

2011

ENVIRONMENTAL SUSTAINABILITY REPORT





## SWEP ENVIRONMENTAL SUSTAINABILITY REPORT 2011

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### ABOUT SWEP

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SWEP was established in 1983 by small group of pioneers in thermal engineering who were among the first to commercialize the Brazed Plate Heat Exchanger technology. In 2003, SWEP became an autonomous operating company within Dover Corporation. SWEP is close to its customers, with representation in more than 50 countries and its own dedicated sales force in more than 20 countries. Highly efficient production units in Sweden, Switzerland, USA, Malaysia, Slovakia and China make it possible to serve customers all over the world. The company is part of the global Dover Corporation.

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### ABOUT DOVER

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Dover Corporation is a multi-billion dollar diversified global manufacturer. For over 50 years, Dover has been providing its customers with outstanding products and services in industrial technology that reflect the company's commitment to operational excellence, innovation and market leadership. Dover Corporation is traded on the New York Stock Exchange under "DOV."

Dover Corporation has deployed a Sustainability Initiative which spans over all its subsidiaries, plants and locations. The initiative is governed by the below policy:

*"At Dover we pride ourselves on our culture of trust, accountability and honesty in everything we do. We have a commitment and a responsibility to create economic value for shareholders and customers through practices that help protect the long-term well-being of the environment, our employees, and the communities in which we operate. As a worldwide, diversified manufacturer of highly-engineered products, we are ideally positioned to have a positive impact on a broad scale. In accordance with our Sustainability Policy, we will:*

- *Manage the potential physical, regulatory, operational and financial risks and opportunities to our businesses related to climate change.*
- *Monitor, review and improve the energy and greenhouse gas efficiency of our products, services and operations.*
- *Communicate and engage with customers, shareholders and employees regarding our energy and greenhouse gas performance".*

Dover issues an annual sustainability report which is available on [www.dovercorporation.com](http://www.dovercorporation.com).

## MISSION

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SWEP's mission is to "Lead the global development, production and marketing of brazed plate heat exchangers while facilitating conversion to sustainable products and processes." This is done while working under the business principle to "Globally consolidate and integrate heat exchanger demand across industries, customers and applications. Fulfill this demand, when an opportunity exists for outstanding value, with a mass-customized, modularized product closely adapted to the customer's needs."

## APPLICATION AREAS

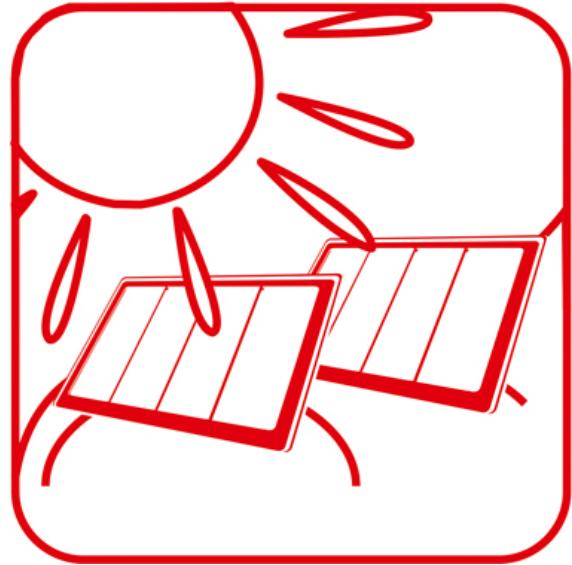
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The Brazed Plate Heat Exchanger (BPHE) is one of the most efficient ways to transfer heat from one medium to another.

A BPHE consists of corrugated plates combined to create complex channels through which a hot medium and a cold medium can be distributed. The mediums come into close proximity inside the BPHE, on either side of the corrugated plate without mixing, and energy is transferred from one to the other as they flow side-by-side.

The main applications areas are Air-conditioning, Refrigeration, Heating and Industry. In all application areas, SWEP's BPHE's serve to save energy, allow compact systems and achieve cost effective, leak free and sustainable installations.

One of the greatest environmental impacts SWEP can make is actually to put more of our highly efficient BPHE's in use thereby reducing energy waste, CO<sub>2</sub> emissions, refrigerant use and leakages.



## ENVIRONMENTAL SUSTAINABILITY APPROACH

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### ENVIRONMENTAL POLICY

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SWEP's environmental policy, which is built on its Mission and Basic Beliefs, states: "By this policy SWEP recognizes its responsibility towards protection of the environment, commits to minimize the environmental impact of its operations and sets its focus on advancing sustainable heat transfer system design.

SWEP will ensure that all aspects of our activities are conducted in accordance with sound environmental practices:

1. Act and operate with a mindset to minimize the environmental impact generated when developing and providing products and service to fulfill customer needs.
2. Develop and promote BPHEs that enable the best sustainable system design.

3. Reduce the creation of disposable waste through improved operating practices and recycling. Reuse and return of materials whenever practical.
4. Ensure that all waste and effluent are disposed of in a safe and responsible manner.
5. Develop and invest in processes that improve energy efficiency and/or reduce the negative impact on the environment.
6. Comply with environmental legislation.

SWEP aims to foster an understanding of environmental issues in the context of our business among its staff, suppliers, customers and local communities. Our collective task is to continuously reduce, prevent and mitigate harmful impact on the environment resulting from our total global activities”.

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## THE FIVE PILLARS

The efforts to align SWEP with its environmental policy, its mission and the guidelines from Dover are organized in five pillars for Sustainability Excellence;

- Design
- Operate
- Sell
- Report
- Train

The life time carbon footprint of SWEP's customers systems has a greater impact on the environment than the carbon footprint of the BPHE itself. The goal is to increase overall efficiency by 20% until 2020, based on established, application specific, efficiency standards (e.g. ESEER, JAZ, SP) and to establish a process which directs research activities towards the long term market plan aimed at sustainability.




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## ACTIVITIES

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### DESIGN

The scope is to develop technology and products for lowest life time CO<sub>2</sub> footprint of customer's systems, thus allowing for BPHE design that achieves superior energy efficiency.

SWEP's research planning considers environmental impact in each project by connecting the research activities towards renewable applications and sustainable refrigerants.

In 2011, the company launched the B17, which is specifically developed for environmentally friendly refrigerant applications. Read more on [www.swep.net/b17](http://www.swep.net/b17).

## OPERATE

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The operational goals of the company are to;

1. Attain a 50% CO<sub>2</sub> reduction by 2020 of direct emissions from internal activities at SWEP per kg sold BPHE.
2. Increase energy efficiency in our processes by 20%.
3. Source 50% of energy consumption from renewable or reusable energy sources.
4. Source all metal from suppliers with SWEP or Dover approved corporate sustainability strategies.
5. Every plant and sales office will supply an Annual Environmental Plan per Site to reduce CO<sub>2</sub> effect in their operations. These activities are linked to ISO 14001.
6. Suppliers Environmental Strategies are evaluated annually to decide which suppliers to replace, develop or maintain based on environmental concerns and progress made with suppliers.

## SELL

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SWEP's ambition is to increase sales through conversion to optimal sustainable systems, and thus enabling healthy long-term economic impact for customers, their clients and SWEP.

SWEP aims to increase sales in all segments related to renewable energy, where higher energy efficiency can be realized with SWEP's products. These specifically include Wind, Solar, Municipal Waste Heat Distribution via District Energy and Renewable Heat using Heat Pumps as defined by the European Renewable Energy Council. The company's goal is to drive market share in the renewable sector and to be the preferred supplier of BPHE's to

industry leaders. Sales will be driven towards products released during the past 5 years in order to help customers attain higher system efficiency.

## REPORT

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The company aims to demonstrate that the efforts to promote sustainability meet the desired goals. Intended data usage areas are auditing, publication and marketing.

The company intends to publish an Environmental Sustainability Report every year on its corporate website, of which the 2011 report is the first one.

## TRAIN

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The environmental Sustainability Training Program has a three-year scope. It is built on the components of;

- Cultural change
- Professional training
- General training.

The cultural change workshops are mandatory for all SWEP employees and serve to achieve increased awareness as follows: "My actions make a difference and our actions together have positive change on our environment".

This training serves to create awareness for the importance of Leadership, Mindset, Competence, Knowledge and the Avoidance of Short-sightedness. The professional training yields expertise required at SWEP. The content is developed in close liaison with the resident experts in each field.

SWEP's trained professionals assist customers in identifying system risk, in giving advice from legal, standards, environmental etc. points of view and in identifying opportunities with BPHEs in different applications. General training aimed at all SWEP personnel cover these areas:

1. SWEP Environmental Policy
2. E-friendly solutions
3. Electricity to produce BPHE
4. Conveyance of products/components
5. Motion of people




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## RESULTS

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### DESIGN

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Research projects targeting technology advances supporting environmental sustainability % as part of the research portfolio has been measured as 73% for the year 2011. The yearly target is 50%.

## OPERATE

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Spoilage of Metal is measured as returned metal to scrap buyer compared with purchased metal in kg. Scrap % increased by 0,3% from 2010 to 2011.

Increased process efficiency is measured per site as kWh/kg BPHE shipped and kWh/sqm (heat transfer area) BPHE shipped. This is measured in a standardized way for all Dover companies as kg of carbon dioxide equivalent per TUSD net revenue. The consumption of KWh was 32,326 123 in 2011. The consumption of KWh from renewable energy sources was 51% and from non-renewable energy sources was 49% in 2011.

Reduction of the CO<sub>2</sub> equivalent is assessed annually for all production sites and other major sites. This is measured as Kwh consumption per TUSD net revenue.

## SELL

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The share of renewable application areas calculated as SWEP sales to renewable applications in EUR / SWEP total sales in EUR reaches 18,2% from a 2010 level of 18,1%. The long term goal is to achieve 34% in 2020.

The percent of sales that originated from products released over the past 5 years is 24,5% in 2011, which is a decrease from 34,8% in 2010. The goal is 50%.

## REPORT

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The first SWEP Annual Environmental Sustainability Report has been completed. It covers the calendar year 2011.

## TRAIN

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Training material for environmental Sustainability was prepared for in 2011 with planned deployment in 2012. Customer survey on perceived environmental considerations in dealings with SWEP was prepared for in 2011 and planned to become a part of the annual SWEP Voice of the Customer survey next scheduled for June 2012.

The 2012 Environmental Sustainability Report will display solid progress in the KPI's. It will also show strong integration of the sustainability efforts into the general operations of SWEP.



## FUTURE

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The road ahead for SWEP is clear. The direction has been set both by SWEP's management team and by its mother company Dover and the operational framework has been deployed.

Over time, implementing environmental sustainability as a part of sound business practices will gain even stronger acceptance in SWEP's line of business. In this process, SWEP's cultural change training and the consistent reporting of KPI's go hand in hand.

## REFERENCES

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[www.swep.net](http://www.swep.net)

SWEP's Energy Efficiency offering  
[www.swep.net/green](http://www.swep.net/green)

SWEP's CO<sub>2</sub> range  
[www.swep.net/co2](http://www.swep.net/co2)

SWEP's AsyMatrix® technology  
[www.swep.net/asymatrix](http://www.swep.net/asymatrix)

SWEP's B17 Product page  
[www.swep.net/b17](http://www.swep.net/b17)

SWEP Voice of the Customer  
[www.swep.net/voc](http://www.swep.net/voc)

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## ABOUT THIS DOCUMENT

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