5E+01	9.8E+02	5.4E-02	3.1E+01	2.1E+02	9.1E-02	
	Southern Europe	GWP (kg CO2)	3.3E-02	1.5E+00	5.5E+02	2.1E-02	1.5E+00	4.6E+02	2.1E-02	1.8E+00	1.0E+02	3.8E-02
		ODP (kg CFC-11 eq)	5.6E-13	8.7E-08	3.1E-05	4.3E-10	8.7E-08	2.6E-05	4.3E-10	9.5E-08	5.9E-06	7.9E-10
		POP (kg C2H4 eq)	3.9E-05	6.6E-04	2.0E-01	9.5E-07	6.5E-04	1.6E-01	9.5E-07	8.0E-04	3.5E-02	1.6E-06
		AP (kg SO2 eq)	1.3E-04	7.3E-03	5.3E+00	2.5E-05	7.1E-03	4.4E+00	2.5E-05	9.4E-03	9.6E-01	4.3E-05
		EP (kg PO4 eq)	2.3E-05	1.0E-03	1.1E+00	2.6E-05	1.0E-03	9.0E-01	2.6E-05	1.2E-03	2.0E-01	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	8.7E-04	3.1E-09	1.1E-06	7.1E-04	3.1E-09	1.2E-06	1.6E-04	5.6E-09
	AD -fossil fuels (MJ)	4.5E-01	2.5E+01	8.1E+03	5.4E-02	2.5E+01	6.7E+03	5.4E-02	3.1E+01	1.5E+03	9.1E-02	
	Scandinavia	GWP (kg CO2)	6.4E-02	1.5E+00	4.7E+01	2.1E-02	1.5E+00	4.9E+01	2.1E-02	1.8E+00	1.6E+01	3.8E-02
		ODP (kg CFC-11 eq)	1.3E-09	8.7E-08	-1.9E-06	4.3E-10	8.7E-08	5.0E-08	4.3E-10	9.5E-08	8.1E-07	7.9E-10
		POP (kg C2H4 eq)	7.2E-05	6.6E-04	8.4E-03	9.5E-07	6.5E-04	8.1E-03	9.5E-07	8.0E-04	2.4E-03	1.6E-06
AP (kg SO2 eq)		2.4E-04	7.3E-03	2.9E-01	2.5E-05	7.1E-03	2.5E-01	2.5E-05	9.4E-03	6.1E-02	4.3E-05	
EP (kg PO4 eq)		4.5E-05	1.0E-03	1.5E-01	2.6E-05	1.0E-03	1.2E-01	2.6E-05	1.2E-03	2.8E-02	4.7E-05	
AD- non fossil (kg Sb eq)		2.6E-08	1.1E-06	5.4E-04	3.1E-09	1.1E-06	4.4E-04	3.1E-09	1.2E-06	1.0E-04	5.6E-09	
AD -fossil fuels (MJ)	8.7E-01	2.5E+01	4.6E+02	5.4E-02	2.5E+01	5.5E+02	5.4E-02	3.1E+01	2.0E+02	9.1E-02		
United Kingdom	GWP (kg CO2)	3.4E-02	1.5E+00	3.8E+02	2.1E-02	1.5E+00	3.0E+02	2.1E-02	1.8E+00	6.3E+01	3.8E-02	
	ODP (kg CFC-11 eq)	2.9E-10	8.7E-08	6.8E-06	4.3E-10	8.7E-08	5.4E-06	4.3E-10	9.5E-08	7.0E-07	7.9E-10	
	POP (kg C2H4 eq)	3.9E-05	6.6E-04	5.4E-02	9.5E-07	6.5E-04	4.3E-02	9.5E-07	8.0E-04	9.0E-03	1.6E-06	
	AP (kg SO2 eq)	1.3E-04	7.3E-03	1.4E+00	2.5E-05	7.1E-03	1.1E+00	2.5E-05	9.4E-03	2.4E-01	4.3E-05	
	EP (kg PO4 eq)	2.4E-05	1.0E-03	5.1E-01	2.6E-05	1.0E-03	4.1E-01	2.6E-05	1.2E-03	8.8E-02	4.7E-05	
	AD- non fossil (kg Sb eq)	5.6E-09	1.1E-06	5.2E-04	3.1E-09	1.1E-06	4.2E-04	3.1E-09	1.2E-06	8.9E-05	5.6E-09	
AD -fossil fuels (MJ)	4.6E-01	2.5E+01	5.8E+03	5.4E-02	2.5E+01	4.7E+03	5.4E-02	3.1E+01	9.6E+02	9.1E-02		





Asia: North-East China, Japan, Mid-East China, South-East China

Per 15 Years ( per square meter)		Final Product Transportation	Autumn Bronze 30			Grey Silver Grey 10			LX40/Hilite 40			LX70/ Hilite 70			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	7.1E+02	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.9E-08	-	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	-6.8E-06	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	7.0E-04	-	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	1.8E-01	1.1E-06	1.2E-03	-	9.4E-07
		AP (kg SO2 eq)	1.4E-04	8.2E-03	-	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	5.0E+00	2.8E-05	2.2E-02	-	2.5E-05
		EP (kg PO4 eq)	2.5E-05	1.2E-03	-	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	1.4E+00	3.0E-05	6.5E-02	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	5.1E-05	3.6E-09	3.7E-03	-	3.0E-09
		AD -fossil fuels (MJ)	4.9E-01	2.5E+01	-	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	1.1E+04	6.1E-02	5.6E+01	-	5.4E-02
	Japan	GWP (kg CO2)	3.2E-02	1.5E+00	-	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	5.3E-13	6.9E-08	-	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	7.0E-04	-	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
		AP (kg SO2 eq)	1.2E-04	8.2E-03	-	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05
		EP (kg PO4 eq)	2.2E-05	1.2E-03	-	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09
		AD -fossil fuels (MJ)	4.3E-01	2.5E+01	-	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.9E-08	-	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	7.0E-04	-	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
		AP (kg SO2 eq)	1.4E-04	8.2E-03	-	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05
		EP (kg PO4 eq)	2.5E-05	1.2E-03	-	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09
		AD -fossil fuels (MJ)	4.9E-01	2.5E+01	-	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.3E-02	1.2E+00	9.3E+02	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.9E-08	-	4.8E-10	6.9E-08	6.2E-06	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	7.0E-04	-	1.0E-06	5.8E-04	2.2E-01	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
AP (kg SO2 eq)		1.4E-04	8.2E-03	-	2.7E-05	5.6E-03	5.9E+00	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05	
EP (kg PO4 eq)		2.5E-05	1.2E-03	-	2.9E-05	7.2E-04	1.7E+00	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	7.5E-05	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09	
AD -fossil fuels (MJ)		4.9E-01	2.5E+01	-	5.9E-02	2.0E+01	1.4E+04	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	Quantum Silver Quantum 10			Quantum Silver Quantum 20			Silver AG 25 Low-E			Silver AG Low-e 50		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	9.1E+02	2.0E-02	1.5E+00	6.7E+02	2.0E-02
		ODP (kg CFC-11 eq)	6.1E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	-9.5E-06	4.1E-10	7.2E-08	-3.1E-06	4.1E-10
		POP (kg C2H4 eq)	4.2E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	2.3E-01	9.1E-07	6.8E-04	1.7E-01	9.1E-07
		AP (kg SO2 eq)	1.4E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	6.5E+00	2.4E-05	8.5E-03	4.6E+00	2.4E-05
		EP (kg PO4 eq)	2.5E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	1.8E+00	2.5E-05	1.2E-03	1.3E+00	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	6.5E-05	2.9E-09	4.1E-04	5.0E-05	2.9E-09
		AD -fossil fuels (MJ)	4.9E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	1.4E+04	5.2E-02	2.4E+01	1.0E+04	5.2E-02
	Japan	GWP (kg CO2)	3.2E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	1.2E+03	2.0E-02	1.5E+00	-	2.0E-02
		ODP (kg CFC-11 eq)	5.3E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	4.8E-06	4.1E-10	7.2E-08	-	4.1E-10
		POP (kg C2H4 eq)	3.7E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	5.1E-01	9.1E-07	6.8E-04	-	9.1E-07
		AP (kg SO2 eq)	1.2E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	7.1E+00	2.4E-05	8.5E-03	-	2.4E-05
		EP (kg PO4 eq)	2.2E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	8.0E-01	2.5E-05	1.2E-03	-	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	8.7E-05	2.9E-09	4.1E-04	-	2.9E-09
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	8.6E+02	2.0E-02	1.5E+00	-	2.0E-02
		ODP (kg CFC-11 eq)	6.1E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	4.3E-06	4.1E-10	7.2E-08	-	4.1E-10
		POP (kg C2H4 eq)	4.2E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	2.0E-01	9.1E-07	6.8E-04	-	9.1E-07
		AP (kg SO2 eq)	1.4E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	5.6E+00	2.4E-05	8.5E-03	-	2.4E-05
		EP (kg PO4 eq)	2.5E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	1.6E+00	2.5E-05	1.2E-03	-	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	6.9E-05	2.9E-09	4.1E-04	-	2.9E-09
		AD -fossil fuels (MJ)	4.9E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	1.3E+04	5.2E-02	2.4E+01	-	5.2E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.5E+00	9.7E+02	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	-	2.0E-02
ODP (kg CFC-11 eq)		6.1E-13	7.0E-08	6.6E-06	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	-	4.1E-10	
POP (kg C2H4 eq)		4.2E-05	7.0E-04	2.3E-01	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	-	9.1E-07	
AP (kg SO2 eq)		1.4E-04	8.2E-03	6.3E+00	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	-	2.4E-05	
EP (kg PO4 eq)		2.5E-05	8.5E-04	1.8E+00	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	-	2.5E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.9E-07	7.9E-05	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	-	2.9E-09	
AD -fossil fuels (MJ)		4.9E-01	2.6E+01	1.5E+04	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	-	5.2E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Silver 20			Silver 35			Silver 50			Slate 10		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.3E+00	9.8E+02	2.2E-02	1.3E+00	7.7E+02	2.0E-02	1.3E+00	-1.0E+02	2.2E-02	1.6E+00	9.4E+02	2.2E-02
		ODP (kg CFC-11 eq)	6.1E-13	7.1E-08	-1.3E-05	4.4E-10	6.9E-08	-9.3E-06	4.1E-10	7.1E-08	-1.5E-05	4.4E-10	6.6E-08	-1.4E-05	4.6E-10
		POP (kg C2H4 eq)	4.2E-05	6.7E-04	2.5E-01	9.7E-07	6.1E-04	2.0E-01	9.0E-07	6.6E-04	-1.1E-02	9.7E-07	7.9E-04	2.4E-01	9.9E-07
		AP (kg SO2 eq)	1.4E-04	6.9E-03	7.0E+00	2.6E-05	6.7E-03	5.5E+00	2.4E-05	6.7E-03	-1.0E-01	2.6E-05	1.1E-02	6.8E+00	2.6E-05
		EP (kg PO4 eq)	2.5E-05	7.9E-04	2.0E+00	2.7E-05	7.8E-04	1.6E+00	2.5E-05	7.8E-04	-1.7E-02	2.7E-05	1.4E-03	1.9E+00	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	6.8E-05	3.2E-09	7.1E-07	5.5E-05	2.9E-09	7.8E-07	-1.6E-05	3.2E-09	7.1E-04	6.5E-05	3.3E-09
		AD -fossil fuels (MJ)	4.9E-01	2.4E+01	1.5E+04	5.5E-02	2.3E+01	1.2E+04	5.2E-02	2.3E+01	-1.5E+03	5.5E-02	2.7E+01	1.4E+04	5.7E-02
	Japan	GWP (kg CO2)	3.2E-02	1.3E+00	1.3E+03	2.2E-02	1.3E+00	9.9E+02	2.0E-02	1.3E+00	-4.3E+00	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	5.3E-13	7.1E-08	5.5E-06	4.4E-10	6.9E-08	4.3E-06	4.1E-10	7.1E-08	-6.5E-07	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	3.7E-05	6.7E-04	5.5E-01	9.7E-07	6.1E-04	4.3E-01	9.0E-07	6.6E-04	-4.7E-04	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	1.2E-04	6.9E-03	7.7E+00	2.6E-05	6.7E-03	6.0E+00	2.4E-05	6.7E-03	-4.3E-03	2.6E-05	1.1E-02	-	2.6E-05
		EP (kg PO4 eq)	2.2E-05	7.9E-04	8.8E-01	2.7E-05	7.8E-04	6.9E-01	2.5E-05	7.8E-04	-7.1E-04	2.7E-05	1.4E-03	-	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	9.6E-05	3.2E-09	7.1E-07	7.5E-05	2.9E-09	7.8E-07	-7.0E-07	3.2E-09	7.1E-04	-	3.3E-09
		AD -fossil fuels (MJ)	4.3E-01	2.4E+01	1.4E+04	5.5E-02	2.3E+01	1.1E+04	5.2E-02	2.3E+01	-6.5E+01	5.5E-02	2.7E+01	-	5.7E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.3E+00	9.1E+02	2.2E-02	1.3E+00	7.2E+02	2.0E-02	1.3E+00	5.3E+02	2.2E-02	1.6E+00	9.0E+02	2.2E-02
		ODP (kg CFC-11 eq)	6.1E-13	7.1E-08	2.4E-06	4.4E-10	6.9E-08	2.4E-06	4.1E-10	7.1E-08	1.1E-06	4.4E-10	6.6E-08	2.9E-06	4.6E-10
		POP (kg C2H4 eq)	4.2E-05	6.7E-04	2.2E-01	9.7E-07	6.1E-04	1.7E-01	9.0E-07	6.6E-04	1.3E-01	9.7E-07	7.9E-04	2.2E-01	9.9E-07
		AP (kg SO2 eq)	1.4E-04	6.9E-03	6.0E+00	2.6E-05	6.7E-03	4.7E+00	2.4E-05	6.7E-03	3.5E+00	2.6E-05	1.1E-02	5.9E+00	2.6E-05
		EP (kg PO4 eq)	2.5E-05	7.9E-04	1.7E+00	2.7E-05	7.8E-04	1.3E+00	2.5E-05	7.8E-04	9.9E-01	2.7E-05	1.4E-03	1.7E+00	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	7.2E-05	3.2E-09	7.1E-07	5.7E-05	2.9E-09	7.8E-07	4.2E-05	3.2E-09	7.1E-04	7.1E-05	3.3E-09
		AD -fossil fuels (MJ)	4.9E-01	2.4E+01	1.4E+04	5.5E-02	2.3E+01	1.1E+04	5.2E-02	2.3E+01	8.0E+03	5.5E-02	2.7E+01	1.4E+04	5.7E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.3E+00	9.9E+02	2.2E-02	1.3E+00	8.4E+02	2.0E-02	1.3E+00	6.0E+02	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	6.1E-13	7.1E-08	6.7E-06	4.4E-10	6.9E-08	5.7E-06	4.1E-10	7.1E-08	4.0E-06	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	4.2E-05	6.7E-04	2.3E-01	9.7E-07	6.1E-04	2.0E-01	9.0E-07	6.6E-04	1.4E-01	9.7E-07	7.9E-04	-	9.9E-07
AP (kg SO2 eq)		1.4E-04	6.9E-03	6.4E+00	2.6E-05	6.7E-03	5.4E+00	2.4E-05	6.7E-03	3.8E+00	2.6E-05	1.1E-02	-	2.6E-05	
EP (kg PO4 eq)		2.5E-05	7.9E-04	1.8E+00	2.7E-05	7.8E-04	1.5E+00	2.5E-05	7.8E-04	1.1E+00	2.7E-05	1.4E-03	-	2.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.8E-07	8.0E-05	3.2E-09	7.1E-07	6.8E-05	2.9E-09	7.8E-07	4.9E-05	3.2E-09	7.1E-04	-	3.3E-09	
AD -fossil fuels (MJ)		4.9E-01	2.4E+01	1.5E+04	5.5E-02	2.3E+01	1.3E+04	5.2E-02	2.3E+01	9.0E+03	5.5E-02	2.7E+01	-	5.7E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Slate 20			Slate 30			Slate 40			Solar Bronze 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.5E+00	8.2E+02	2.2E-02	1.5E+00	7.2E+02	2.2E-02	1.5E+00	6.0E+02	2.2E-02	1.3E+00	-	1.9E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	-1.0E-05	4.6E-10	6.5E-08	-8.5E-06	4.6E-10	6.4E-08	-5.4E-06	4.6E-10	6.8E-08	-	3.9E-10
		POP (kg C2H4 eq)	4.2E-05	7.5E-04	2.1E-01	9.9E-07	7.3E-04	1.8E-01	9.9E-07	7.1E-04	1.5E-01	9.9E-07	6.2E-04	-	8.8E-07
		AP (kg SO2 eq)	1.4E-04	9.8E-03	5.8E+00	2.6E-05	9.3E-03	5.1E+00	2.6E-05	8.9E-03	4.2E+00	2.6E-05	6.9E-03	-	2.3E-05
		EP (kg PO4 eq)	2.5E-05	1.2E-03	1.7E+00	2.7E-05	1.1E-03	1.5E+00	2.7E-05	1.0E-03	1.2E+00	2.7E-05	7.8E-04	-	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	5.8E-05	3.2E-09	3.8E-04	5.1E-05	3.2E-09	2.9E-04	4.4E-05	3.2E-09	7.8E-07	-	2.8E-09
		AD -fossil fuels (MJ)	4.9E-01	2.6E+01	1.2E+04	5.7E-02	2.6E+01	1.1E+04	5.7E-02	2.5E+01	9.0E+03	5.7E-02	2.3E+01	-	5.0E-02
	Japan	GWP (kg CO2)	3.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	-	1.9E-02
		ODP (kg CFC-11 eq)	5.3E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	-	3.9E-10
		POP (kg C2H4 eq)	3.7E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	-	8.8E-07
		AP (kg SO2 eq)	1.2E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	-	2.3E-05
		EP (kg PO4 eq)	2.2E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	-	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	-	2.8E-09
		AD -fossil fuels (MJ)	4.3E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	-	5.0E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.5E+00	7.6E+02	2.2E-02	1.5E+00	6.8E+02	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	9.1E+02	1.9E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	2.3E-06	4.6E-10	6.5E-08	3.2E-06	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	3.6E-06	3.9E-10
		POP (kg C2H4 eq)	4.2E-05	7.5E-04	1.8E-01	9.9E-07	7.3E-04	1.6E-01	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	2.2E-01	8.8E-07
		AP (kg SO2 eq)	1.4E-04	9.8E-03	5.0E+00	2.6E-05	9.3E-03	4.4E+00	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	5.9E+00	2.3E-05
		EP (kg PO4 eq)	2.5E-05	1.2E-03	1.4E+00	2.7E-05	1.1E-03	1.2E+00	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	1.7E+00	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	6.0E-05	3.2E-09	3.8E-04	5.4E-05	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	7.2E-05	2.8E-09
		AD -fossil fuels (MJ)	4.9E-01	2.6E+01	1.1E+04	5.7E-02	2.6E+01	1.0E+04	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	1.4E+04	5.0E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.5E+00	9.3E+02	2.2E-02	1.5E+00	8.2E+02	2.2E-02	1.5E+00	6.4E+02	2.2E-02	1.3E+00	-	1.9E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	6.2E-06	4.6E-10	6.5E-08	5.5E-06	4.6E-10	6.4E-08	4.3E-06	4.6E-10	6.8E-08	-	3.9E-10
		POP (kg C2H4 eq)	4.2E-05	7.5E-04	2.2E-01	9.9E-07	7.3E-04	1.9E-01	9.9E-07	7.1E-04	1.5E-01	9.9E-07	6.2E-04	-	8.8E-07
AP (kg SO2 eq)		1.4E-04	9.8E-03	6.0E+00	2.6E-05	9.3E-03	5.2E+00	2.6E-05	8.9E-03	4.1E+00	2.6E-05	6.9E-03	-	2.3E-05	
EP (kg PO4 eq)		2.5E-05	1.2E-03	1.7E+00	2.7E-05	1.1E-03	1.5E+00	2.7E-05	1.0E-03	1.2E+00	2.7E-05	7.8E-04	-	2.4E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.7E-04	7.6E-05	3.2E-09	3.8E-04	6.6E-05	3.2E-09	2.9E-04	5.2E-05	3.2E-09	7.8E-07	-	2.8E-09	
AD -fossil fuels (MJ)		4.9E-01	2.6E+01	1.4E+04	5.7E-02	2.6E+01	1.2E+04	5.7E-02	2.5E+01	9.6E+03	5.7E-02	2.3E+01	-	5.0E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	Solar Bronze 35			Solar Bronze 50			Stainless Steel 10			Stainless Steel 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.3E+00	-	1.9E-02	1.3E+00	-	1.9E-02	1.3E+00	-1.2E+02	2.1E-02	1.3E+00	-7.5E+01	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.8E-08	-	3.9E-10	6.9E-08	-	3.9E-10	6.5E-08	-1.8E-05	4.3E-10	6.5E-08	-1.1E-05	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.1E-04	-	8.8E-07	6.1E-04	-	8.8E-07	6.6E-04	-1.3E-02	9.5E-07	6.6E-04	-8.4E-03	9.5E-07
		AP (kg SO2 eq)	1.4E-04	6.8E-03	-	2.3E-05	6.8E-03	-	2.3E-05	6.9E-03	-1.2E-01	2.5E-05	6.8E-03	-7.6E-02	2.5E-05
		EP (kg PO4 eq)	2.5E-05	7.7E-04	-	2.4E-05	8.1E-04	-	2.4E-05	7.3E-04	-1.9E-02	2.6E-05	7.2E-04	-1.3E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	2.8E-09	1.2E-06	-	2.8E-09	8.4E-07	-1.9E-05	3.1E-09	7.8E-07	-1.2E-05	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.2E+01	-	5.0E-02	2.3E+01	-	5.0E-02	2.3E+01	-1.8E+03	5.4E-02	2.3E+01	-1.2E+03	5.4E-02
	Japan	GWP (kg CO2)	3.2E-02	1.3E+00	1.1E+03	1.9E-02	1.3E+00	-2.6E+00	1.9E-02	1.3E+00	1.4E+03	2.1E-02	1.3E+00	1.1E+03	2.1E-02
		ODP (kg CFC-11 eq)	5.3E-13	6.8E-08	5.0E-06	3.9E-10	6.9E-08	-4.0E-07	3.9E-10	6.5E-08	4.7E-05	4.3E-10	6.5E-08	3.6E-05	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	6.1E-04	4.8E-01	8.8E-07	6.1E-04	-2.9E-04	8.8E-07	6.6E-04	1.7E-01	9.5E-07	6.6E-04	1.4E-01	9.5E-07
		AP (kg SO2 eq)	1.2E-04	6.8E-03	6.6E+00	2.3E-05	6.8E-03	-2.7E-03	2.3E-05	6.9E-03	2.3E+00	2.5E-05	6.8E-03	1.8E+00	2.5E-05
		EP (kg PO4 eq)	2.2E-05	7.7E-04	7.6E-01	2.4E-05	8.1E-04	-4.4E-04	2.4E-05	7.3E-04	2.8E-01	2.6E-05	7.2E-04	2.2E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	8.3E-05	2.8E-09	1.2E-06	-4.3E-07	2.8E-09	8.4E-07	3.8E-04	3.1E-09	7.8E-07	3.0E-04	3.1E-09
		AD -fossil fuels (MJ)	4.3E-01	2.2E+01	1.2E+04	5.0E-02	2.3E+01	-4.1E+01	5.0E-02	2.3E+01	2.0E+04	5.4E-02	2.3E+01	1.5E+04	5.4E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.3E+00	-	1.9E-02	1.3E+00	-	1.9E-02	1.3E+00	-	2.1E-02	1.3E+00	-1.4E+01	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.8E-08	-	3.9E-10	6.9E-08	-	3.9E-10	6.5E-08	-	4.3E-10	6.5E-08	-2.2E-06	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.1E-04	-	8.8E-07	6.1E-04	-	8.8E-07	6.6E-04	-	9.5E-07	6.6E-04	-1.6E-03	9.5E-07
		AP (kg SO2 eq)	1.4E-04	6.8E-03	-	2.3E-05	6.8E-03	-	2.3E-05	6.9E-03	-	2.5E-05	6.8E-03	-1.5E-02	2.5E-05
		EP (kg PO4 eq)	2.5E-05	7.7E-04	-	2.4E-05	8.1E-04	-	2.4E-05	7.3E-04	-	2.6E-05	7.2E-04	-2.4E-03	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	2.8E-09	1.2E-06	-	2.8E-09	8.4E-07	-	3.1E-09	7.8E-07	-2.4E-06	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.2E+01	-	5.0E-02	2.3E+01	-	5.0E-02	2.3E+01	-	5.4E-02	2.3E+01	-2.2E+02	5.4E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.3E+00	9.2E+02	1.9E-02	1.3E+00	-3.7E-01	1.9E-02	1.3E+00	6.9E+02	2.1E-02	1.3E+00	5.4E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.8E-08	6.3E-06	3.9E-10	6.9E-08	-5.7E-08	3.9E-10	6.5E-08	2.5E-06	4.3E-10	6.5E-08	2.0E-06	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.1E-04	2.2E-01	8.8E-07	6.1E-04	-4.2E-05	8.8E-07	6.6E-04	2.5E-01	9.5E-07	6.6E-04	2.0E-01	9.5E-07
AP (kg SO2 eq)		1.4E-04	6.8E-03	5.9E+00	2.3E-05	6.8E-03	-3.7E-04	2.3E-05	6.9E-03	5.7E+00	2.5E-05	6.8E-03	4.5E+00	2.5E-05	
EP (kg PO4 eq)		2.5E-05	7.7E-04	1.7E+00	2.4E-05	8.1E-04	-6.2E-05	2.4E-05	7.3E-04	7.4E-01	2.6E-05	7.2E-04	5.8E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.5E-07	7.5E-05	2.8E-09	1.2E-06	-6.1E-08	2.8E-09	8.4E-07	4.1E-05	3.1E-09	7.8E-07	3.2E-05	3.1E-09	
AD -fossil fuels (MJ)		4.9E-01	2.2E+01	1.4E+04	5.0E-02	2.3E+01	-5.7E+00	5.0E-02	2.3E+01	1.1E+04	5.4E-02	2.3E+01	8.4E+03	5.4E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	Stainless Steel 30			Stainless Steel 35			Stainless Steel 50			Sterling 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.3E+00	-7.5E+01	2.1E-02	1.2E+00	-	1.9E-02	1.2E+00	-7.5E+01	1.9E-02	1.4E+00	-1.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	-1.1E-05	4.3E-10	6.2E-08	-	3.9E-10	6.2E-08	-1.1E-05	3.9E-10	6.8E-08	-1.9E-05	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.4E-04	-8.4E-03	9.5E-07	5.9E-04	-	8.7E-07	5.8E-04	-8.4E-03	8.7E-07	7.1E-04	-1.4E-02	9.5E-07
		AP (kg SO2 eq)	1.4E-04	6.5E-03	-7.6E-02	2.5E-05	6.4E-03	-	2.3E-05	6.2E-03	-7.6E-02	2.3E-05	8.7E-03	-1.2E-01	2.5E-05
		EP (kg PO4 eq)	2.5E-05	7.1E-04	-1.3E-02	2.6E-05	7.0E-04	-	2.3E-05	6.9E-04	-1.3E-02	2.3E-05	1.3E-03	-2.1E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-1.2E-05	3.1E-09	6.5E-07	-	2.8E-09	6.4E-07	-1.2E-05	2.8E-09	6.7E-04	-2.0E-05	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.3E+01	-1.2E+03	5.4E-02	2.2E+01	-	5.0E-02	2.1E+01	-1.2E+03	5.0E-02	2.4E+01	-1.9E+03	5.4E-02
	Japan	GWP (kg CO2)	3.2E-02	1.3E+00	8.8E+02	2.1E-02	1.2E+00	7.2E+02	1.9E-02	1.2E+00	-	1.9E-02	1.4E+00	1.4E+03	2.1E-02
		ODP (kg CFC-11 eq)	5.3E-13	6.5E-08	3.0E-05	4.3E-10	6.2E-08	2.4E-05	3.9E-10	6.2E-08	-	3.9E-10	6.8E-08	4.6E-05	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	6.4E-04	1.1E-01	9.5E-07	5.9E-04	9.1E-02	8.7E-07	5.8E-04	-	8.7E-07	7.1E-04	1.7E-01	9.5E-07
		AP (kg SO2 eq)	1.2E-04	6.5E-03	1.4E+00	2.5E-05	6.4E-03	1.2E+00	2.3E-05	6.2E-03	-	2.3E-05	8.7E-03	2.2E+00	2.5E-05
		EP (kg PO4 eq)	2.2E-05	7.1E-04	1.8E-01	2.6E-05	7.0E-04	1.5E-01	2.3E-05	6.9E-04	-	2.3E-05	1.3E-03	2.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	2.4E-04	3.1E-09	6.5E-07	2.0E-04	2.8E-09	6.4E-07	-	2.8E-09	6.7E-04	3.8E-04	3.1E-09
		AD -fossil fuels (MJ)	4.3E-01	2.3E+01	1.3E+04	5.4E-02	2.2E+01	1.0E+04	5.0E-02	2.1E+01	-	5.0E-02	2.4E+01	2.0E+04	5.4E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.3E+00	3.2E+02	2.1E-02	1.2E+00	-	1.9E-02	1.2E+00	-1.4E+01	1.9E-02	1.4E+00	5.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	4.5E-06	4.3E-10	6.2E-08	-	3.9E-10	6.2E-08	-2.2E-06	3.9E-10	6.8E-08	7.3E-06	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.4E-04	3.4E-01	9.5E-07	5.9E-04	-	8.7E-07	5.8E-04	-1.6E-03	8.7E-07	7.1E-04	5.5E-01	9.5E-07
		AP (kg SO2 eq)	1.4E-04	6.5E-03	2.9E+00	2.5E-05	6.4E-03	-	2.3E-05	6.2E-03	-1.5E-02	2.3E-05	8.7E-03	4.8E+00	2.5E-05
		EP (kg PO4 eq)	2.5E-05	7.1E-04	2.9E-01	2.6E-05	7.0E-04	-	2.3E-05	6.9E-04	-2.4E-03	2.3E-05	1.3E-03	4.6E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	1.9E-05	3.1E-09	6.5E-07	-	2.8E-09	6.4E-07	-2.4E-06	2.8E-09	6.7E-04	3.1E-05	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.3E+01	5.0E+03	5.4E-02	2.2E+01	-	5.0E-02	2.1E+01	-2.2E+02	5.0E-02	2.4E+01	8.0E+03	5.4E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.3E+00	4.6E+02	2.1E-02	1.2E+00	3.9E+02	1.9E-02	1.2E+00	-6.0E-01	1.9E-02	1.4E+00	7.4E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	1.7E-06	4.3E-10	6.2E-08	1.5E-06	3.9E-10	6.2E-08	-9.2E-08	3.9E-10	6.8E-08	2.7E-06	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.4E-04	1.6E-01	9.5E-07	5.9E-04	1.4E-01	8.7E-07	5.8E-04	-6.7E-05	8.7E-07	7.1E-04	2.7E-01	9.5E-07
AP (kg SO2 eq)		1.4E-04	6.5E-03	3.8E+00	2.5E-05	6.4E-03	3.2E+00	2.3E-05	6.2E-03	-6.1E-04	2.3E-05	8.7E-03	6.1E+00	2.5E-05	
EP (kg PO4 eq)		2.5E-05	7.1E-04	4.9E-01	2.6E-05	7.0E-04	4.1E-01	2.3E-05	6.9E-04	-1.0E-04	2.3E-05	1.3E-03	7.9E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.5E-07	2.7E-05	3.1E-09	6.5E-07	2.3E-05	2.8E-09	6.4E-07	-9.9E-08	2.8E-09	6.7E-04	4.4E-05	3.1E-09	
AD -fossil fuels (MJ)		4.9E-01	2.3E+01	7.0E+03	5.4E-02	2.2E+01	6.0E+03	5.0E-02	2.1E+01	-9.3E+00	5.0E-02	2.4E+01	1.1E+04	5.4E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Sterling 40			Sterling 50			Sterling 60			Sterling 70		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.3E+00	-8.5E+01	1.9E-02	1.3E+00	1.7E+03	2.1E-02	1.3E+00	-6.5E+01	2.1E-02	1.3E+00	1.3E+03	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.4E-08	-1.3E-05	3.9E-10	6.7E-08	-4.8E-06	4.3E-10	6.6E-08	-9.9E-06	4.3E-10	6.6E-08	-6.7E-06	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.3E-04	-9.5E-03	8.7E-07	6.7E-04	4.3E+00	9.4E-07	6.6E-04	-7.3E-03	9.4E-07	6.5E-04	3.3E+00	9.4E-07
		AP (kg SO2 eq)	1.4E-04	7.7E-03	-8.5E-02	2.3E-05	7.5E-03	1.5E+01	2.5E-05	7.2E-03	-6.6E-02	2.5E-05	6.9E-03	1.1E+01	2.5E-05
		EP (kg PO4 eq)	2.5E-05	1.1E-03	-1.4E-02	2.3E-05	1.0E-03	1.9E+00	2.6E-05	9.4E-04	-1.1E-02	2.6E-05	8.4E-04	1.4E+00	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	-1.4E-05	2.8E-09	3.6E-04	6.6E-05	3.1E-09	2.7E-04	-1.1E-05	3.1E-09	1.7E-04	4.7E-05	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.3E+01	-1.3E+03	5.0E-02	2.3E+01	2.6E+04	5.4E-02	2.3E+01	-1.0E+03	5.4E-02	2.3E+01	1.9E+04	5.4E-02
	Japan	GWP (kg CO2)	3.2E-02	1.3E+00	1.1E+03	1.9E-02	1.3E+00	9.2E+02	2.1E-02	1.3E+00	6.4E+02	2.1E-02	1.3E+00	-6.0E+00	2.1E-02
		ODP (kg CFC-11 eq)	5.3E-13	6.4E-08	3.6E-05	3.9E-10	6.7E-08	3.0E-05	4.3E-10	6.6E-08	2.1E-05	4.3E-10	6.6E-08	-9.2E-07	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	6.3E-04	1.4E-01	8.7E-07	6.7E-04	1.2E-01	9.4E-07	6.6E-04	8.0E-02	9.4E-07	6.5E-04	-6.7E-04	9.4E-07
		AP (kg SO2 eq)	1.2E-04	7.7E-03	1.8E+00	2.3E-05	7.5E-03	1.5E+00	2.5E-05	7.2E-03	1.0E+00	2.5E-05	6.9E-03	-6.1E-03	2.5E-05
		EP (kg PO4 eq)	2.2E-05	1.1E-03	2.2E-01	2.3E-05	1.0E-03	1.9E-01	2.6E-05	9.4E-04	1.3E-01	2.6E-05	8.4E-04	-1.0E-03	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	3.0E-04	2.8E-09	3.6E-04	2.5E-04	3.1E-09	2.7E-04	1.8E-04	3.1E-09	1.7E-04	-9.9E-07	3.1E-09
		AD -fossil fuels (MJ)	4.3E-01	2.3E+01	1.5E+04	5.0E-02	2.3E+01	1.3E+04	5.4E-02	2.3E+01	9.1E+03	5.4E-02	2.3E+01	-9.3E+01	5.4E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.3E+00	4.3E+02	1.9E-02	1.3E+00	-1.5E+01	2.1E-02	1.3E+00	-1.4E+01	2.1E-02	1.3E+00	4.6E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.4E-08	6.5E-06	3.9E-10	6.7E-08	-2.3E-06	4.3E-10	6.6E-08	-2.1E-06	4.3E-10	6.6E-08	7.2E-06	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.3E-04	4.5E-01	8.7E-07	6.7E-04	-1.7E-03	9.4E-07	6.6E-04	-1.6E-03	9.4E-07	6.5E-04	4.9E-01	9.4E-07
		AP (kg SO2 eq)	1.4E-04	7.7E-03	3.9E+00	2.3E-05	7.5E-03	-1.5E-02	2.5E-05	7.2E-03	-1.4E-02	2.5E-05	6.9E-03	4.2E+00	2.5E-05
		EP (kg PO4 eq)	2.5E-05	1.1E-03	3.8E-01	2.3E-05	1.0E-03	-2.6E-03	2.6E-05	9.4E-04	-2.4E-03	2.6E-05	8.4E-04	4.1E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	2.6E-05	2.8E-09	3.6E-04	-2.5E-06	3.1E-09	2.7E-04	-2.3E-06	3.1E-09	1.7E-04	2.8E-05	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.3E+01	6.6E+03	5.0E-02	2.3E+01	-2.4E+02	5.4E-02	2.3E+01	-2.2E+02	5.4E-02	2.3E+01	7.2E+03	5.4E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.3E+00	6.0E+02	1.9E-02	1.3E+00	5.2E+02	2.1E-02	1.3E+00	4.0E+02	2.1E-02	1.3E+00	0.0E+00	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.4E-08	2.3E-06	3.9E-10	6.7E-08	2.0E-06	4.3E-10	6.6E-08	1.6E-06	4.3E-10	6.6E-08	0.0E+00	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.3E-04	2.2E-01	8.7E-07	6.7E-04	1.9E-01	9.4E-07	6.6E-04	1.4E-01	9.4E-07	6.5E-04	0.0E+00	9.4E-07
AP (kg SO2 eq)		1.4E-04	7.7E-03	4.9E+00	2.3E-05	7.5E-03	4.3E+00	2.5E-05	7.2E-03	3.3E+00	2.5E-05	6.9E-03	0.0E+00	2.5E-05	
EP (kg PO4 eq)		2.5E-05	1.1E-03	6.4E-01	2.3E-05	1.0E-03	5.6E-01	2.6E-05	9.4E-04	4.2E-01	2.6E-05	8.4E-04	0.0E+00	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.4E-04	3.6E-05	2.8E-09	3.6E-04	3.1E-05	3.1E-09	2.7E-04	2.4E-05	3.1E-09	1.7E-04	0.0E+00	3.1E-09	
AD -fossil fuels (MJ)		4.9E-01	2.3E+01	9.2E+03	5.0E-02	2.3E+01	8.0E+03	5.4E-02	2.3E+01	6.1E+03	5.4E-02	2.3E+01	0.0E+00	5.4E-02	



Per 15 Years (per square meter)		Final Product Transportation	TrueVue 5			TrueVue 15			TrueVue 30			TrueVue 40			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.3E+00	1.0E+03	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	7.3E+02	1.8E-02	1.2E+00	5.9E+02	1.8E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	-1.4E-05	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-7.0E-06	3.5E-10	6.3E-08	-3.8E-06	3.5E-10
		POP (kg C2H4 eq)	4.2E-05	6.2E-04	2.6E-01	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	1.8E-01	8.1E-07	5.7E-04	1.5E-01	8.1E-07
		AP (kg SO2 eq)	1.4E-04	7.9E-03	7.2E+00	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	5.1E+00	2.1E-05	6.6E-03	4.1E+00	2.1E-05
		EP (kg PO4 eq)	2.5E-05	1.2E-03	2.1E+00	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	1.4E+00	2.2E-05	8.9E-04	1.2E+00	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	7.0E-05	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	5.2E-05	2.5E-09	2.5E-04	4.4E-05	2.5E-09
		AD -fossil fuels (MJ)	4.9E-01	2.2E+01	1.5E+04	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	1.1E+04	4.6E-02	2.1E+01	8.9E+03	4.6E-02
	Japan	GWP (kg CO2)	3.2E-02	1.3E+00	-	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02
		ODP (kg CFC-11 eq)	5.3E-13	6.5E-08	-	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10
		POP (kg C2H4 eq)	3.7E-05	6.2E-04	-	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07
		AP (kg SO2 eq)	1.2E-04	7.9E-03	-	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05
		EP (kg PO4 eq)	2.2E-05	1.2E-03	-	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09
		AD -fossil fuels (MJ)	4.3E-01	2.2E+01	-	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.3E+00	-	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	-	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10
		POP (kg C2H4 eq)	4.2E-05	6.2E-04	-	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07
		AP (kg SO2 eq)	1.4E-04	7.9E-03	-	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05
		EP (kg PO4 eq)	2.5E-05	1.2E-03	-	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09
		AD -fossil fuels (MJ)	4.9E-01	2.2E+01	-	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02
South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.3E+00	-	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02	
	ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	-	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10	
	POP (kg C2H4 eq)	4.2E-05	6.2E-04	-	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07	
	AP (kg SO2 eq)	1.4E-04	7.9E-03	-	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05	
	EP (kg PO4 eq)	2.5E-05	1.2E-03	-	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09	
	AD -fossil fuels (MJ)	4.9E-01	2.2E+01	-	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02	





		Per 15 Years ( per square meter)	Final Product Transportation	Sentinel Stainless Steel 15 OSW			Sentinel Stainless Steel 25 OSW			Sentinel Stainless Steel 40 OSW			Sentinel Stainless Steel 45 OSW		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.5E+00	4.9E+02	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	8.9E-08	-7.3E-06	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10	8.7E-08	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.6E-04	1.3E-01	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.6E-04	-	9.5E-07
		AP (kg SO2 eq)	1.4E-04	7.4E-03	3.6E+00	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.3E-03	-	2.5E-05
		EP (kg PO4 eq)	2.5E-05	1.0E-03	1.0E+00	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	3.4E-05	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.5E+01	7.4E+03	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02
	Japan	GWP (kg CO2)	3.2E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	8.3E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.3E-13	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10	8.7E-08	3.9E-06	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.6E-04	3.6E-01	9.5E-07
		AP (kg SO2 eq)	1.2E-04	7.4E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.3E-03	5.0E+00	2.5E-05
		EP (kg PO4 eq)	2.2E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	5.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	6.3E-05	3.1E-09
		AD -fossil fuels (MJ)	4.3E-01	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	9.3E+03	5.4E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.5E+00	4.7E+02	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	5.8E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	8.9E-08	1.7E-06	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10	8.7E-08	6.1E-07	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.6E-04	1.1E-01	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.6E-04	1.4E-01	9.5E-07
		AP (kg SO2 eq)	1.4E-04	7.4E-03	3.1E+00	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.3E-03	3.9E+00	2.5E-05
		EP (kg PO4 eq)	2.5E-05	1.0E-03	8.7E-01	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	1.1E+00	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	3.7E-05	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	4.5E-05	3.1E-09
		AD -fossil fuels (MJ)	4.9E-01	2.5E+01	7.1E+03	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	8.8E+03	5.4E-02
South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	5.8E+02	2.1E-02	
	ODP (kg CFC-11 eq)	6.1E-13	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10	8.7E-08	3.8E-06	4.3E-10	
	POP (kg C2H4 eq)	4.2E-05	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.6E-04	1.4E-01	9.5E-07	
	AP (kg SO2 eq)	1.4E-04	7.4E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.3E-03	3.7E+00	2.5E-05	
	EP (kg PO4 eq)	2.5E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	1.0E+00	2.6E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	4.7E-05	3.1E-09	
	AD -fossil fuels (MJ)	4.9E-01	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	8.7E+03	5.4E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	Sentinel Silver 20 OSW			Sentinel Silver 35 OSW			Sentinel 4 Mil Clear OSW		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	North-East China (Beijing)	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.8E+00	-	3.8E-02
		ODP (kg CFC-11 eq)	6.1E-13	8.7E-08	-	4.3E-10	8.7E-08	-	4.3E-10	9.5E-08	-	7.9E-10
		POP (kg C2H4 eq)	4.2E-05	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	8.0E-04	-	1.6E-06
		AP (kg SO2 eq)	1.4E-04	7.3E-03	-	2.5E-05	7.1E-03	-	2.5E-05	9.4E-03	-	4.3E-05
		EP (kg PO4 eq)	2.5E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.2E-03	-	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.2E-06	-	5.6E-09
		AD -fossil fuels (MJ)	4.9E-01	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	3.1E+01	-	9.1E-02
	Japan	GWP (kg CO2)	3.2E-02	1.5E+00	8.3E+02	2.1E-02	1.5E+00	6.7E+02	2.1E-02	1.8E+00	1.5E+02	3.8E-02
		ODP (kg CFC-11 eq)	5.3E-13	8.7E-08	3.9E-06	4.3E-10	8.7E-08	2.9E-06	4.3E-10	9.5E-08	9.4E-07	7.9E-10
		POP (kg C2H4 eq)	3.7E-05	6.6E-04	3.6E-01	9.5E-07	6.5E-04	2.9E-01	9.5E-07	8.0E-04	6.5E-02	1.6E-06
		AP (kg SO2 eq)	1.2E-04	7.3E-03	5.0E+00	2.5E-05	7.1E-03	4.1E+00	2.5E-05	9.4E-03	9.1E-01	4.3E-05
		EP (kg PO4 eq)	2.2E-05	1.0E-03	5.7E-01	2.6E-05	1.0E-03	4.6E-01	2.6E-05	1.2E-03	1.0E-01	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	6.3E-05	3.1E-09	1.1E-06	5.1E-05	3.1E-09	1.2E-06	1.2E-05	5.6E-09
		AD -fossil fuels (MJ)	4.3E-01	2.5E+01	9.3E+03	5.4E-02	2.5E+01	7.5E+03	5.4E-02	3.1E+01	1.7E+03	9.1E-02
	Mid-East China (Shanghai)	GWP (kg CO2)	3.6E-02	1.5E+00	5.8E+02	2.1E-02	1.5E+00	4.7E+02	2.1E-02	1.8E+00	1.0E+02	3.8E-02
		ODP (kg CFC-11 eq)	6.1E-13	8.7E-08	6.1E-07	4.3E-10	8.7E-08	6.0E-07	4.3E-10	9.5E-08	-1.5E-07	7.9E-10
		POP (kg C2H4 eq)	4.2E-05	6.6E-04	1.4E-01	9.5E-07	6.5E-04	1.1E-01	9.5E-07	8.0E-04	2.5E-02	1.6E-06
		AP (kg SO2 eq)	1.4E-04	7.3E-03	3.9E+00	2.5E-05	7.1E-03	3.1E+00	2.5E-05	9.4E-03	6.8E-01	4.3E-05
		EP (kg PO4 eq)	2.5E-05	1.0E-03	1.1E+00	2.6E-05	1.0E-03	8.9E-01	2.6E-05	1.2E-03	1.9E-01	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	4.5E-05	3.1E-09	1.1E-06	3.7E-05	3.1E-09	1.2E-06	7.8E-06	5.6E-09
		AD -fossil fuels (MJ)	4.9E-01	2.5E+01	8.8E+03	5.4E-02	2.5E+01	7.1E+03	5.4E-02	3.1E+01	1.5E+03	9.1E-02
	South-East China (Hong Kong)	GWP (kg CO2)	3.6E-02	1.5E+00	5.8E+02	2.1E-02	1.5E+00	-	2.1E-02	1.8E+00	2.3E+01	3.8E-02
		ODP (kg CFC-11 eq)	6.1E-13	8.7E-08	3.8E-06	4.3E-10	8.7E-08	-	4.3E-10	9.5E-08	1.5E-07	7.9E-10
		POP (kg C2H4 eq)	4.2E-05	6.6E-04	1.4E-01	9.5E-07	6.5E-04	-	9.5E-07	8.0E-04	5.4E-03	1.6E-06
AP (kg SO2 eq)		1.4E-04	7.3E-03	3.7E+00	2.5E-05	7.1E-03	-	2.5E-05	9.4E-03	1.5E-01	4.3E-05	
EP (kg PO4 eq)		2.5E-05	1.0E-03	1.0E+00	2.6E-05	1.0E-03	-	2.6E-05	1.2E-03	4.1E-02	4.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.1E-06	4.7E-05	3.1E-09	1.1E-06	-	3.1E-09	1.2E-06	1.8E-06	5.6E-09	
AD -fossil fuels (MJ)		4.9E-01	2.5E+01	8.7E+03	5.4E-02	2.5E+01	-	5.4E-02	3.1E+01	3.4E+02	9.1E-02	



Asia – India, Middle East, Russia, Turkey

Per 15 Years ( per square meter)		Final Product Transportation	Autumn Bronze 30			Grey Silver Grey 10			LX40/Hilite 40			LX70/ Hilite 70			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	India	GWP (kg CO2)	4.6E-02	1.5E+00	-	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	7.8E-13	6.9E-08	-	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	5.4E-05	7.0E-04	-	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
		AP (kg SO2 eq)	1.8E-04	8.2E-03	-	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05
		EP (kg PO4 eq)	3.2E-05	1.2E-03	-	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09
		AD -fossil fuels (MJ)	6.2E-01	2.5E+01	-	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.5E+00	-	2.3E-02	1.2E+00	1.2E+03	1.7E-02	2.4E+00	1.0E+03	2.5E-02	3.7E+00	8.8E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.9E-13	6.9E-08	-	4.8E-10	6.9E-08	4.2E-05	3.5E-10	1.5E-07	3.5E-05	5.0E-10	2.6E-07	3.0E-05	4.3E-10
		POP (kg C2H4 eq)	4.1E-05	7.0E-04	-	1.0E-06	5.8E-04	1.6E-01	7.9E-07	8.4E-04	1.3E-01	1.1E-06	1.2E-03	1.1E-01	9.4E-07
		AP (kg SO2 eq)	1.4E-04	8.2E-03	-	2.7E-05	5.6E-03	2.0E+00	2.1E-05	1.1E-02	1.7E+00	2.8E-05	2.2E-02	1.4E+00	2.5E-05
		EP (kg PO4 eq)	2.4E-05	1.2E-03	-	2.9E-05	7.2E-04	2.5E-01	2.1E-05	2.2E-03	2.1E-01	3.0E-05	6.5E-02	1.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	3.4E-04	2.5E-09	1.2E-06	2.9E-04	3.6E-09	3.7E-03	2.4E-04	3.0E-09
		AD -fossil fuels (MJ)	4.7E-01	2.5E+01	-	5.9E-02	2.0E+01	1.8E+04	4.5E-02	4.0E+01	1.5E+04	6.1E-02	5.6E+01	1.3E+04	5.4E-02
	Russia	GWP (kg CO2)	4.0E-02	1.5E+00	2.4E-02	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.9E-08	4.8E-10	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	7.0E-04	2.4E-05	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
		AP (kg SO2 eq)	1.6E-04	8.2E-03	2.1E-04	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05
		EP (kg PO4 eq)	2.8E-05	1.2E-03	2.1E-05	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	1.5E-09	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09
		AD -fossil fuels (MJ)	5.4E-01	2.5E+01	3.7E-01	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.5E+00	-	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	5.6E+02	2.5E-02	3.7E+00	5.1E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.9E-08	-	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	2.5E-06	5.0E-10	2.6E-07	1.4E-06	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	7.0E-04	-	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	2.0E-01	1.1E-06	1.2E-03	1.9E-01	9.4E-07
AP (kg SO2 eq)		1.6E-04	8.2E-03	-	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	4.6E+00	2.8E-05	2.2E-02	4.3E+00	2.5E-05	
EP (kg PO4 eq)		2.8E-05	1.2E-03	-	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	6.0E-01	3.0E-05	6.5E-02	5.5E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	3.4E-05	3.6E-09	3.7E-03	3.0E-05	3.0E-09	
AD -fossil fuels (MJ)		5.4E-01	2.5E+01	-	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	8.6E+03	6.1E-02	5.6E+01	7.9E+03	5.4E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	Quantum Silver Quantum 10			Quantum Silver Quantum 20			Silver AG 25 Low-E			Silver AG Low-e 50		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	India	GWP (kg CO2)	4.6E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	-	2.0E-02
		ODP (kg CFC-11 eq)	7.8E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	-	4.1E-10
		POP (kg C2H4 eq)	5.4E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	-	9.1E-07
		AP (kg SO2 eq)	1.8E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	-	2.4E-05
		EP (kg PO4 eq)	3.2E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	-	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	-	2.9E-09
		AD -fossil fuels (MJ)	6.2E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	-	5.2E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.5E+00	1.3E+03	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	1.4E+03	2.0E-02	1.5E+00	9.4E+02	2.0E-02
		ODP (kg CFC-11 eq)	5.9E-13	7.0E-08	4.4E-05	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	4.8E-05	4.1E-10	7.2E-08	3.2E-05	4.1E-10
		POP (kg C2H4 eq)	4.1E-05	7.0E-04	1.7E-01	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	1.8E-01	9.1E-07	6.8E-04	1.2E-01	9.1E-07
		AP (kg SO2 eq)	1.4E-04	8.2E-03	2.1E+00	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	2.3E+00	2.4E-05	8.5E-03	1.5E+00	2.4E-05
		EP (kg PO4 eq)	2.4E-05	8.5E-04	2.7E-01	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	2.9E-01	2.5E-05	1.2E-03	1.9E-01	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	3.6E-04	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	3.9E-04	2.9E-09	4.1E-04	2.6E-04	2.9E-09
		AD -fossil fuels (MJ)	4.7E-01	2.6E+01	1.9E+04	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	2.0E+04	5.2E-02	2.4E+01	1.4E+04	5.2E-02
	Russia	GWP (kg CO2)	4.0E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	-	2.0E-02
		ODP (kg CFC-11 eq)	6.8E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	-	4.1E-10
		POP (kg C2H4 eq)	4.7E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	-	9.1E-07
		AP (kg SO2 eq)	1.6E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	-	2.4E-05
		EP (kg PO4 eq)	2.8E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	-	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	-	2.9E-09
		AD -fossil fuels (MJ)	5.4E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	-	5.2E-02
Turkey	GWP (kg CO2)	4.0E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	7.3E+02	2.0E-02	1.5E+00	5.0E+02	2.0E-02	
	ODP (kg CFC-11 eq)	6.8E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	3.2E-06	4.1E-10	7.2E-08	2.3E-06	4.1E-10	
	POP (kg C2H4 eq)	4.7E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	2.6E-01	9.1E-07	6.8E-04	1.8E-01	9.1E-07	
	AP (kg SO2 eq)	1.6E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	6.0E+00	2.4E-05	8.5E-03	4.1E+00	2.4E-05	
	EP (kg PO4 eq)	2.8E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	7.7E-01	2.5E-05	1.2E-03	5.3E-01	2.5E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	4.4E-05	2.9E-09	4.1E-04	3.0E-05	2.9E-09	
	AD -fossil fuels (MJ)	5.4E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	1.1E+04	5.2E-02	2.4E+01	7.7E+03	5.2E-02	



Per 15 Years (per square meter)		Final Product Transportation	Silver 20			Silver 35			Silver 50			Slate 10			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	India	GWP (kg CO2)	4.6E-02	1.3E+00	-	2.2E-02	1.3E+00	-	2.0E-02	1.3E+00	-	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	7.8E-13	7.1E-08	-	4.4E-10	6.9E-08	-	4.1E-10	7.1E-08	-	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	5.4E-05	6.7E-04	-	9.7E-07	6.1E-04	-	9.0E-07	6.6E-04	-	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	1.8E-04	6.9E-03	-	2.6E-05	6.7E-03	-	2.4E-05	6.7E-03	-	2.6E-05	1.1E-02	-	2.6E-05
		EP (kg PO4 eq)	3.2E-05	7.9E-04	-	2.7E-05	7.8E-04	-	2.5E-05	7.8E-04	-	2.7E-05	1.4E-03	-	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	-	3.2E-09	7.1E-07	-	2.9E-09	7.8E-07	-	3.2E-09	7.1E-04	-	3.3E-09
		AD -fossil fuels (MJ)	6.2E-01	2.4E+01	-	5.5E-02	2.3E+01	-	5.2E-02	2.3E+01	-	5.5E-02	2.7E+01	-	5.7E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.3E+00	1.3E+03	2.2E-02	1.3E+00	1.1E+03	2.0E-02	1.3E+00	8.1E+02	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	5.9E-13	7.1E-08	4.5E-05	4.4E-10	6.9E-08	3.8E-05	4.1E-10	7.1E-08	2.7E-05	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	4.1E-05	6.7E-04	1.7E-01	9.7E-07	6.1E-04	1.4E-01	9.0E-07	6.6E-04	1.0E-01	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	1.4E-04	6.9E-03	2.2E+00	2.6E-05	6.7E-03	1.9E+00	2.4E-05	6.7E-03	1.3E+00	2.6E-05	1.1E-02	-	2.6E-05
		EP (kg PO4 eq)	2.4E-05	7.9E-04	2.7E-01	2.7E-05	7.8E-04	2.3E-01	2.5E-05	7.8E-04	1.7E-01	2.7E-05	1.4E-03	-	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	3.7E-04	3.2E-09	7.1E-07	3.1E-04	2.9E-09	7.8E-07	2.2E-04	3.2E-09	7.1E-04	-	3.3E-09
		AD -fossil fuels (MJ)	4.7E-01	2.4E+01	1.9E+04	5.5E-02	2.3E+01	1.6E+04	5.2E-02	2.3E+01	1.2E+04	5.5E-02	2.7E+01	-	5.7E-02
	Russia	GWP (kg CO2)	4.0E-02	1.3E+00	4.5E+02	2.2E-02	1.3E+00	-	2.0E-02	1.3E+00	-	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	6.8E-13	7.1E-08	-8.3E-06	4.4E-10	6.9E-08	-	4.1E-10	7.1E-08	-	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	4.7E-05	6.7E-04	5.8E-01	9.7E-07	6.1E-04	-	9.0E-07	6.6E-04	-	9.7E-07	7.9E-04	-	9.9E-07
		AP (kg SO2 eq)	1.6E-04	6.9E-03	5.0E+00	2.6E-05	6.7E-03	-	2.4E-05	6.7E-03	-	2.6E-05	1.1E-02	-	2.6E-05
		EP (kg PO4 eq)	2.8E-05	7.9E-04	4.8E-01	2.7E-05	7.8E-04	-	2.5E-05	7.8E-04	-	2.7E-05	1.4E-03	-	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	1.5E-05	3.2E-09	7.1E-07	-	2.9E-09	7.8E-07	-	3.2E-09	7.1E-04	-	3.3E-09
		AD -fossil fuels (MJ)	5.4E-01	2.4E+01	7.0E+03	5.5E-02	2.3E+01	-	5.2E-02	2.3E+01	-	5.5E-02	2.7E+01	-	5.7E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.3E+00	7.7E+02	2.2E-02	1.3E+00	6.1E+02	2.0E-02	1.3E+00	4.5E+02	2.2E-02	1.6E+00	-	2.2E-02
		ODP (kg CFC-11 eq)	6.8E-13	7.1E-08	3.9E-07	4.4E-10	6.9E-08	1.0E-06	4.1E-10	7.1E-08	4.3E-07	4.4E-10	6.6E-08	-	4.6E-10
		POP (kg C2H4 eq)	4.7E-05	6.7E-04	2.8E-01	9.7E-07	6.1E-04	2.2E-01	9.0E-07	6.6E-04	1.6E-01	9.7E-07	7.9E-04	-	9.9E-07
AP (kg SO2 eq)		1.6E-04	6.9E-03	6.4E+00	2.6E-05	6.7E-03	5.1E+00	2.4E-05	6.7E-03	3.8E+00	2.6E-05	1.1E-02	-	2.6E-05	
EP (kg PO4 eq)		2.8E-05	7.9E-04	8.3E-01	2.7E-05	7.8E-04	6.5E-01	2.5E-05	7.8E-04	4.9E-01	2.7E-05	1.4E-03	-	2.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.8E-07	4.4E-05	3.2E-09	7.1E-07	3.5E-05	2.9E-09	7.8E-07	2.6E-05	3.2E-09	7.1E-04	-	3.3E-09	
AD -fossil fuels (MJ)		5.4E-01	2.4E+01	1.2E+04	5.5E-02	2.3E+01	9.3E+03	5.2E-02	2.3E+01	6.9E+03	5.5E-02	2.7E+01	-	5.7E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Slate 20			Slate 30			Slate 40			Solar Bronze 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	India	GWP (kg CO2)	4.6E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	-	1.9E-02
		ODP (kg CFC-11 eq)	7.8E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	-	3.9E-10
		POP (kg C2H4 eq)	5.4E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	-	8.8E-07
		AP (kg SO2 eq)	1.8E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	-	2.3E-05
		EP (kg PO4 eq)	3.2E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	-	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	-	2.8E-09
		AD -fossil fuels (MJ)	6.2E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	-	5.0E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	1.4E+03	1.9E-02
		ODP (kg CFC-11 eq)	5.9E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	4.9E-05	3.9E-10
		POP (kg C2H4 eq)	4.1E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	1.8E-01	8.8E-07
		AP (kg SO2 eq)	1.4E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	2.4E+00	2.3E-05
		EP (kg PO4 eq)	2.4E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	3.0E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	4.0E-04	2.8E-09
		AD -fossil fuels (MJ)	4.7E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	2.1E+04	5.0E-02
	Russia	GWP (kg CO2)	4.0E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	4.3E+02	1.9E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	-9.3E-06	3.9E-10
		POP (kg C2H4 eq)	4.7E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	5.6E-01	8.8E-07
		AP (kg SO2 eq)	1.6E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	4.8E+00	2.3E-05
		EP (kg PO4 eq)	2.8E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	4.7E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	1.4E-05	2.8E-09
		AD -fossil fuels (MJ)	5.4E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	6.7E+03	5.0E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	7.6E+02	1.9E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	-	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	1.4E-06	3.9E-10
		POP (kg C2H4 eq)	4.7E-05	7.5E-04	-	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	2.8E-01	8.8E-07
AP (kg SO2 eq)		1.6E-04	9.8E-03	-	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	6.3E+00	2.3E-05	
EP (kg PO4 eq)		2.8E-05	1.2E-03	-	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	8.2E-01	2.4E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.7E-04	-	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	4.5E-05	2.8E-09	
AD -fossil fuels (MJ)		5.4E-01	2.6E+01	-	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	1.2E+04	5.0E-02	



Per 15 Years (per square meter)		Final Product Transportation	Solar Bronze 35			Solar Bronze 50			Stainless Steel 10			Stainless Steel 20			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	India	GWP (kg CO2)	4.6E-02	1.3E+00	-	1.9E-02	1.3E+00	-	1.9E-02	1.3E+00	6.3E+02	2.1E-02	1.3E+00	4.8E+02	2.1E-02
		ODP (kg CFC-11 eq)	7.8E-13	6.8E-08	-	3.9E-10	6.9E-08	-	3.9E-10	6.5E-08	5.2E-06	4.3E-10	6.5E-08	4.0E-06	4.3E-10
		POP (kg C2H4 eq)	5.4E-05	6.1E-04	-	8.8E-07	6.1E-04	-	8.8E-07	6.6E-04	3.2E-01	9.5E-07	6.6E-04	2.5E-01	9.5E-07
		AP (kg SO2 eq)	1.8E-04	6.8E-03	-	2.3E-05	6.8E-03	-	2.3E-05	6.9E-03	6.4E+00	2.5E-05	6.8E-03	5.0E+00	2.5E-05
		EP (kg PO4 eq)	3.2E-05	7.7E-04	-	2.4E-05	8.1E-04	-	2.4E-05	7.3E-04	7.9E-02	2.6E-05	7.2E-04	6.1E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	2.8E-09	1.2E-06	-	2.8E-09	8.4E-07	2.3E-05	3.1E-09	7.8E-07	1.8E-05	3.1E-09
		AD- fossil fuels (MJ)	6.2E-01	2.2E+01	-	5.0E-02	2.3E+01	-	5.0E-02	2.3E+01	9.8E+03	5.4E-02	2.3E+01	7.6E+03	5.4E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.3E+00	1.2E+03	1.9E-02	1.3E+00	1.1E+03	1.9E-02	1.3E+00	4.3E+02	2.1E-02	1.3E+00	3.3E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.9E-13	6.8E-08	4.2E-05	3.9E-10	6.9E-08	3.6E-05	3.9E-10	6.5E-08	1.7E-05	4.3E-10	6.5E-08	1.3E-05	4.3E-10
		POP (kg C2H4 eq)	4.1E-05	6.1E-04	1.6E-01	8.8E-07	6.1E-04	1.4E-01	8.8E-07	6.6E-04	9.7E-02	9.5E-07	6.6E-04	7.5E-02	9.5E-07
		AP (kg SO2 eq)	1.4E-04	6.8E-03	2.0E+00	2.3E-05	6.8E-03	1.8E+00	2.3E-05	6.9E-03	5.3E-01	2.5E-05	6.8E-03	4.1E-01	2.5E-05
		EP (kg PO4 eq)	2.4E-05	7.7E-04	2.6E-01	2.4E-05	8.1E-04	2.2E-01	2.4E-05	7.3E-04	2.8E-01	2.6E-05	7.2E-04	2.1E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	3.4E-04	2.8E-09	1.2E-06	3.0E-04	2.8E-09	8.4E-07	1.3E-03	3.1E-09	7.8E-07	1.0E-03	3.1E-09
		AD- fossil fuels (MJ)	4.7E-01	2.2E+01	1.8E+04	5.0E-02	2.3E+01	1.5E+04	5.0E-02	2.3E+01	2.3E+03	5.4E-02	2.3E+01	1.7E+03	5.4E-02
	Russia	GWP (kg CO2)	4.0E-02	1.3E+00	3.9E+02	1.9E-02	1.3E+00	-1.1E+02	1.9E-02	1.3E+00	1.1E+03	2.1E-02	1.3E+00	8.5E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.8E-08	-6.8E-06	3.9E-10	6.9E-08	-1.7E-05	3.9E-10	6.5E-08	1.3E-06	4.3E-10	6.5E-08	9.8E-07	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	6.1E-04	5.0E-01	8.8E-07	6.1E-04	-1.2E-02	8.8E-07	6.6E-04	1.3E+00	9.5E-07	6.6E-04	1.0E+00	9.5E-07
		AP (kg SO2 eq)	1.6E-04	6.8E-03	4.3E+00	2.3E-05	6.8E-03	-1.1E-01	2.3E-05	6.9E-03	2.6E+01	2.5E-05	6.8E-03	2.0E+01	2.5E-05
		EP (kg PO4 eq)	2.8E-05	7.7E-04	4.1E-01	2.4E-05	8.1E-04	-1.8E-02	2.4E-05	7.3E-04	2.3E-01	2.6E-05	7.2E-04	1.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	1.4E-05	2.8E-09	1.2E-06	-1.8E-05	2.8E-09	8.4E-07	2.2E-05	3.1E-09	7.8E-07	1.7E-05	3.1E-09
		AD- fossil fuels (MJ)	5.4E-01	2.2E+01	6.0E+03	5.0E-02	2.3E+01	-1.7E+03	5.0E-02	2.3E+01	1.4E+04	5.4E-02	2.3E+01	1.1E+04	5.4E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.3E+00	6.7E+02	1.9E-02	1.3E+00	5.9E+02	1.9E-02	1.3E+00	9.5E+02	2.1E-02	1.3E+00	7.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.8E-08	1.7E-06	3.9E-10	6.9E-08	1.3E-06	3.9E-10	6.5E-08	2.1E-06	4.3E-10	6.5E-08	2.2E-06	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	6.1E-04	2.4E-01	8.8E-07	6.1E-04	2.1E-01	8.8E-07	6.6E-04	6.1E-01	9.5E-07	6.6E-04	4.6E-01	9.5E-07
		AP (kg SO2 eq)	1.6E-04	6.8E-03	5.6E+00	2.3E-05	6.8E-03	4.9E+00	2.3E-05	6.9E-03	7.7E+00	2.5E-05	6.8E-03	5.8E+00	2.5E-05
		EP (kg PO4 eq)	2.8E-05	7.7E-04	7.2E-01	2.4E-05	8.1E-04	6.3E-01	2.4E-05	7.3E-04	1.0E+00	2.6E-05	7.2E-04	7.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	4.0E-05	2.8E-09	1.2E-06	3.5E-05	2.8E-09	8.4E-07	4.0E-05	3.1E-09	7.8E-07	3.1E-05	3.1E-09
		AD- fossil fuels (MJ)	5.4E-01	2.2E+01	1.0E+04	5.0E-02	2.3E+01	9.0E+03	5.0E-02	2.3E+01	1.5E+04	5.4E-02	2.3E+01	1.1E+04	5.4E-02



Per 15 Years ( per square meter)		Final Product Transportation	Stainless Steel 30			Stainless Steel 35			Stainless Steel 50			Sterling 20			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	India	GWP (kg CO2)	4.6E-02	1.3E+00	-	2.1E-02	1.2E+00	-	1.9E-02	1.2E+00	-	1.9E-02	1.4E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	7.8E-13	6.5E-08	-	4.3E-10	6.2E-08	-	3.9E-10	6.2E-08	-	3.9E-10	6.8E-08	-	4.3E-10
		POP (kg C2H4 eq)	5.4E-05	6.4E-04	-	9.5E-07	5.9E-04	-	8.7E-07	5.8E-04	-	8.7E-07	7.1E-04	-	9.5E-07
		AP (kg SO2 eq)	1.8E-04	6.5E-03	-	2.5E-05	6.4E-03	-	2.3E-05	6.2E-03	-	2.3E-05	8.7E-03	-	2.5E-05
		EP (kg PO4 eq)	3.2E-05	7.1E-04	-	2.6E-05	7.0E-04	-	2.3E-05	6.9E-04	-	2.3E-05	1.3E-03	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	3.1E-09	6.5E-07	-	2.8E-09	6.4E-07	-	2.8E-09	6.7E-04	-	3.1E-09
		AD -fossil fuels (MJ)	6.2E-01	2.3E+01	-	5.4E-02	2.2E+01	-	5.0E-02	2.1E+01	-	5.0E-02	2.4E+01	-	5.4E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.3E+00	2.7E+02	2.1E-02	1.2E+00	-	1.9E-02	1.2E+00	2.4E+02	1.9E-02	1.4E+00	4.2E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.9E-13	6.5E-08	1.1E-05	4.3E-10	6.2E-08	-	3.9E-10	6.2E-08	9.6E-06	3.9E-10	6.8E-08	1.7E-05	4.3E-10
		POP (kg C2H4 eq)	4.1E-05	6.4E-04	6.2E-02	9.5E-07	5.9E-04	-	8.7E-07	5.8E-04	5.6E-02	8.7E-07	7.1E-04	9.6E-02	9.5E-07
		AP (kg SO2 eq)	1.4E-04	6.5E-03	3.4E-01	2.5E-05	6.4E-03	-	2.3E-05	6.2E-03	3.1E-01	2.3E-05	8.7E-03	5.3E-01	2.5E-05
		EP (kg PO4 eq)	2.4E-05	7.1E-04	1.8E-01	2.6E-05	7.0E-04	-	2.3E-05	6.9E-04	1.6E-01	2.3E-05	1.3E-03	2.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	8.6E-04	3.1E-09	6.5E-07	-	2.8E-09	6.4E-07	7.8E-04	2.8E-09	6.7E-04	1.3E-03	3.1E-09
		AD -fossil fuels (MJ)	4.7E-01	2.3E+01	1.4E+03	5.4E-02	2.2E+01	-	5.0E-02	2.1E+01	1.3E+03	5.0E-02	2.4E+01	2.2E+03	5.4E-02
	Russia	GWP (kg CO2)	4.0E-02	1.3E+00	-	2.1E-02	1.2E+00	6.1E+02	1.9E-02	1.2E+00	-	1.9E-02	1.4E+00	1.0E+03	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	-	4.3E-10	6.2E-08	7.1E-07	3.9E-10	6.2E-08	-	3.9E-10	6.8E-08	-1.7E-05	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	6.4E-04	-	9.5E-07	5.9E-04	7.1E-01	8.7E-07	5.8E-04	-	8.7E-07	7.1E-04	1.3E+00	9.5E-07
		AP (kg SO2 eq)	1.6E-04	6.5E-03	-	2.5E-05	6.4E-03	1.5E+01	2.3E-05	6.2E-03	-	2.3E-05	8.7E-03	2.8E+01	2.5E-05
		EP (kg PO4 eq)	2.8E-05	7.1E-04	-	2.6E-05	7.0E-04	1.3E-01	2.3E-05	6.9E-04	-	2.3E-05	1.3E-03	2.2E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	3.1E-09	6.5E-07	1.2E-05	2.8E-09	6.4E-07	-	2.8E-09	6.7E-04	3.8E-06	3.1E-09
		AD -fossil fuels (MJ)	5.4E-01	2.3E+01	-	5.4E-02	2.2E+01	7.6E+03	5.0E-02	2.1E+01	-	5.0E-02	2.4E+01	1.3E+04	5.4E-02
Turkey	GWP (kg CO2)	4.0E-02	1.3E+00	5.8E+02	2.1E-02	1.2E+00	-	1.9E-02	1.2E+00	4.9E+02	1.9E-02	1.4E+00	9.4E+02	2.1E-02	
	ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	1.7E-06	4.3E-10	6.2E-08	-	3.9E-10	6.2E-08	1.3E-06	3.9E-10	6.8E-08	1.5E-06	4.3E-10	
	POP (kg C2H4 eq)	4.7E-05	6.4E-04	3.7E-01	9.5E-07	5.9E-04	-	8.7E-07	5.8E-04	3.2E-01	8.7E-07	7.1E-04	6.1E-01	9.5E-07	
	AP (kg SO2 eq)	1.6E-04	6.5E-03	4.7E+00	2.5E-05	6.4E-03	-	2.3E-05	6.2E-03	4.0E+00	2.3E-05	8.7E-03	7.7E+00	2.5E-05	
	EP (kg PO4 eq)	2.8E-05	7.1E-04	6.2E-01	2.6E-05	7.0E-04	-	2.3E-05	6.9E-04	5.2E-01	2.3E-05	1.3E-03	1.0E+00	2.6E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	2.5E-05	3.1E-09	6.5E-07	-	2.8E-09	6.4E-07	2.1E-05	2.8E-09	6.7E-04	3.9E-05	3.1E-09	
	AD -fossil fuels (MJ)	5.4E-01	2.3E+01	8.9E+03	5.4E-02	2.2E+01	-	5.0E-02	2.1E+01	7.5E+03	5.0E-02	2.4E+01	1.4E+04	5.4E-02	





Per 15 Years (per square meter)		Final Product Transportation	Sterling 40			Sterling 50			Sterling 60			Sterling 70			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	India	GWP (kg CO2)	4.6E-02	1.3E+00	-	1.9E-02	1.3E+00	4.7E+02	2.1E-02	1.3E+00	3.6E+02	2.1E-02	1.3E+00	5.3E+02	2.1E-02
		ODP (kg CFC-11 eq)	7.8E-13	6.4E-08	-	3.9E-10	6.7E-08	3.9E-06	4.3E-10	6.6E-08	2.9E-06	4.3E-10	6.6E-08	4.4E-06	4.3E-10
		POP (kg C2H4 eq)	5.4E-05	6.3E-04	-	8.7E-07	6.7E-04	2.4E-01	9.4E-07	6.6E-04	1.8E-01	9.4E-07	6.5E-04	2.7E-01	9.4E-07
		AP (kg SO2 eq)	1.8E-04	7.7E-03	-	2.3E-05	7.5E-03	4.8E+00	2.5E-05	7.2E-03	3.7E+00	2.5E-05	6.9E-03	5.4E+00	2.5E-05
		EP (kg PO4 eq)	3.2E-05	1.1E-03	-	2.3E-05	1.0E-03	5.9E-02	2.6E-05	9.4E-04	4.5E-02	2.6E-05	8.4E-04	6.6E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	-	2.8E-09	3.6E-04	1.7E-05	3.1E-09	2.7E-04	1.3E-05	3.1E-09	1.7E-04	1.9E-05	3.1E-09
		AD -fossil fuels (MJ)	6.2E-01	2.3E+01	-	5.0E-02	2.3E+01	7.3E+03	5.4E-02	2.3E+01	5.5E+03	5.4E-02	2.3E+01	8.2E+03	5.4E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.3E+00	-2.1E+00	1.9E-02	1.3E+00	-2.1E+00	2.1E-02	1.3E+00	2.0E+02	2.1E-02	1.3E+00	3.6E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.9E-13	6.4E-08	-3.2E-07	3.9E-10	6.7E-08	-3.2E-07	4.3E-10	6.6E-08	7.8E-06	4.3E-10	6.6E-08	1.4E-05	4.3E-10
		POP (kg C2H4 eq)	4.1E-05	6.3E-04	-2.3E-04	8.7E-07	6.7E-04	-2.3E-04	9.4E-07	6.6E-04	4.5E-02	9.4E-07	6.5E-04	8.1E-02	9.4E-07
		AP (kg SO2 eq)	1.4E-04	7.7E-03	-2.1E-03	2.3E-05	7.5E-03	-2.1E-03	2.5E-05	7.2E-03	2.5E-01	2.5E-05	6.9E-03	4.5E-01	2.5E-05
		EP (kg PO4 eq)	2.4E-05	1.1E-03	-3.5E-04	2.3E-05	1.0E-03	-3.5E-04	2.6E-05	9.4E-04	1.3E-01	2.6E-05	8.4E-04	2.3E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	-3.5E-07	2.8E-09	3.6E-04	-3.5E-07	3.1E-09	2.7E-04	6.2E-04	3.1E-09	1.7E-04	1.1E-03	3.1E-09
		AD -fossil fuels (MJ)	4.7E-01	2.3E+01	-3.2E+01	5.0E-02	2.3E+01	-3.2E+01	5.4E-02	2.3E+01	1.0E+03	5.4E-02	2.3E+01	1.9E+03	5.4E-02
	Russia	GWP (kg CO2)	4.0E-02	1.3E+00	8.5E+02	1.9E-02	1.3E+00	7.3E+02	2.1E-02	1.3E+00	6.2E+02	2.1E-02	1.3E+00	-8.4E+01	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.4E-08	-1.2E-05	3.9E-10	6.7E-08	-1.2E-05	4.3E-10	6.6E-08	7.2E-07	4.3E-10	6.6E-08	-1.3E-05	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	6.3E-04	1.1E+00	8.7E-07	6.7E-04	9.5E-01	9.4E-07	6.6E-04	7.2E-01	9.4E-07	6.5E-04	-9.3E-03	9.4E-07
		AP (kg SO2 eq)	1.6E-04	7.7E-03	2.2E+01	2.3E-05	7.5E-03	1.9E+01	2.5E-05	7.2E-03	1.5E+01	2.5E-05	6.9E-03	-8.4E-02	2.5E-05
		EP (kg PO4 eq)	2.8E-05	1.1E-03	1.8E-01	2.3E-05	1.0E-03	1.6E-01	2.6E-05	9.4E-04	1.3E-01	2.6E-05	8.4E-04	-1.4E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	5.2E-06	2.8E-09	3.6E-04	2.8E-06	3.1E-09	2.7E-04	1.3E-05	3.1E-09	1.7E-04	-1.4E-05	3.1E-09
		AD -fossil fuels (MJ)	5.4E-01	2.3E+01	1.0E+04	5.0E-02	2.3E+01	8.9E+03	5.4E-02	2.3E+01	7.7E+03	5.4E-02	2.3E+01	-1.3E+03	5.4E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.3E+00	7.3E+02	1.9E-02	1.3E+00	6.1E+02	2.1E-02	1.3E+00	4.0E+02	2.1E-02	1.3E+00	7.3E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.4E-08	2.6E-06	3.9E-10	6.7E-08	2.1E-06	4.3E-10	6.6E-08	1.6E-06	4.3E-10	6.6E-08	2.6E-06	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	6.3E-04	4.7E-01	8.7E-07	6.7E-04	3.9E-01	9.4E-07	6.6E-04	2.6E-01	9.4E-07	6.5E-04	4.7E-01	9.4E-07
AP (kg SO2 eq)		1.6E-04	7.7E-03	5.9E+00	2.3E-05	7.5E-03	4.9E+00	2.5E-05	7.2E-03	3.2E+00	2.5E-05	6.9E-03	5.8E+00	2.5E-05	
EP (kg PO4 eq)		2.8E-05	1.1E-03	7.8E-01	2.3E-05	1.0E-03	6.5E-01	2.6E-05	9.4E-04	4.3E-01	2.6E-05	8.4E-04	7.7E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.4E-04	3.2E-05	2.8E-09	3.6E-04	2.7E-05	3.1E-09	2.7E-04	1.8E-05	3.1E-09	1.7E-04	3.2E-05	3.1E-09	
AD -fossil fuels (MJ)		5.4E-01	2.3E+01	1.1E+04	5.0E-02	2.3E+01	9.4E+03	5.4E-02	2.3E+01	6.2E+03	5.4E-02	2.3E+01	1.1E+04	5.4E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	TrueVue 5			TrueVue 15			TrueVue 30			TrueVue 40		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	India	GWP (kg CO2)	4.6E-02	1.3E+00	-	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02
		ODP (kg CFC-11 eq)	7.8E-13	6.5E-08	-	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10
		POP (kg C2H4 eq)	5.4E-05	6.2E-04	-	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07
		AP (kg SO2 eq)	1.8E-04	7.9E-03	-	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05
		EP (kg PO4 eq)	3.2E-05	1.2E-03	-	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09
		AD -fossil fuels (MJ)	6.2E-01	2.2E+01	-	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.3E+00	1.5E+03	1.8E-02	1.3E+00	1.5E+03	1.8E-02	1.2E+00	1.1E+03	1.8E-02	1.2E+00	8.2E+02	1.8E-02
		ODP (kg CFC-11 eq)	5.9E-13	6.5E-08	5.2E-05	3.6E-10	6.5E-08	5.0E-05	3.6E-10	6.4E-08	3.6E-05	3.5E-10	6.3E-08	2.8E-05	3.5E-10
		POP (kg C2H4 eq)	4.1E-05	6.2E-04	2.0E-01	8.1E-07	6.2E-04	1.9E-01	8.1E-07	5.8E-04	1.3E-01	8.1E-07	5.7E-04	1.0E-01	8.1E-07
		AP (kg SO2 eq)	1.4E-04	7.9E-03	2.5E+00	2.1E-05	7.9E-03	2.4E+00	2.1E-05	6.8E-03	1.7E+00	2.1E-05	6.6E-03	1.3E+00	2.1E-05
		EP (kg PO4 eq)	2.4E-05	1.2E-03	3.2E-01	2.2E-05	1.2E-03	3.0E-01	2.2E-05	9.6E-04	2.2E-01	2.2E-05	8.9E-04	1.7E-01	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	4.3E-04	2.5E-09	6.3E-04	4.1E-04	2.5E-09	3.3E-04	2.9E-04	2.5E-09	2.5E-04	2.3E-04	2.5E-09
		AD -fossil fuels (MJ)	4.7E-01	2.2E+01	2.2E+04	4.6E-02	2.2E+01	2.1E+04	4.6E-02	2.1E+01	1.5E+04	4.6E-02	2.1E+01	1.2E+04	4.6E-02
	Russia	GWP (kg CO2)	4.0E-02	1.3E+00	-	1.8E-02	1.3E+00	4.3E+02	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	-	3.6E-10	6.5E-08	-1.2E-05	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10
		POP (kg C2H4 eq)	4.7E-05	6.2E-04	-	8.1E-07	6.2E-04	5.8E-01	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07
		AP (kg SO2 eq)	1.6E-04	7.9E-03	-	2.1E-05	7.9E-03	5.0E+00	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05
		EP (kg PO4 eq)	2.8E-05	1.2E-03	-	2.2E-05	1.2E-03	4.8E-01	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	1.2E-05	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09
		AD -fossil fuels (MJ)	5.4E-01	2.2E+01	-	4.6E-02	2.2E+01	6.6E+03	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.3E+00	8.1E+02	1.8E-02	1.3E+00	7.7E+02	1.8E-02	1.2E+00	5.7E+02	1.8E-02	1.2E+00	4.5E+02	1.8E-02
		ODP (kg CFC-11 eq)	6.8E-13	6.5E-08	1.9E-06	3.6E-10	6.5E-08	3.0E-07	3.6E-10	6.4E-08	2.6E-06	3.5E-10	6.3E-08	2.1E-06	3.5E-10
		POP (kg C2H4 eq)	4.7E-05	6.2E-04	2.9E-01	8.1E-07	6.2E-04	2.8E-01	8.1E-07	5.8E-04	2.1E-01	8.1E-07	5.7E-04	1.6E-01	8.1E-07
AP (kg SO2 eq)		1.6E-04	7.9E-03	6.7E+00	2.1E-05	7.9E-03	6.5E+00	2.1E-05	6.8E-03	4.7E+00	2.1E-05	6.6E-03	3.7E+00	2.1E-05	
EP (kg PO4 eq)		2.8E-05	1.2E-03	8.7E-01	2.2E-05	1.2E-03	8.4E-01	2.2E-05	9.6E-04	6.1E-01	2.2E-05	8.9E-04	4.8E-01	2.1E-05	
AD- non fossil (kg Sb eq)		0.0E+00	6.4E-04	4.8E-05	2.5E-09	6.3E-04	4.5E-05	2.5E-09	3.3E-04	3.5E-05	2.5E-09	2.5E-04	2.7E-05	2.5E-09	
AD -fossil fuels (MJ)		5.4E-01	2.2E+01	1.2E+04	4.6E-02	2.2E+01	1.2E+04	4.6E-02	2.1E+01	8.8E+03	4.6E-02	2.1E+01	7.0E+03	4.6E-02	



Per 15 Years ( per square meter)		Final Product Transportation	Sentinel Stainless Steel 15 OSW			Sentinel Stainless Steel 25 OSW			Sentinel Stainless Steel 40 OSW			Sentinel Stainless Steel 45 OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Asia	India	GWP (kg CO2)	4.6E-02	1.6E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	7.8E-13	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10
		POP (kg C2H4 eq)	5.4E-05	6.9E-04	-	9.5E-07	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07
		AP (kg SO2 eq)	1.8E-04	7.9E-03	-	2.5E-05	7.4E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05
		EP (kg PO4 eq)	3.2E-05	1.1E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09
		AD -fossil fuels (MJ)	6.2E-01	2.6E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.6E+00	6.6E+02	2.1E-02	1.5E+00	5.5E+02	2.1E-02	1.5E+00	3.9E+02	2.1E-02	1.5E+00	3.3E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.9E-13	8.9E-08	2.2E-05	4.3E-10	8.9E-08	1.8E-05	4.3E-10	8.9E-08	1.3E-05	4.3E-10	8.8E-08	1.1E-05	4.3E-10
		POP (kg C2H4 eq)	4.1E-05	6.9E-04	8.4E-02	9.5E-07	6.6E-04	6.9E-02	9.5E-07	6.5E-04	5.0E-02	9.5E-07	6.5E-04	4.2E-02	9.5E-07
		AP (kg SO2 eq)	1.4E-04	7.9E-03	1.1E+00	2.5E-05	7.4E-03	9.0E-01	2.5E-05	7.2E-03	6.5E-01	2.5E-05	7.2E-03	5.4E-01	2.5E-05
		EP (kg PO4 eq)	2.4E-05	1.1E-03	1.4E-01	2.6E-05	1.0E-03	1.1E-01	2.6E-05	1.0E-03	8.1E-02	2.6E-05	1.0E-03	6.7E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	1.8E-04	3.1E-09	1.1E-06	1.5E-04	3.1E-09	1.1E-06	1.1E-04	3.1E-09	1.1E-06	9.1E-05	3.1E-09
		AD -fossil fuels (MJ)	4.7E-01	2.6E+01	9.6E+03	5.4E-02	2.5E+01	7.9E+03	5.4E-02	2.5E+01	5.7E+03	5.4E-02	2.5E+01	4.7E+03	5.4E-02
	Russia	GWP (kg CO2)	4.0E-02	1.6E+00	-	2.1E-02	1.5E+00	2.2E+02	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	8.9E-08	-	4.3E-10	8.9E-08	-6.4E-06	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	6.9E-04	-	9.5E-07	6.6E-04	2.9E-01	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07
		AP (kg SO2 eq)	1.6E-04	7.9E-03	-	2.5E-05	7.4E-03	2.5E+00	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05
		EP (kg PO4 eq)	2.8E-05	1.1E-03	-	2.6E-05	1.0E-03	2.4E-01	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	-	3.1E-09	1.1E-06	5.5E-06	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09
		AD -fossil fuels (MJ)	5.4E-01	2.6E+01	-	5.4E-02	2.5E+01	3.4E+03	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.6E+00	4.5E+02	2.1E-02	1.5E+00	3.9E+02	2.1E-02	1.5E+00	3.1E+02	2.1E-02	1.5E+00	2.8E+02	2.1E-02
		ODP (kg CFC-11 eq)	6.8E-13	8.9E-08	-5.9E-07	4.3E-10	8.9E-08	-6.2E-11	4.3E-10	8.9E-08	9.9E-08	4.3E-10	8.8E-08	1.0E-06	4.3E-10
		POP (kg C2H4 eq)	4.7E-05	6.9E-04	1.7E-01	9.5E-07	6.6E-04	1.4E-01	9.5E-07	6.5E-04	1.1E-01	9.5E-07	6.5E-04	1.0E-01	9.5E-07
AP (kg SO2 eq)		1.6E-04	7.9E-03	3.8E+00	2.5E-05	7.4E-03	3.3E+00	2.5E-05	7.2E-03	2.6E+00	2.5E-05	7.2E-03	2.3E+00	2.5E-05	
EP (kg PO4 eq)		2.8E-05	1.1E-03	4.9E-01	2.6E-05	1.0E-03	4.3E-01	2.6E-05	1.0E-03	3.4E-01	2.6E-05	1.0E-03	3.0E-01	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.2E-06	2.5E-05	3.1E-09	1.1E-06	2.2E-05	3.1E-09	1.1E-06	1.8E-05	3.1E-09	1.1E-06	1.7E-05	3.1E-09	
AD -fossil fuels (MJ)		5.4E-01	2.6E+01	6.9E+03	5.4E-02	2.5E+01	6.0E+03	5.4E-02	2.5E+01	4.7E+03	5.4E-02	2.5E+01	4.3E+03	5.4E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Sentinel Silver 20 OSW			Sentinel Silver 35 OSW			Sentinel 4 Mil Clear OSW		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Asia	India	GWP (kg CO2)	4.6E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.8E+00	-	3.8E-02
		ODP (kg CFC-11 eq)	7.8E-13	8.7E-08	-	4.3E-10	8.7E-08	-	4.3E-10	9.5E-08	-	7.9E-10
		POP (kg C2H4 eq)	5.4E-05	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	8.0E-04	-	1.6E-06
		AP (kg SO2 eq)	1.8E-04	7.3E-03	-	2.5E-05	7.1E-03	-	2.5E-05	9.4E-03	-	4.3E-05
		EP (kg PO4 eq)	3.2E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.2E-03	-	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.2E-06	-	5.6E-09
		AD -fossil fuels (MJ)	6.2E-01	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	3.1E+01	-	9.1E-02
	Middle East	GWP (kg CO2)	3.5E-02	1.5E+00	7.7E+02	2.1E-02	1.5E+00	6.0E+02	2.1E-02	1.8E+00	3.2E+01	3.8E-02
		ODP (kg CFC-11 eq)	5.9E-13	8.7E-08	2.6E-05	4.3E-10	8.7E-08	2.0E-05	4.3E-10	9.5E-08	1.1E-06	7.9E-10
		POP (kg C2H4 eq)	4.1E-05	6.6E-04	9.8E-02	9.5E-07	6.5E-04	7.6E-02	9.5E-07	8.0E-04	4.1E-03	1.6E-06
		AP (kg SO2 eq)	1.4E-04	7.3E-03	1.3E+00	2.5E-05	7.1E-03	9.8E-01	2.5E-05	9.4E-03	5.3E-02	4.3E-05
		EP (kg PO4 eq)	2.4E-05	1.0E-03	1.6E-01	2.6E-05	1.0E-03	1.2E-01	2.6E-05	1.2E-03	6.6E-03	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	2.1E-04	3.1E-09	1.1E-06	1.7E-04	3.1E-09	1.2E-06	8.9E-06	5.6E-09
		AD -fossil fuels (MJ)	4.7E-01	2.5E+01	1.1E+04	5.4E-02	2.5E+01	8.6E+03	5.4E-02	3.1E+01	4.6E+02	9.1E-02
	Russia	GWP (kg CO2)	4.0E-02	1.5E+00	2.7E+02	2.1E-02	1.5E+00	-	2.1E-02	1.8E+00	-	3.8E-02
		ODP (kg CFC-11 eq)	6.8E-13	8.7E-08	-8.5E-06	4.3E-10	8.7E-08	-	4.3E-10	9.5E-08	-	7.9E-10
		POP (kg C2H4 eq)	4.7E-05	6.6E-04	3.7E-01	9.5E-07	6.5E-04	-	9.5E-07	8.0E-04	-	1.6E-06
		AP (kg SO2 eq)	1.6E-04	7.3E-03	3.2E+00	2.5E-05	7.1E-03	-	2.5E-05	9.4E-03	-	4.3E-05
		EP (kg PO4 eq)	2.8E-05	1.0E-03	3.1E-01	2.6E-05	1.0E-03	-	2.6E-05	1.2E-03	-	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	6.6E-06	3.1E-09	1.1E-06	-	3.1E-09	1.2E-06	-	5.6E-09
		AD -fossil fuels (MJ)	5.4E-01	2.5E+01	4.2E+03	5.4E-02	2.5E+01	-	5.4E-02	3.1E+01	-	9.1E-02
	Turkey	GWP (kg CO2)	4.0E-02	1.5E+00	4.9E+02	2.1E-02	1.5E+00	4.1E+02	2.1E-02	1.8E+00	9.0E+01	3.8E-02
		ODP (kg CFC-11 eq)	6.8E-13	8.7E-08	-8.7E-07	4.3E-10	8.7E-08	4.9E-07	4.3E-10	9.5E-08	2.0E-07	7.9E-10
		POP (kg C2H4 eq)	4.7E-05	6.6E-04	1.8E-01	9.5E-07	6.5E-04	1.5E-01	9.5E-07	8.0E-04	3.3E-02	1.6E-06
AP (kg SO2 eq)		1.6E-04	7.3E-03	4.2E+00	2.5E-05	7.1E-03	3.4E+00	2.5E-05	9.4E-03	7.5E-01	4.3E-05	
EP (kg PO4 eq)		2.8E-05	1.0E-03	5.4E-01	2.6E-05	1.0E-03	4.4E-01	2.6E-05	1.2E-03	9.7E-02	4.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.1E-06	2.7E-05	3.1E-09	1.1E-06	2.4E-05	3.1E-09	1.2E-06	5.3E-06	5.6E-09	
AD -fossil fuels (MJ)		5.4E-01	2.5E+01	7.5E+03	5.4E-02	2.5E+01	6.3E+03	5.4E-02	3.1E+01	1.4E+03	9.1E-02	



## Pacific and Southern Hemisphere

		Per 15 Years ( per square meter)	Final Product Transportation	Autumn Bronze 30			Grey Silver Grey 10			LX40/Hilite 40			LX70/ Hilite 70		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.5E+00	-	2.3E-02	1.2E+00	-	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	5.7E-13	6.9E-08	-	4.8E-10	6.9E-08	-	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	4.0E-05	7.0E-04	-	1.0E-06	5.8E-04	-	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
		AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	5.6E-03	-	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05
		EP (kg PO4 eq)	2.4E-05	1.2E-03	-	2.9E-05	7.2E-04	-	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	-	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09
		AD -fossil fuels (MJ)	4.6E-01	2.5E+01	-	5.9E-02	2.0E+01	-	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02
	Australia	GWP (kg CO2)	3.2E-02	1.5E+00	-	2.3E-02	1.2E+00	3.9E+02	1.7E-02	2.4E+00	3.2E+02	2.5E-02	3.7E+00	2.7E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.4E-13	6.9E-08	-	4.8E-10	6.9E-08	1.6E-05	3.5E-10	1.5E-07	1.3E-05	5.0E-10	2.6E-07	1.1E-05	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	7.0E-04	-	1.0E-06	5.8E-04	8.8E-02	7.9E-07	8.4E-04	7.3E-02	1.1E-06	1.2E-03	6.2E-02	9.4E-07
		AP (kg SO2 eq)	1.2E-04	8.2E-03	-	2.7E-05	5.6E-03	4.8E-01	2.1E-05	1.1E-02	4.0E-01	2.8E-05	2.2E-02	3.4E-01	2.5E-05
		EP (kg PO4 eq)	2.2E-05	1.2E-03	-	2.9E-05	7.2E-04	2.5E-01	2.1E-05	2.2E-03	2.1E-01	3.0E-05	6.5E-02	1.8E-01	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	1.2E-03	2.5E-09	1.2E-06	1.0E-03	3.6E-09	3.7E-03	8.6E-04	3.0E-09
		AD -fossil fuels (MJ)	4.3E-01	2.5E+01	-	5.9E-02	2.0E+01	2.1E+03	4.5E-02	4.0E+01	1.7E+03	6.1E-02	5.6E+01	1.5E+03	5.4E-02
	Argentina	GWP (kg CO2)	2.7E-01	1.5E+00	-	2.3E-02	1.2E+00	9.4E+02	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	8.0E+02	2.1E-02
		ODP (kg CFC-11 eq)	2.3E-08	6.9E-08	-	4.8E-10	6.9E-08	1.4E-10	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-4.7E-07	4.3E-10
		POP (kg C2H4 eq)	3.8E-04	7.0E-04	-	1.0E-06	5.8E-04	1.1E+00	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	9.5E-01	9.4E-07
		AP (kg SO2 eq)	1.1E-03	8.2E-03	-	2.7E-05	5.6E-03	2.3E+01	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	1.9E+01	2.5E-05
		EP (kg PO4 eq)	2.9E-04	1.2E-03	-	2.9E-05	7.2E-04	2.0E-01	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	1.7E-01	2.6E-05
		AD- non fossil (kg Sb eq)	4.9E-07	1.8E-06	-	3.4E-09	7.4E-07	1.8E-05	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	1.5E-05	3.0E-09
		AD -fossil fuels (MJ)	3.8E+00	2.5E+01	-	5.9E-02	2.0E+01	1.2E+04	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	1.0E+04	5.4E-02
	Brazil	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.3E-02	1.2E+00	8.5E+02	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.9E-08	-	4.8E-10	6.9E-08	3.1E-06	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	7.0E-04	-	1.0E-06	5.8E-04	5.5E-01	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07
AP (kg SO2 eq)		1.4E-04	8.2E-03	-	2.7E-05	5.6E-03	6.9E+00	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05	
EP (kg PO4 eq)		2.5E-05	1.2E-03	-	2.9E-05	7.2E-04	9.1E-01	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	3.7E-05	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09	
AD -fossil fuels (MJ)		4.9E-01	2.5E+01	-	5.9E-02	2.0E+01	1.3E+04	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02	
Venezuela	GWP (kg CO2)	3.2E-02	1.5E+00	-	2.3E-02	1.2E+00	4.1E+02	1.7E-02	2.4E+00	-	2.5E-02	3.7E+00	-	2.1E-02	
	ODP (kg CFC-11 eq)	5.4E-13	6.9E-08	-	4.8E-10	6.9E-08	2.3E-07	3.5E-10	1.5E-07	-	5.0E-10	2.6E-07	-	4.3E-10	
	POP (kg C2H4 eq)	3.7E-05	7.0E-04	-	1.0E-06	5.8E-04	8.1E-02	7.9E-07	8.4E-04	-	1.1E-06	1.2E-03	-	9.4E-07	
	AP (kg SO2 eq)	1.2E-04	8.2E-03	-	2.7E-05	5.6E-03	1.0E+00	2.1E-05	1.1E-02	-	2.8E-05	2.2E-02	-	2.5E-05	
	EP (kg PO4 eq)	2.2E-05	1.2E-03	-	2.9E-05	7.2E-04	1.0E-01	2.1E-05	2.2E-03	-	3.0E-05	6.5E-02	-	2.6E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	1.8E-06	-	3.4E-09	7.4E-07	1.3E-05	2.5E-09	1.2E-06	-	3.6E-09	3.7E-03	-	3.0E-09	
	AD -fossil fuels (MJ)	4.3E-01	2.5E+01	-	5.9E-02	2.0E+01	5.1E+03	4.5E-02	4.0E+01	-	6.1E-02	5.6E+01	-	5.4E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Quantum Silver Quantum 10			Quantum Silver Quantum 20			Silver AG 25 Low-E			Silver AG Low-e 50		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.5E+00	-	2.4E-02	1.5E+00	4.0E+02	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	-	2.0E-02
		ODP (kg CFC-11 eq)	5.7E-13	7.0E-08	-	4.8E-10	7.0E-08	2.8E-06	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	-	4.1E-10
		POP (kg C2H4 eq)	4.0E-05	7.0E-04	-	1.0E-06	6.9E-04	2.1E-01	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	-	9.1E-07
		AP (kg SO2 eq)	1.3E-04	8.2E-03	-	2.7E-05	8.0E-03	4.2E+00	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	-	2.4E-05
		EP (kg PO4 eq)	2.4E-05	8.5E-04	-	2.9E-05	8.5E-04	5.1E-02	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	-	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	1.4E-05	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	-	2.9E-09
	AD -fossil fuels (MJ)	4.6E-01	2.6E+01	-	5.9E-02	2.5E+01	6.3E+03	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	-	5.2E-02	
	Australia	GWP (kg CO2)	3.2E-02	1.5E+00	4.1E+02	2.4E-02	1.5E+00	3.1E+02	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	-	2.0E-02
		ODP (kg CFC-11 eq)	5.4E-13	7.0E-08	1.6E-05	4.8E-10	7.0E-08	1.3E-05	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	-	4.1E-10
		POP (kg C2H4 eq)	3.7E-05	7.0E-04	9.2E-02	1.0E-06	6.9E-04	7.1E-02	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	-	9.1E-07
		AP (kg SO2 eq)	1.2E-04	8.2E-03	5.1E-01	2.7E-05	8.0E-03	3.9E-01	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	-	2.4E-05
		EP (kg PO4 eq)	2.2E-05	8.5E-04	2.6E-01	2.9E-05	8.5E-04	2.0E-01	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	-	2.5E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	1.3E-03	3.4E-09	7.6E-07	9.9E-04	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	-	2.9E-09
	AD -fossil fuels (MJ)	4.3E-01	2.6E+01	2.2E+03	5.9E-02	2.5E+01	1.7E+03	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	-	5.2E-02	
	Argentina	GWP (kg CO2)	2.7E-01	1.5E+00	9.6E+02	2.4E-02	1.5E+00	7.2E+02	2.4E-02	1.5E+00	1.1E+03	2.0E-02	1.5E+00	7.6E+02	2.0E-02
		ODP (kg CFC-11 eq)	2.3E-08	7.0E-08	1.8E-08	4.8E-10	7.0E-08	8.0E-07	4.8E-10	7.3E-08	-4.0E-07	4.1E-10	7.2E-08	2.9E-07	4.1E-10
		POP (kg C2H4 eq)	3.8E-04	7.0E-04	1.1E+00	1.0E-06	6.9E-04	8.4E-01	1.0E-06	7.1E-04	1.3E+00	9.1E-07	6.8E-04	9.0E-01	9.1E-07
		AP (kg SO2 eq)	1.1E-03	8.2E-03	2.3E+01	2.7E-05	8.0E-03	1.7E+01	2.7E-05	9.6E-03	2.7E+01	2.4E-05	8.5E-03	1.8E+01	2.4E-05
		EP (kg PO4 eq)	2.9E-04	8.5E-04	2.0E-01	2.9E-05	8.5E-04	1.5E-01	2.9E-05	1.5E-03	2.3E-01	2.5E-05	1.2E-03	1.6E-01	2.5E-05
		AD- non fossil (kg Sb eq)	4.9E-07	7.9E-07	1.9E-05	3.4E-09	7.6E-07	1.5E-05	3.4E-09	7.7E-04	2.1E-05	2.9E-09	4.1E-04	1.5E-05	2.9E-09
	AD -fossil fuels (MJ)	3.8E+00	2.6E+01	1.2E+04	5.9E-02	2.5E+01	9.0E+03	5.9E-02	2.5E+01	1.4E+04	5.2E-02	2.4E+01	9.5E+03	5.2E-02	
	Brazil	GWP (kg CO2)	3.6E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	-	2.0E-02
		ODP (kg CFC-11 eq)	6.1E-13	7.0E-08	-	4.8E-10	7.0E-08	-	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	-	4.1E-10
		POP (kg C2H4 eq)	4.2E-05	7.0E-04	-	1.0E-06	6.9E-04	-	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	-	9.1E-07
AP (kg SO2 eq)		1.4E-04	8.2E-03	-	2.7E-05	8.0E-03	-	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	-	2.4E-05	
EP (kg PO4 eq)		2.5E-05	8.5E-04	-	2.9E-05	8.5E-04	-	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	-	2.5E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.9E-07	-	3.4E-09	7.6E-07	-	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	-	2.9E-09	
AD -fossil fuels (MJ)	4.9E-01	2.6E+01	-	5.9E-02	2.5E+01	-	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	-	5.2E-02		
Venezuela	GWP (kg CO2)	3.2E-02	1.5E+00	4.3E+02	2.4E-02	1.5E+00	3.3E+02	2.4E-02	1.5E+00	-	2.0E-02	1.5E+00	-	2.0E-02	
	ODP (kg CFC-11 eq)	5.4E-13	7.0E-08	2.4E-07	4.8E-10	7.0E-08	1.9E-07	4.8E-10	7.3E-08	-	4.1E-10	7.2E-08	-	4.1E-10	
	POP (kg C2H4 eq)	3.7E-05	7.0E-04	8.5E-02	1.0E-06	6.9E-04	6.6E-02	1.0E-06	7.1E-04	-	9.1E-07	6.8E-04	-	9.1E-07	
	AP (kg SO2 eq)	1.2E-04	8.2E-03	1.1E+00	2.7E-05	8.0E-03	8.5E-01	2.7E-05	9.6E-03	-	2.4E-05	8.5E-03	-	2.4E-05	
	EP (kg PO4 eq)	2.2E-05	8.5E-04	1.1E-01	2.9E-05	8.5E-04	8.4E-02	2.9E-05	1.5E-03	-	2.5E-05	1.2E-03	-	2.5E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	7.9E-07	1.4E-05	3.4E-09	7.6E-07	1.1E-05	3.4E-09	7.7E-04	-	2.9E-09	4.1E-04	-	2.9E-09	
AD -fossil fuels (MJ)	4.3E-01	2.6E+01	5.4E+03	5.9E-02	2.5E+01	4.2E+03	5.9E-02	2.5E+01	-	5.2E-02	2.4E+01	-	5.2E-02		



		Per 15 Years ( per square meter)	Final Product Transportation	Silver 20			Silver 35			Silver 50			Slate 10		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.3E+00	7.0E+02	2.2E-02	1.3E+00	5.4E+02	2.0E-02	1.3E+00	-1.0E+01	2.2E-02	1.6E+00	6.8E+02	2.2E-02
		ODP (kg CFC-11 eq)	5.7E-13	7.1E-08	4.0E-06	4.4E-10	6.9E-08	3.0E-06	4.1E-10	7.1E-08	-1.6E-06	4.4E-10	6.6E-08	3.6E-06	4.6E-10
		POP (kg C2H4 eq)	4.0E-05	6.7E-04	3.6E-01	9.7E-07	6.1E-04	2.8E-01	9.0E-07	6.6E-04	-1.2E-03	9.7E-07	7.9E-04	3.5E-01	9.9E-07
		AP (kg SO2 eq)	1.3E-04	6.9E-03	7.3E+00	2.6E-05	6.7E-03	5.7E+00	2.4E-05	6.7E-03	-1.0E-02	2.6E-05	1.1E-02	7.2E+00	2.6E-05
		EP (kg PO4 eq)	2.4E-05	7.9E-04	8.8E-02	2.7E-05	7.8E-04	6.8E-02	2.5E-05	7.8E-04	-1.7E-03	2.7E-05	1.4E-03	8.5E-02	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	2.4E-05	3.2E-09	7.1E-07	1.9E-05	2.9E-09	7.8E-07	-1.7E-06	3.2E-09	7.1E-04	2.3E-05	3.3E-09
		AD -fossil fuels (MJ)	4.6E-01	2.4E+01	1.1E+04	5.5E-02	2.3E+01	8.5E+03	5.2E-02	2.3E+01	-1.6E+02	5.5E-02	2.7E+01	1.1E+04	5.7E-02
	Australia	GWP (kg CO2)	3.2E-02	1.3E+00	4.1E+02	2.2E-02	1.3E+00	-	2.0E-02	1.3E+00	-	2.2E-02	1.6E+00	4.6E+02	2.2E-02
		ODP (kg CFC-11 eq)	5.4E-13	7.1E-08	1.7E-05	4.4E-10	6.9E-08	-	4.1E-10	7.1E-08	-	4.4E-10	6.6E-08	1.8E-05	4.6E-10
		POP (kg C2H4 eq)	3.7E-05	6.7E-04	9.4E-02	9.7E-07	6.1E-04	-	9.0E-07	6.6E-04	-	9.7E-07	7.9E-04	1.0E-01	9.9E-07
		AP (kg SO2 eq)	1.2E-04	6.9E-03	5.2E-01	2.6E-05	6.7E-03	-	2.4E-05	6.7E-03	-	2.6E-05	1.1E-02	5.7E-01	2.6E-05
		EP (kg PO4 eq)	2.2E-05	7.9E-04	2.7E-01	2.7E-05	7.8E-04	-	2.5E-05	7.8E-04	-	2.7E-05	1.4E-03	3.0E-01	2.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	1.3E-03	3.2E-09	7.1E-07	-	2.9E-09	7.8E-07	-	3.2E-09	7.1E-04	1.4E-03	3.3E-09
		AD -fossil fuels (MJ)	4.3E-01	2.4E+01	2.2E+03	5.5E-02	2.3E+01	-	5.2E-02	2.3E+01	-	5.5E-02	2.7E+01	2.4E+03	5.7E-02
	Argentina	GWP (kg CO2)	2.7E-01	1.3E+00	1.2E+03	2.2E-02	1.3E+00	9.6E+02	2.0E-02	1.3E+00	-6.2E+00	2.2E-02	1.6E+00	1.2E+03	2.2E-02
		ODP (kg CFC-11 eq)	2.3E-08	7.1E-08	1.1E-07	4.4E-10	6.9E-08	1.7E-07	4.1E-10	7.1E-08	-9.5E-07	4.4E-10	6.6E-08	2.5E-07	4.6E-10
		POP (kg C2H4 eq)	3.8E-04	6.7E-04	1.4E+00	9.7E-07	6.1E-04	1.1E+00	9.0E-07	6.6E-04	-6.9E-04	9.7E-07	7.9E-04	1.4E+00	9.9E-07
		AP (kg SO2 eq)	1.1E-03	6.9E-03	3.0E+01	2.6E-05	6.7E-03	2.3E+01	2.4E-05	6.7E-03	-6.2E-03	2.6E-05	1.1E-02	2.9E+01	2.6E-05
		EP (kg PO4 eq)	2.9E-04	7.9E-04	2.6E-01	2.7E-05	7.8E-04	2.0E-01	2.5E-05	7.8E-04	-1.0E-03	2.7E-05	1.4E-03	2.5E-01	2.7E-05
		AD- non fossil (kg Sb eq)	4.9E-07	7.8E-07	2.4E-05	3.2E-09	7.1E-07	1.9E-05	2.9E-09	7.8E-07	-1.0E-06	3.2E-09	7.1E-04	2.3E-05	3.3E-09
		AD -fossil fuels (MJ)	3.8E+00	2.4E+01	1.5E+04	5.5E-02	2.3E+01	1.2E+04	5.2E-02	2.3E+01	-9.6E+01	5.5E-02	2.7E+01	1.5E+04	5.7E-02
	Brazil	GWP (kg CO2)	3.6E-02	1.3E+00	9.3E+02	2.2E-02	1.3E+00	7.7E+02	2.0E-02	1.3E+00	5.3E+02	2.2E-02	1.6E+00	1.0E+03	2.2E-02
		ODP (kg CFC-11 eq)	6.1E-13	7.1E-08	3.4E-06	4.4E-10	6.9E-08	2.8E-06	4.1E-10	7.1E-08	2.0E-06	4.4E-10	6.6E-08	3.8E-06	4.6E-10
		POP (kg C2H4 eq)	4.2E-05	6.7E-04	5.9E-01	9.7E-07	6.1E-04	4.9E-01	9.0E-07	6.6E-04	3.4E-01	9.7E-07	7.9E-04	6.6E-01	9.9E-07
AP (kg SO2 eq)		1.4E-04	6.9E-03	7.4E+00	2.6E-05	6.7E-03	6.2E+00	2.4E-05	6.7E-03	4.3E+00	2.6E-05	1.1E-02	8.3E+00	2.6E-05	
EP (kg PO4 eq)		2.5E-05	7.9E-04	9.9E-01	2.7E-05	7.8E-04	8.2E-01	2.5E-05	7.8E-04	5.6E-01	2.7E-05	1.4E-03	1.1E+00	2.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.8E-07	4.0E-05	3.2E-09	7.1E-07	3.4E-05	2.9E-09	7.8E-07	2.3E-05	3.2E-09	7.1E-04	4.5E-05	3.3E-09	
AD -fossil fuels (MJ)		4.9E-01	2.4E+01	1.4E+04	5.5E-02	2.3E+01	1.2E+04	5.2E-02	2.3E+01	8.1E+03	5.5E-02	2.7E+01	1.6E+04	5.7E-02	
Venezuela	GWP (kg CO2)	3.2E-02	1.3E+00	4.4E+02	2.2E-02	1.3E+00	3.7E+02	2.0E-02	1.3E+00	-	2.2E-02	1.6E+00	-	2.2E-02	
	ODP (kg CFC-11 eq)	5.4E-13	7.1E-08	2.5E-07	4.4E-10	6.9E-08	2.1E-07	4.1E-10	7.1E-08	-	4.4E-10	6.6E-08	-	4.6E-10	
	POP (kg C2H4 eq)	3.7E-05	6.7E-04	8.7E-02	9.7E-07	6.1E-04	7.4E-02	9.0E-07	6.6E-04	-	9.7E-07	7.9E-04	-	9.9E-07	
	AP (kg SO2 eq)	1.2E-04	6.9E-03	1.1E+00	2.6E-05	6.7E-03	9.5E-01	2.4E-05	6.7E-03	-	2.6E-05	1.1E-02	-	2.6E-05	
	EP (kg PO4 eq)	2.2E-05	7.9E-04	1.1E-01	2.7E-05	7.8E-04	9.4E-02	2.5E-05	7.8E-04	-	2.7E-05	1.4E-03	-	2.7E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	7.8E-07	1.4E-05	3.2E-09	7.1E-07	1.2E-05	2.9E-09	7.8E-07	-	3.2E-09	7.1E-04	-	3.3E-09	
	AD -fossil fuels (MJ)	4.3E-01	2.4E+01	5.5E+03	5.5E-02	2.3E+01	4.7E+03	5.2E-02	2.3E+01	-	5.5E-02	2.7E+01	-	5.7E-02	



		Per 15 Years ( per square meter)	Final Product Transportation	Slate 20			Slate 30			Slate 40			Solar Bronze 20		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.5E+00	5.8E+02	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	6.9E+02	1.9E-02
		ODP (kg CFC-11 eq)	5.7E-13	6.5E-08	3.3E-06	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	3.9E-06	3.9E-10
		POP (kg C2H4 eq)	4.0E-05	7.5E-04	3.0E-01	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	3.6E-01	8.8E-07
		AP (kg SO2 eq)	1.3E-04	9.8E-03	6.0E+00	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	7.2E+00	2.3E-05
		EP (kg PO4 eq)	2.4E-05	1.2E-03	7.2E-02	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	8.6E-02	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	2.0E-05	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	2.4E-05	2.8E-09
		AD -fossil fuels (MJ)	4.6E-01	2.6E+01	9.0E+03	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	1.1E+04	5.0E-02
	Australia	GWP (kg CO2)	3.2E-02	1.5E+00	3.9E+02	2.2E-02	1.5E+00	3.4E+02	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	4.5E+02	1.9E-02
		ODP (kg CFC-11 eq)	5.4E-13	6.5E-08	1.6E-05	4.6E-10	6.5E-08	1.4E-05	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	1.8E-05	3.9E-10
		POP (kg C2H4 eq)	3.7E-05	7.5E-04	8.8E-02	9.9E-07	7.3E-04	7.7E-02	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	1.0E-01	8.8E-07
		AP (kg SO2 eq)	1.2E-04	9.8E-03	4.9E-01	2.6E-05	9.3E-03	4.3E-01	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	5.6E-01	2.3E-05
		EP (kg PO4 eq)	2.2E-05	1.2E-03	2.5E-01	2.7E-05	1.1E-03	2.2E-01	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	2.9E-01	2.4E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	1.2E-03	3.2E-09	3.8E-04	1.1E-03	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	1.4E-03	2.8E-09
		AD -fossil fuels (MJ)	4.3E-01	2.6E+01	2.1E+03	5.7E-02	2.6E+01	1.8E+03	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	2.4E+03	5.0E-02
	Argentina	GWP (kg CO2)	2.7E-01	1.5E+00	1.0E+03	2.2E-02	1.5E+00	9.0E+02	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	1.2E+03	1.9E-02
		ODP (kg CFC-11 eq)	2.3E-08	6.5E-08	-2.7E-07	4.6E-10	6.5E-08	1.5E-07	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	-2.7E-08	3.9E-10
		POP (kg C2H4 eq)	3.8E-04	7.5E-04	1.2E+00	9.9E-07	7.3E-04	1.1E+00	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	1.4E+00	8.8E-07
		AP (kg SO2 eq)	1.1E-03	9.8E-03	2.4E+01	2.6E-05	9.3E-03	2.2E+01	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	2.9E+01	2.3E-05
		EP (kg PO4 eq)	2.9E-04	1.2E-03	2.1E-01	2.7E-05	1.1E-03	1.9E-01	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	2.5E-01	2.4E-05
		AD- non fossil (kg Sb eq)	4.9E-07	4.7E-04	1.9E-05	3.2E-09	3.8E-04	1.7E-05	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	2.3E-05	2.8E-09
		AD -fossil fuels (MJ)	3.8E+00	2.6E+01	1.3E+04	5.7E-02	2.6E+01	1.1E+04	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	1.5E+04	5.0E-02
	Brazil	GWP (kg CO2)	3.6E-02	1.5E+00	8.6E+02	2.2E-02	1.5E+00	7.4E+02	2.2E-02	1.5E+00	5.7E+02	2.2E-02	1.3E+00	1.0E+03	1.9E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	3.2E-06	4.6E-10	6.5E-08	2.7E-06	4.6E-10	6.4E-08	2.1E-06	4.6E-10	6.8E-08	3.7E-06	3.9E-10
		POP (kg C2H4 eq)	4.2E-05	7.5E-04	5.5E-01	9.9E-07	7.3E-04	4.8E-01	9.9E-07	7.1E-04	3.6E-01	9.9E-07	6.2E-04	6.5E-01	8.8E-07
AP (kg SO2 eq)		1.4E-04	9.8E-03	6.9E+00	2.6E-05	9.3E-03	6.0E+00	2.6E-05	8.9E-03	4.6E+00	2.6E-05	6.9E-03	8.1E+00	2.3E-05	
EP (kg PO4 eq)		2.5E-05	1.2E-03	9.2E-01	2.7E-05	1.1E-03	7.9E-01	2.7E-05	1.0E-03	6.1E-01	2.7E-05	7.8E-04	1.1E+00	2.4E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.7E-04	3.8E-05	3.2E-09	3.8E-04	3.2E-05	3.2E-09	2.9E-04	2.5E-05	3.2E-09	7.8E-07	4.4E-05	2.8E-09	
AD -fossil fuels (MJ)		4.9E-01	2.6E+01	1.3E+04	5.7E-02	2.6E+01	1.1E+04	5.7E-02	2.5E+01	8.7E+03	5.7E-02	2.3E+01	1.5E+04	5.0E-02	
Venezuela	GWP (kg CO2)	3.2E-02	1.5E+00	4.2E+02	2.2E-02	1.5E+00	-	2.2E-02	1.5E+00	-	2.2E-02	1.3E+00	4.8E+02	1.9E-02	
	ODP (kg CFC-11 eq)	5.4E-13	6.5E-08	2.3E-07	4.6E-10	6.5E-08	-	4.6E-10	6.4E-08	-	4.6E-10	6.8E-08	2.7E-07	3.9E-10	
	POP (kg C2H4 eq)	3.7E-05	7.5E-04	8.2E-02	9.9E-07	7.3E-04	-	9.9E-07	7.1E-04	-	9.9E-07	6.2E-04	9.4E-02	8.8E-07	
	AP (kg SO2 eq)	1.2E-04	9.8E-03	1.1E+00	2.6E-05	9.3E-03	-	2.6E-05	8.9E-03	-	2.6E-05	6.9E-03	1.2E+00	2.3E-05	
	EP (kg PO4 eq)	2.2E-05	1.2E-03	1.0E-01	2.7E-05	1.1E-03	-	2.7E-05	1.0E-03	-	2.7E-05	7.8E-04	1.2E-01	2.4E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	4.7E-04	1.3E-05	3.2E-09	3.8E-04	-	3.2E-09	2.9E-04	-	3.2E-09	7.8E-07	1.5E-05	2.8E-09	
	AD -fossil fuels (MJ)	4.3E-01	2.6E+01	5.2E+03	5.7E-02	2.6E+01	-	5.7E-02	2.5E+01	-	5.7E-02	2.3E+01	6.0E+03	5.0E-02	





Per 15 Years (per square meter)		Final Product Transportation	Solar Bronze 35			Solar Bronze 50			Stainless Steel 10			Stainless Steel 20			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.3E+00	-	1.9E-02	1.3E+00	-	1.9E-02	1.3E+00	4.5E+02	2.1E-02	1.3E+00	3.5E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.7E-13	6.8E-08	-	3.9E-10	6.9E-08	-	3.9E-10	6.5E-08	-1.4E-06	4.3E-10	6.5E-08	-9.7E-07	4.3E-10
		POP (kg C2H4 eq)	4.0E-05	6.1E-04	-	8.8E-07	6.1E-04	-	8.8E-07	6.6E-04	8.9E-02	9.5E-07	6.6E-04	6.9E-02	9.5E-07
		AP (kg SO2 eq)	1.3E-04	6.8E-03	-	2.3E-05	6.8E-03	-	2.3E-05	6.9E-03	1.1E+00	2.5E-05	6.8E-03	8.9E-01	2.5E-05
		EP (kg PO4 eq)	2.4E-05	7.7E-04	-	2.4E-05	8.1E-04	-	2.4E-05	7.3E-04	1.1E-01	2.6E-05	7.2E-04	8.7E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	2.8E-09	1.2E-06	-	2.8E-09	8.4E-07	1.3E-05	3.1E-09	7.8E-07	1.0E-05	3.1E-09
		AD -fossil fuels (MJ)	4.6E-01	2.2E+01	-	5.0E-02	2.3E+01	-	5.0E-02	2.3E+01	5.6E+03	5.4E-02	2.3E+01	4.3E+03	5.4E-02
	Australia	GWP (kg CO2)	3.2E-02	1.3E+00	-	1.9E-02	1.3E+00	-	1.9E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	5.4E-13	6.8E-08	-	3.9E-10	6.9E-08	-	3.9E-10	6.5E-08	-	4.3E-10	6.5E-08	-	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	6.1E-04	-	8.8E-07	6.1E-04	-	8.8E-07	6.6E-04	-	9.5E-07	6.6E-04	-	9.5E-07
		AP (kg SO2 eq)	1.2E-04	6.8E-03	-	2.3E-05	6.8E-03	-	2.3E-05	6.9E-03	-	2.5E-05	6.8E-03	-	2.5E-05
		EP (kg PO4 eq)	2.2E-05	7.7E-04	-	2.4E-05	8.1E-04	-	2.4E-05	7.3E-04	-	2.6E-05	7.2E-04	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	2.8E-09	1.2E-06	-	2.8E-09	8.4E-07	-	3.1E-09	7.8E-07	-	3.1E-09
		AD -fossil fuels (MJ)	4.3E-01	2.2E+01	-	5.0E-02	2.3E+01	-	5.0E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02
	Argentina	GWP (kg CO2)	2.7E-01	1.3E+00	1.0E+03	1.9E-02	1.3E+00	-1.1E+01	1.9E-02	1.3E+00	-1.1E+01	2.1E-02	1.3E+00	-4.9E+00	2.1E-02
		ODP (kg CFC-11 eq)	2.3E-08	6.8E-08	-4.0E-07	3.9E-10	6.9E-08	-1.6E-06	3.9E-10	6.5E-08	-1.7E-06	4.3E-10	6.5E-08	-7.4E-07	4.3E-10
		POP (kg C2H4 eq)	3.8E-04	6.1E-04	1.2E+00	8.8E-07	6.1E-04	-1.2E-03	8.8E-07	6.6E-04	-1.2E-03	9.5E-07	6.6E-04	-5.4E-04	9.5E-07
		AP (kg SO2 eq)	1.1E-03	6.8E-03	2.5E+01	2.3E-05	6.8E-03	-1.1E-02	2.3E-05	6.9E-03	-1.1E-02	2.5E-05	6.8E-03	-4.9E-03	2.5E-05
		EP (kg PO4 eq)	2.9E-04	7.7E-04	2.2E-01	2.4E-05	8.1E-04	-1.8E-03	2.4E-05	7.3E-04	-1.8E-03	2.6E-05	7.2E-04	-8.2E-04	2.6E-05
		AD- non fossil (kg Sb eq)	4.9E-07	7.5E-07	2.0E-05	2.8E-09	1.2E-06	-1.8E-06	2.8E-09	8.4E-07	-1.8E-06	3.1E-09	7.8E-07	-8.0E-07	3.1E-09
		AD -fossil fuels (MJ)	3.8E+00	2.2E+01	1.3E+04	5.0E-02	2.3E+01	-1.6E+02	5.0E-02	2.3E+01	-1.7E+02	5.4E-02	2.3E+01	-7.5E+01	5.4E-02
	Brazil	GWP (kg CO2)	3.6E-02	1.3E+00	8.6E+02	1.9E-02	1.3E+00	7.3E+02	1.9E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.8E-08	3.2E-06	3.9E-10	6.9E-08	2.7E-06	3.9E-10	6.5E-08	-	4.3E-10	6.5E-08	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.1E-04	5.5E-01	8.8E-07	6.1E-04	4.6E-01	8.8E-07	6.6E-04	-	9.5E-07	6.6E-04	-	9.5E-07
AP (kg SO2 eq)		1.4E-04	6.8E-03	6.9E+00	2.3E-05	6.8E-03	5.8E+00	2.3E-05	6.9E-03	-	2.5E-05	6.8E-03	-	2.5E-05	
EP (kg PO4 eq)		2.5E-05	7.7E-04	9.1E-01	2.4E-05	8.1E-04	7.7E-01	2.4E-05	7.3E-04	-	2.6E-05	7.2E-04	-	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	7.5E-07	3.7E-05	2.8E-09	1.2E-06	3.2E-05	2.8E-09	8.4E-07	-	3.1E-09	7.8E-07	-	3.1E-09	
AD -fossil fuels (MJ)		4.9E-01	2.2E+01	1.3E+04	5.0E-02	2.3E+01	1.1E+04	5.0E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02	
Venezuela	GWP (kg CO2)	3.2E-02	1.3E+00	-	1.9E-02	1.3E+00	-	1.9E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02	
	ODP (kg CFC-11 eq)	5.4E-13	6.8E-08	-	3.9E-10	6.9E-08	-	3.9E-10	6.5E-08	-	4.3E-10	6.5E-08	-	4.3E-10	
	POP (kg C2H4 eq)	3.7E-05	6.1E-04	-	8.8E-07	6.1E-04	-	8.8E-07	6.6E-04	-	9.5E-07	6.6E-04	-	9.5E-07	
	AP (kg SO2 eq)	1.2E-04	6.8E-03	-	2.3E-05	6.8E-03	-	2.3E-05	6.9E-03	-	2.5E-05	6.8E-03	-	2.5E-05	
	EP (kg PO4 eq)	2.2E-05	7.7E-04	-	2.4E-05	8.1E-04	-	2.4E-05	7.3E-04	-	2.6E-05	7.2E-04	-	2.6E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	7.5E-07	-	2.8E-09	1.2E-06	-	2.8E-09	8.4E-07	-	3.1E-09	7.8E-07	-	3.1E-09	
	AD -fossil fuels (MJ)	4.3E-01	2.2E+01	-	5.0E-02	2.3E+01	-	5.0E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Sterling 40			Sterling 50			Sterling 60			Sterling 70		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.3E+00	-	1.9E-02	1.3E+00	3.0E+02	2.1E-02	1.3E+00	-7.0E+00	2.1E-02	1.3E+00	3.4E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.7E-13	6.4E-08	-	3.9E-10	6.7E-08	1.7E-07	4.3E-10	6.6E-08	-1.1E-06	4.3E-10	6.6E-08	1.9E-07	4.3E-10
		POP (kg C2H4 eq)	4.0E-05	6.3E-04	-	8.7E-07	6.7E-04	5.9E-02	9.4E-07	6.6E-04	-7.8E-04	9.4E-07	6.5E-04	6.6E-02	9.4E-07
		AP (kg SO2 eq)	1.3E-04	7.7E-03	-	2.3E-05	7.5E-03	7.7E-01	2.5E-05	7.2E-03	-7.0E-03	2.5E-05	6.9E-03	8.5E-01	2.5E-05
		EP (kg PO4 eq)	2.4E-05	1.1E-03	-	2.3E-05	1.0E-03	7.6E-02	2.6E-05	9.4E-04	-1.2E-03	2.6E-05	8.4E-04	8.4E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	-	2.8E-09	3.6E-04	9.6E-06	3.1E-09	2.7E-04	-1.1E-06	3.1E-09	1.7E-04	1.1E-05	3.1E-09
		AD -fossil fuels (MJ)	4.6E-01	2.3E+01	-	5.0E-02	2.3E+01	3.8E+03	5.4E-02	2.3E+01	-1.1E+02	5.4E-02	2.3E+01	4.2E+03	5.4E-02
	Australia	GWP (kg CO2)	3.2E-02	1.3E+00	-	1.9E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	5.4E-13	6.4E-08	-	3.9E-10	6.7E-08	-	4.3E-10	6.6E-08	-	4.3E-10	6.6E-08	-	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	6.3E-04	-	8.7E-07	6.7E-04	-	9.4E-07	6.6E-04	-	9.4E-07	6.5E-04	-	9.4E-07
		AP (kg SO2 eq)	1.2E-04	7.7E-03	-	2.3E-05	7.5E-03	-	2.5E-05	7.2E-03	-	2.5E-05	6.9E-03	-	2.5E-05
		EP (kg PO4 eq)	2.2E-05	1.1E-03	-	2.3E-05	1.0E-03	-	2.6E-05	9.4E-04	-	2.6E-05	8.4E-04	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	-	2.8E-09	3.6E-04	-	3.1E-09	2.7E-04	-	3.1E-09	1.7E-04	-	3.1E-09
		AD -fossil fuels (MJ)	4.3E-01	2.3E+01	-	5.0E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02
	Argentina	GWP (kg CO2)	2.7E-01	1.3E+00	-7.8E+00	1.9E-02	1.3E+00	-7.8E+00	2.1E-02	1.3E+00	-2.3E+00	2.1E-02	1.3E+00	-7.8E+00	2.1E-02
		ODP (kg CFC-11 eq)	2.3E-08	6.4E-08	-1.2E-06	3.9E-10	6.7E-08	-1.2E-06	4.3E-10	6.6E-08	-3.5E-07	4.3E-10	6.6E-08	-1.2E-06	4.3E-10
		POP (kg C2H4 eq)	3.8E-04	6.3E-04	-8.7E-04	8.7E-07	6.7E-04	-8.7E-04	9.4E-07	6.6E-04	-2.6E-04	9.4E-07	6.5E-04	-8.7E-04	9.4E-07
		AP (kg SO2 eq)	1.1E-03	7.7E-03	-7.8E-03	2.3E-05	7.5E-03	-7.8E-03	2.5E-05	7.2E-03	-2.3E-03	2.5E-05	6.9E-03	-7.8E-03	2.5E-05
		EP (kg PO4 eq)	2.9E-04	1.1E-03	-1.3E-03	2.3E-05	1.0E-03	-1.3E-03	2.6E-05	9.4E-04	-3.8E-04	2.6E-05	8.4E-04	-1.3E-03	2.6E-05
		AD- non fossil (kg Sb eq)	4.9E-07	4.4E-04	-1.3E-06	2.8E-09	3.6E-04	-1.3E-06	3.1E-09	2.7E-04	-3.8E-07	3.1E-09	1.7E-04	-1.3E-06	3.1E-09
		AD -fossil fuels (MJ)	3.8E+00	2.3E+01	-1.2E+02	5.0E-02	2.3E+01	-1.2E+02	5.4E-02	2.3E+01	-3.5E+01	5.4E-02	2.3E+01	-1.2E+02	5.4E-02
	Brazil	GWP (kg CO2)	3.6E-02	1.3E+00	-	1.9E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.4E-08	-	3.9E-10	6.7E-08	-	4.3E-10	6.6E-08	-	4.3E-10	6.6E-08	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.3E-04	-	8.7E-07	6.7E-04	-	9.4E-07	6.6E-04	-	9.4E-07	6.5E-04	-	9.4E-07
AP (kg SO2 eq)		1.4E-04	7.7E-03	-	2.3E-05	7.5E-03	-	2.5E-05	7.2E-03	-	2.5E-05	6.9E-03	-	2.5E-05	
EP (kg PO4 eq)		2.5E-05	1.1E-03	-	2.3E-05	1.0E-03	-	2.6E-05	9.4E-04	-	2.6E-05	8.4E-04	-	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	4.4E-04	-	2.8E-09	3.6E-04	-	3.1E-09	2.7E-04	-	3.1E-09	1.7E-04	-	3.1E-09	
AD -fossil fuels (MJ)		4.9E-01	2.3E+01	-	5.0E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02	
Venezuela	GWP (kg CO2)	3.2E-02	1.3E+00	-	1.9E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02	1.3E+00	-	2.1E-02	
	ODP (kg CFC-11 eq)	5.4E-13	6.4E-08	-	3.9E-10	6.7E-08	-	4.3E-10	6.6E-08	-	4.3E-10	6.6E-08	-	4.3E-10	
	POP (kg C2H4 eq)	3.7E-05	6.3E-04	-	8.7E-07	6.7E-04	-	9.4E-07	6.6E-04	-	9.4E-07	6.5E-04	-	9.4E-07	
	AP (kg SO2 eq)	1.2E-04	7.7E-03	-	2.3E-05	7.5E-03	-	2.5E-05	7.2E-03	-	2.5E-05	6.9E-03	-	2.5E-05	
	EP (kg PO4 eq)	2.2E-05	1.1E-03	-	2.3E-05	1.0E-03	-	2.6E-05	9.4E-04	-	2.6E-05	8.4E-04	-	2.6E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	4.4E-04	-	2.8E-09	3.6E-04	-	3.1E-09	2.7E-04	-	3.1E-09	1.7E-04	-	3.1E-09	
	AD -fossil fuels (MJ)	4.3E-01	2.3E+01	-	5.0E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02	2.3E+01	-	5.4E-02	



Per 15 Years (per square meter)		Final Product Transportation	TrueVue 5			TrueVue 15			TrueVue 30			TrueVue 40			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.3E+00	-	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02
		ODP (kg CFC-11 eq)	5.7E-13	6.5E-08	-	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10
		POP (kg C2H4 eq)	4.0E-05	6.2E-04	-	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07
		AP (kg SO2 eq)	1.3E-04	7.9E-03	-	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05
		EP (kg PO4 eq)	2.4E-05	1.2E-03	-	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09
		AD -fossil fuels (MJ)	4.6E-01	2.2E+01	-	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02
	Australia	GWP (kg CO2)	3.2E-02	1.3E+00	-	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02
		ODP (kg CFC-11 eq)	5.4E-13	6.5E-08	-	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10
		POP (kg C2H4 eq)	3.7E-05	6.2E-04	-	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07
		AP (kg SO2 eq)	1.2E-04	7.9E-03	-	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05
		EP (kg PO4 eq)	2.2E-05	1.2E-03	-	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05
		AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09
		AD -fossil fuels (MJ)	4.3E-01	2.2E+01	-	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02
	Argentina	GWP (kg CO2)	2.7E-01	1.3E+00	1.3E+03	1.8E-02	1.3E+00	1.2E+03	1.8E-02	1.2E+00	8.9E+02	1.8E-02	1.2E+00	7.0E+02	1.8E-02
		ODP (kg CFC-11 eq)	2.3E-08	6.5E-08	6.6E-07	3.6E-10	6.5E-08	-2.3E-07	3.6E-10	6.4E-08	3.1E-07	3.5E-10	6.3E-08	5.5E-08	3.5E-10
		POP (kg C2H4 eq)	3.8E-04	6.2E-04	1.5E+00	8.1E-07	6.2E-04	1.5E+00	8.1E-07	5.8E-04	1.0E+00	8.1E-07	5.7E-04	8.2E-01	8.1E-07
		AP (kg SO2 eq)	1.1E-03	7.9E-03	3.1E+01	2.1E-05	7.9E-03	3.0E+01	2.1E-05	6.8E-03	2.1E+01	2.1E-05	6.6E-03	1.7E+01	2.1E-05
		EP (kg PO4 eq)	2.9E-04	1.2E-03	2.7E-01	2.2E-05	1.2E-03	2.6E-01	2.2E-05	9.6E-04	1.8E-01	2.2E-05	8.9E-04	1.4E-01	2.1E-05
		AD- non fossil (kg Sb eq)	4.9E-07	6.4E-04	2.5E-05	2.5E-09	6.3E-04	2.4E-05	2.5E-09	3.3E-04	1.7E-05	2.5E-09	2.5E-04	1.3E-05	2.5E-09
		AD -fossil fuels (MJ)	3.8E+00	2.2E+01	1.6E+04	4.6E-02	2.2E+01	1.5E+04	4.6E-02	2.1E+01	1.1E+04	4.6E-02	2.1E+01	8.7E+03	4.6E-02
	Brazil	GWP (kg CO2)	3.6E-02	1.3E+00	-	1.8E-02	1.3E+00	-	1.8E-02	1.2E+00	-	1.8E-02	1.2E+00	-	1.8E-02
		ODP (kg CFC-11 eq)	6.1E-13	6.5E-08	-	3.6E-10	6.5E-08	-	3.6E-10	6.4E-08	-	3.5E-10	6.3E-08	-	3.5E-10
		POP (kg C2H4 eq)	4.2E-05	6.2E-04	-	8.1E-07	6.2E-04	-	8.1E-07	5.8E-04	-	8.1E-07	5.7E-04	-	8.1E-07
AP (kg SO2 eq)		1.4E-04	7.9E-03	-	2.1E-05	7.9E-03	-	2.1E-05	6.8E-03	-	2.1E-05	6.6E-03	-	2.1E-05	
EP (kg PO4 eq)		2.5E-05	1.2E-03	-	2.2E-05	1.2E-03	-	2.2E-05	9.6E-04	-	2.2E-05	8.9E-04	-	2.1E-05	
AD- non fossil (kg Sb eq)		0.0E+00	6.4E-04	-	2.5E-09	6.3E-04	-	2.5E-09	3.3E-04	-	2.5E-09	2.5E-04	-	2.5E-09	
AD -fossil fuels (MJ)		4.9E-01	2.2E+01	-	4.6E-02	2.2E+01	-	4.6E-02	2.1E+01	-	4.6E-02	2.1E+01	-	4.6E-02	
Venezuela	GWP (kg CO2)	3.2E-02	1.3E+00	5.1E+02	1.8E-02	1.3E+00	4.9E+02	1.8E-02	1.2E+00	3.5E+02	1.8E-02	1.2E+00	-	1.8E-02	
	ODP (kg CFC-11 eq)	5.4E-13	6.5E-08	2.9E-07	3.6E-10	6.5E-08	2.8E-07	3.6E-10	6.4E-08	1.9E-07	3.5E-10	6.3E-08	-	3.5E-10	
	POP (kg C2H4 eq)	3.7E-05	6.2E-04	1.0E-01	8.1E-07	6.2E-04	9.7E-02	8.1E-07	5.8E-04	6.8E-02	8.1E-07	5.7E-04	-	8.1E-07	
	AP (kg SO2 eq)	1.2E-04	7.9E-03	1.3E+00	2.1E-05	7.9E-03	1.3E+00	2.1E-05	6.8E-03	8.8E-01	2.1E-05	6.6E-03	-	2.1E-05	
	EP (kg PO4 eq)	2.2E-05	1.2E-03	1.3E-01	2.2E-05	1.2E-03	1.2E-01	2.2E-05	9.6E-04	8.7E-02	2.2E-05	8.9E-04	-	2.1E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	6.4E-04	1.6E-05	2.5E-09	6.3E-04	1.6E-05	2.5E-09	3.3E-04	1.1E-05	2.5E-09	2.5E-04	-	2.5E-09	
	AD -fossil fuels (MJ)	4.3E-01	2.2E+01	6.4E+03	4.6E-02	2.2E+01	6.2E+03	4.6E-02	2.1E+01	4.3E+03	4.6E-02	2.1E+01	-	4.6E-02	



Per 15 Years (per square meter)		Final Product Transportation	Sentinel Stainless Steel 15 OSW			Sentinel Stainless Steel 25 OSW			Sentinel Stainless Steel 40 OSW			Sentinel Stainless Steel 45 OSW			
			Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.6E+00	4.2E+02	2.1E-02	1.5E+00	3.6E+02	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	2.4E+02	2.1E-02
		ODP (kg CFC-11 eq)	5.7E-13	8.9E-08	2.2E-06	4.3E-10	8.9E-08	1.9E-06	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	1.2E-06	4.3E-10
		POP (kg C2H4 eq)	4.0E-05	6.9E-04	2.2E-01	9.5E-07	6.6E-04	1.9E-01	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	1.3E-01	9.5E-07
		AP (kg SO2 eq)	1.3E-04	7.9E-03	4.4E+00	2.5E-05	7.4E-03	3.8E+00	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	2.6E+00	2.5E-05
		EP (kg PO4 eq)	2.4E-05	1.1E-03	5.2E-02	2.6E-05	1.0E-03	4.5E-02	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	3.0E-02	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	1.4E-05	3.1E-09	1.1E-06	1.2E-05	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	8.2E-06	3.1E-09
		AD -fossil fuels (MJ)	4.6E-01	2.6E+01	6.5E+03	5.4E-02	2.5E+01	5.6E+03	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	3.8E+03	5.4E-02
	Australia	GWP (kg CO2)	3.2E-02	1.6E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	5.4E-13	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10
		POP (kg C2H4 eq)	3.7E-05	6.9E-04	-	9.5E-07	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07
		AP (kg SO2 eq)	1.2E-04	7.9E-03	-	2.5E-05	7.4E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05
		EP (kg PO4 eq)	2.2E-05	1.1E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09
		AD -fossil fuels (MJ)	4.3E-01	2.6E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02
	Argentina	GWP (kg CO2)	2.7E-01	1.6E+00	-	2.1E-02	1.5E+00	6.3E+02	2.1E-02	1.5E+00	4.9E+02	2.1E-02	1.5E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	2.3E-08	8.9E-08	-	4.3E-10	8.9E-08	-1.2E-07	4.3E-10	8.9E-08	-3.0E-07	4.3E-10	8.8E-08	-	4.3E-10
		POP (kg C2H4 eq)	3.8E-04	6.9E-04	-	9.5E-07	6.6E-04	7.5E-01	9.5E-07	6.5E-04	5.8E-01	9.5E-07	6.5E-04	-	9.5E-07
		AP (kg SO2 eq)	1.1E-03	7.9E-03	-	2.5E-05	7.4E-03	1.5E+01	2.5E-05	7.2E-03	1.2E+01	2.5E-05	7.2E-03	-	2.5E-05
		EP (kg PO4 eq)	2.9E-04	1.1E-03	-	2.6E-05	1.0E-03	1.3E-01	2.6E-05	1.0E-03	1.0E-01	2.6E-05	1.0E-03	-	2.6E-05
		AD- non fossil (kg Sb eq)	4.9E-07	1.2E-06	-	3.1E-09	1.1E-06	1.2E-05	3.1E-09	1.1E-06	9.1E-06	3.1E-09	1.1E-06	-	3.1E-09
		AD -fossil fuels (MJ)	3.8E+00	2.6E+01	-	5.4E-02	2.5E+01	7.9E+03	5.4E-02	2.5E+01	6.1E+03	5.4E-02	2.5E+01	-	5.4E-02
	Brazil	GWP (kg CO2)	3.6E-02	1.6E+00	6.1E+02	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02
		ODP (kg CFC-11 eq)	6.1E-13	8.9E-08	2.2E-06	4.3E-10	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10
		POP (kg C2H4 eq)	4.2E-05	6.9E-04	3.9E-01	9.5E-07	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07
AP (kg SO2 eq)		1.4E-04	7.9E-03	4.9E+00	2.5E-05	7.4E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05	
EP (kg PO4 eq)		2.5E-05	1.1E-03	6.4E-01	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.2E-06	2.6E-05	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	
AD -fossil fuels (MJ)		4.9E-01	2.6E+01	9.3E+03	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	
Venezuela	GWP (kg CO2)	3.2E-02	1.6E+00	2.2E+02	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	
	ODP (kg CFC-11 eq)	5.4E-13	8.9E-08	1.2E-07	4.3E-10	8.9E-08	-	4.3E-10	8.9E-08	-	4.3E-10	8.8E-08	-	4.3E-10	
	POP (kg C2H4 eq)	3.7E-05	6.9E-04	4.3E-02	9.5E-07	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	6.5E-04	-	9.5E-07	
	AP (kg SO2 eq)	1.2E-04	7.9E-03	5.6E-01	2.5E-05	7.4E-03	-	2.5E-05	7.2E-03	-	2.5E-05	7.2E-03	-	2.5E-05	
	EP (kg PO4 eq)	2.2E-05	1.1E-03	5.5E-02	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	1.2E-06	7.0E-06	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	
	AD -fossil fuels (MJ)	4.3E-01	2.6E+01	2.8E+03	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	



		Per 15 Years (per square meter)	Final Product Transportation	Sentinel Silver 20 OSW			Sentinel Silver 35 OSW			Sentinel 4 Mil Clear OSW		
				Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life	Production	Use Phase Savings	End of Life
Pacific and Southern Hemisphere	Malaysia	GWP (kg CO2)	3.4E-02	1.5E+00	4.6E+02	2.1E-02	1.5E+00	3.7E+02	2.1E-02	1.8E+00	8.1E+01	3.8E-02
		ODP (kg CFC-11 eq)	5.7E-13	8.7E-08	2.4E-06	4.3E-10	8.7E-08	2.2E-06	4.3E-10	9.5E-08	4.7E-07	7.9E-10
		POP (kg C2H4 eq)	4.0E-05	6.6E-04	2.4E-01	9.5E-07	6.5E-04	1.9E-01	9.5E-07	8.0E-04	4.2E-02	1.6E-06
		AP (kg SO2 eq)	1.3E-04	7.3E-03	4.8E+00	2.5E-05	7.1E-03	3.9E+00	2.5E-05	9.4E-03	8.4E-01	4.3E-05
		EP (kg PO4 eq)	2.4E-05	1.0E-03	5.7E-02	2.6E-05	1.0E-03	4.6E-02	2.6E-05	1.2E-03	1.0E-02	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	1.6E-05	3.1E-09	1.1E-06	1.3E-05	3.1E-09	1.2E-06	2.8E-06	5.6E-09
	AD -fossil fuels (MJ)	4.6E-01	2.5E+01	7.1E+03	5.4E-02	2.5E+01	5.8E+03	5.4E-02	3.1E+01	1.3E+03	9.1E-02	
	Australia	GWP (kg CO2)	3.2E-02	1.5E+00	2.4E+02	2.1E-02	1.5E+00	-	2.1E-02	1.8E+00	9.6E+00	3.8E-02
		ODP (kg CFC-11 eq)	5.4E-13	8.7E-08	9.8E-06	4.3E-10	8.7E-08	-	4.3E-10	9.5E-08	3.9E-07	7.9E-10
		POP (kg C2H4 eq)	3.7E-05	6.6E-04	5.5E-02	9.5E-07	6.5E-04	-	9.5E-07	8.0E-04	2.2E-03	1.6E-06
		AP (kg SO2 eq)	1.2E-04	7.3E-03	3.0E-01	2.5E-05	7.1E-03	-	2.5E-05	9.4E-03	1.2E-02	4.3E-05
		EP (kg PO4 eq)	2.2E-05	1.0E-03	1.6E-01	2.6E-05	1.0E-03	-	2.6E-05	1.2E-03	6.3E-03	4.7E-05
		AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	7.6E-04	3.1E-09	1.1E-06	-	3.1E-09	1.2E-06	3.0E-05	5.6E-09
	AD -fossil fuels (MJ)	4.3E-01	2.5E+01	1.3E+03	5.4E-02	2.5E+01	-	5.4E-02	3.1E+01	5.2E+01	9.1E-02	
	Argentina	GWP (kg CO2)	2.7E-01	1.5E+00	8.1E+02	2.1E-02	1.5E+00	6.5E+02	2.1E-02	1.8E+00	1.4E+02	3.8E-02
		ODP (kg CFC-11 eq)	2.3E-08	8.7E-08	-3.0E-08	4.3E-10	8.7E-08	8.7E-09	4.3E-10	9.5E-08	1.9E-07	7.9E-10
		POP (kg C2H4 eq)	3.8E-04	6.6E-04	9.5E-01	9.5E-07	6.5E-04	7.7E-01	9.5E-07	8.0E-04	1.7E-01	1.6E-06
		AP (kg SO2 eq)	1.1E-03	7.3E-03	1.9E+01	2.5E-05	7.1E-03	1.6E+01	2.5E-05	9.4E-03	3.4E+00	4.3E-05
		EP (kg PO4 eq)	2.9E-04	1.0E-03	1.7E-01	2.6E-05	1.0E-03	1.4E-01	2.6E-05	1.2E-03	3.0E-02	4.7E-05
		AD- non fossil (kg Sb eq)	4.9E-07	1.1E-06	1.5E-05	3.1E-09	1.1E-06	1.3E-05	3.1E-09	1.2E-06	2.9E-06	5.6E-09
	AD -fossil fuels (MJ)	3.8E+00	2.5E+01	1.0E+04	5.4E-02	2.5E+01	8.1E+03	5.4E-02	3.1E+01	1.8E+03	9.1E-02	
	Brazil	GWP (kg CO2)	3.6E-02	1.5E+00	6.6E+02	2.1E-02	1.5E+00	4.1E+02	2.1E-02	1.8E+00	-1.9E+01	3.8E-02
		ODP (kg CFC-11 eq)	6.1E-13	8.7E-08	2.4E-06	4.3E-10	8.7E-08	1.5E-06	4.3E-10	9.5E-08	-6.8E-08	7.9E-10
		POP (kg C2H4 eq)	4.2E-05	6.6E-04	4.2E-01	9.5E-07	6.5E-04	2.6E-01	9.5E-07	8.0E-04	-1.2E-02	1.6E-06
AP (kg SO2 eq)		1.4E-04	7.3E-03	5.3E+00	2.5E-05	7.1E-03	3.3E+00	2.5E-05	9.4E-03	-1.5E-01	4.3E-05	
EP (kg PO4 eq)		2.5E-05	1.0E-03	7.0E-01	2.6E-05	1.0E-03	4.4E-01	2.6E-05	1.2E-03	-2.0E-02	4.7E-05	
AD- non fossil (kg Sb eq)		0.0E+00	1.1E-06	2.9E-05	3.1E-09	1.1E-06	1.8E-05	3.1E-09	1.2E-06	-8.1E-07	5.6E-09	
AD -fossil fuels (MJ)	4.9E-01	2.5E+01	1.0E+04	5.4E-02	2.5E+01	6.3E+03	5.4E-02	3.1E+01	-2.8E+02	9.1E-02		
Venezuela	GWP (kg CO2)	3.2E-02	1.5E+00	-	2.1E-02	1.5E+00	-	2.1E-02	1.8E+00	-	3.8E-02	
	ODP (kg CFC-11 eq)	5.4E-13	8.7E-08	-	4.3E-10	8.7E-08	-	4.3E-10	9.5E-08	-	7.9E-10	
	POP (kg C2H4 eq)	3.7E-05	6.6E-04	-	9.5E-07	6.5E-04	-	9.5E-07	8.0E-04	-	1.6E-06	
	AP (kg SO2 eq)	1.2E-04	7.3E-03	-	2.5E-05	7.1E-03	-	2.5E-05	9.4E-03	-	4.3E-05	
	EP (kg PO4 eq)	2.2E-05	1.0E-03	-	2.6E-05	1.0E-03	-	2.6E-05	1.2E-03	-	4.7E-05	
	AD- non fossil (kg Sb eq)	0.0E+00	1.1E-06	-	3.1E-09	1.1E-06	-	3.1E-09	1.2E-06	-	5.6E-09	
AD -fossil fuels (MJ)	4.3E-01	2.5E+01	-	5.4E-02	2.5E+01	-	5.4E-02	3.1E+01	-	9.1E-02		



## Optional Environmental Information

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### Organizational Awards

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Saint-Gobain has been awarded the ENERGYSTAR Partner of the Year Sustained Excellence Award for 2014 for the fourth straight year for the corporation's innovations in sustainable operations and manufacturing.



### References

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- Life Cycle Analysis for Environmental Product Declaration of Architectural Solar-Control Window Films, Sustainable Solutions Corporation, June 2014
- Product Category Rules and PCR Basic Module, CPC Division (n/a): Construction Products and CPC Division 54: Construction Services, Version 1.2 2013-03-15
- General Program Instructions for Environmental Product Declarations, EPD, Version 1.0, 2008-02-29
- ISO 14025 Environmental labels and declarations - Type III environmental declarations
- ISO 14040 Environmental management - Life cycle assessment – Principles and framework
- ISO 14044 Environmental management - Life cycle assessment – Requirements and guidelines
- ISO 21930 Sustainability in building construction – Environmental declaration of building products
- ASTM D-1044 Standard Test Method for Resistance of Transparent Plastics to Surface Abrasion
- ASTM D-1929 Standard Test Method for Determining Ignition Temperature of Plastics
- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- EN 15804:2012 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
- EPA, Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI)
- SimaPro v7.3 Software
- Ecoinvent v2.2 Database for Life Cycle Engineering
- NFPA 80, NFPA 252, NFPA 257
- ASHRAE Standards 90.1 2004 & 90.2 2004
- Sales Data, Utility Bills, Bills of Materials from Solar Gard
- U.S. Energy Information Administration, <http://www.eia.gov>
- U.S. Environmental Protection Agency, <http://www.epa.gov>

### LCA Development

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This EPD and corresponding LCA were prepared by Sustainable Solutions Corporation of Royersford, Pennsylvania.



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### Contact Solar Gard

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For more information, please visit: <http://www.solargard.com/US/window-films/>

