

FROM THE CEO

TOPSIL IN BUSINESS

CASES

CSR EFFORTS IN LINE WITH BUSINESS STRATEGY

UN GLOBAL COMPACT

SUPPLIER ASSESSMENT

ADDITIONAL INFORMATION

# COMMUNICATION ON PROGRESS (COP) 2013

The logo for TOPSIL, featuring the word "TOPSIL" in a bold, white, sans-serif font. A small red dot is positioned above the letter "I".

**TOPSIL**

**IT IS OUR MISSION  
TO PROVIDE SOLUTIONS  
THAT ENABLE CUSTOMERS  
MANUFACTURE ADVANCED,  
ENERGY EFFICIENT POWER  
COMPONENTS.**

Topsil Semiconductor Materials A/S hereby reconfirms its continued support of the UN Global Compact in the below statement:

March 2014

#### UNITED NATIONS GLOBAL COMPACT

On behalf of Topsil Semiconductor Materials A/S I hereby reconfirm our company's continued support of the Ten Principles of the United Nations Global Compact in the areas of Human Rights, Labour Rights, the Environment and Anti-Corruption. We acknowledge our ongoing responsibility to balance the economic interests of our company with those of our external environment and commit to share our efforts and concerns using our primary channels of communication.

In this annual Communication on Progress, we describe the actions taken in the past year to improve our performance on CSR-related matters as well as the goals set for 2014.

In 2013, we continued minimising our environmental footprint by installing new and improved production equipment in our new plant. We set up targets to encourage a more even gender balance in managerial positions, and we enhanced our efforts to make Topsil a safer workplace.

We furthermore addressed the well-being of our employees in the biannual employee survey, rolled out on all company locations. This led to fruitful discussions on departmental and management level alike which has helped us better understand and approach the strengths and challenges of our organisation.

“ We are proud that Topsil's ultrapure silicon wafers contribute to energy efficient power solutions.

*Kalle Hvidt Nielsen, CEO*

Altogether, I am happy with the results of 2013. I am confident that the goals set for this year will further help us on our path to a more sustainable existence.

Kind regards,



**Kalle Hvidt Nielsen**  
CEO



# SILICON IS USED IN ALL PARTS OF MODERN SOCIETY

## ELECTRIC AND HYBRID VEHICLES

Electric cars and hybrid vehicles are expected to become more common on the road in future. However, they can only run if their batteries are charged beforehand, and it is only possible to shift to a higher or lower gear if the electricity supply is regulated.

Silicon has good power control properties and may be used for energy-efficient electricity supply and regulation. Silicon is used, for example, under the bonnet and in the charging stations used to charge the car.



## WIND TURBINES

A wind turbine must be able to catch the wind and rotate, generate electricity and connect to and disconnect from the power grid depending on the wind force. Intelligent electronics is required for operating wind turbines and transporting energy, and this is where silicon comes in.

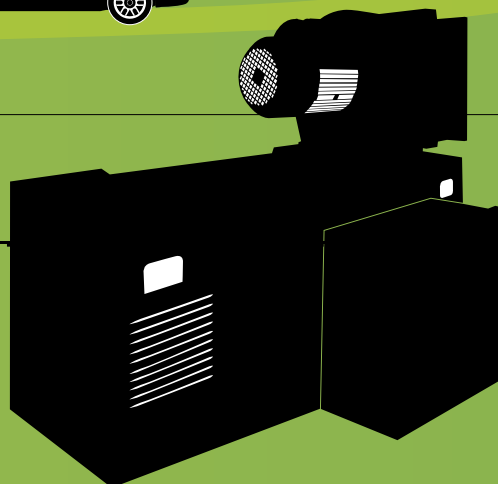
Silicon is used in the electric components of the wind turbine nacelle. It is also used in the transformer system collecting energy and distributing it to the power grid.



## PRODUCTION MACHINERY

The industry needs electricity to manufacture goods. Production machinery requires turning on and off, and it must be possible to adjust electric energy and speed.

Silicon is used in machine control mechanisms and electric motors to control and conduct electricity. Silicon is a highly efficient material contributing to optimum machine control as well as optimum energy consumption.



## TOPSIL IN BRIEF...

- Topsil's is a dedicated manufacturer of ultrapure silicon. The silicon is so pure that only a handful of companies in the world have sufficient knowledge and capabilities to produce it.
- Topsil provides silicon in the form of wafers. Ultra-pure silicon is inserted in advanced electrical components that form part of various high-voltage applications.
- Topsil was founded 1959 by the Dane Dr. Haldor Topsøe and is publicly listed on the Nasdaq OMX Nordic stock exchange. Topsil is headquartered in Copenhagen Cleantech Park, Frederikssund, Denmark, and has subsidiaries in Warsaw, Poland and Kyoto, Japan.
- Topsil's customers are mostly large multinational corporations in the semiconductor industry and a few are

research institutes and universities located all over the world.

- The megadrivers for Topsil's main market, the power market, are population growth and a global rise in per capita income. Population growth - and growing middle classes - leads to an increased demand for energy and a functional energy infrastructure, transport investments, green energy, and energy efficiency. In order to exploit this long-term market potential, Topsil has invested substantially in new facilities, technology and equipment.
- Topsil's expected revenue in 2013 is in the range of DKK 310m. The average number of employees in 2013 was 344.

Learn more: [www.topsil.com](http://www.topsil.com)

## ELECTRIC TRAINS

Electric trains moving at high speeds pick up energy from overhead wires and the rails. An energy-efficient electricity supply is required, and this is where silicon comes in.

Silicon helps regulate train speed and pick up energy. For example, it is used in complex power control systems installed on top and underneath trains.

## POWER GRIDS

Silicon contributes to energy-efficient transport of electricity. In the intelligent electricity distribution network of the future, "Smart Grids," different energy sources may be connected or disconnected according to need in order to balance consumption day and night.

Silicon helps convert electricity from, for example, alternating current to direct current, to connect to the grid, and to ensure a smooth transport of current, often over long distances.

Facility

# WASHING SILICON INGOTS IS BETTER AND CHEAPER THAN ETCHING

Take two chemical engineers, an established production process and some coffee. Add constant eagerness to improve the state of things, a whiteboard and a good deal of creative thinking. An idea pops up. The idea takes hold in a project organisation – it is thoroughly discussed – and by the end of 2013 an automatic washing machine is installed at Topsil's new plant in the Copenhagen Cleantech Park. By using the washer, silicon ingots no longer have to be etched, instead they can be washed before the next process step. What is the effect? It is expected that the washer will shorten the processing time and reduce the environmental impact. It also means lower operating costs.

It was probably during discussions of production flow at Topsil's new plant that the idea first popped up. The plant was built around the production process silicon goes through from receipt of the raw material through melting and post processing until, cut into smaller units, the finished silicon ingot leaves the plant again. During the planning of flows, processes and machinery, the various process steps before and after the silicon production were discussed.

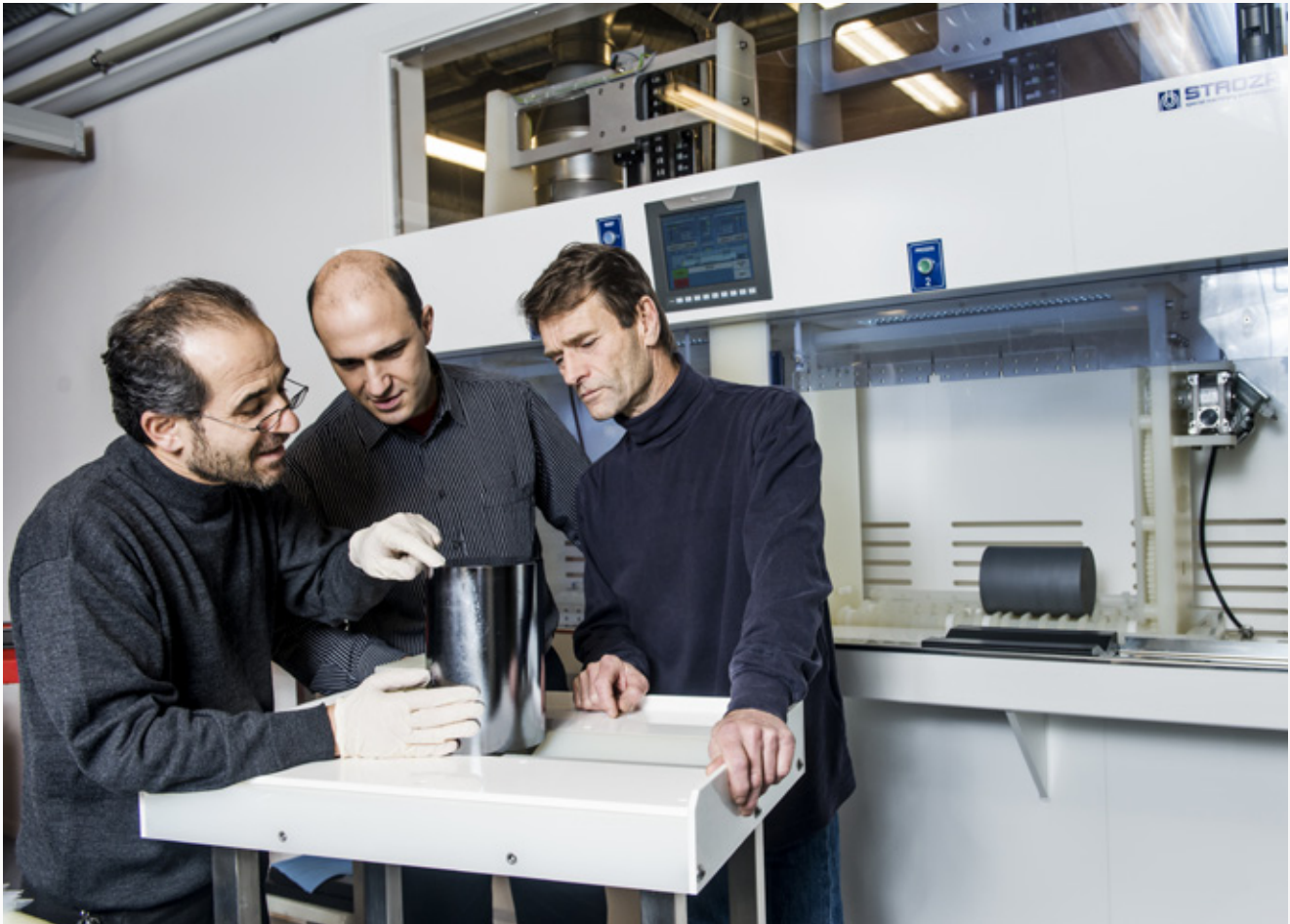
Two chemical engineers, Loghman M. Easa and Leonardo Malcovati, had an idea: maybe a certain type of finished silicon could be washed with a soap and thereby treated in a rather milder process than the etching process otherwise used. Working with the steps around melting the raw material, they have detailed knowledge of the material and the customer demands that any proposed production-process changes must meet. They assessed that the milder treatment of silicon with soap instead of etching would produce the same good end result.

“What is important is that metals are removed from the silicon ingot. We made calculations to see whether the soap could replace the stronger etching process otherwise used at Topsil,” Loghman M. Easa explains. “It was improvements to other steps in the process that led us in the right direction. We got the green light for experiments with the soap, and the results were good. We were able to remove the traces of metal as before, and we concluded that the new approach would in fact speed up the process.”

## **MILDER WASHING OF SILICON INGOTS**

Calculations were made of the improvement potential, which turned out to be significant with respect to time, the environment and consumption of materials. It was demonstrated that the new washing process does not change the silicon quality. This paved the way for developing the washer.

Jens Lillegaard, who was appointed project manager for the job, explains: “We defined a number of requirements with respect to how the crystal should be handled with washing, rinsing and drying. This resulted in three solution models which were tested in terms of criteria such as avoiding contamination and minimising



Loghman M. Easa (left), Leonardo Malcovati (middle) and Jens Lillegaard (right) inspecting a silicon ingot after its wash.

the use of soap and water. It was also important that it was easy to fit the machine into the existing production flow.”

The machine selected is as easy to operate as a conventional dishwasher: Open the front, place the crystal in the machine and press the start button. Another advantage was that it could easily be fitted into the existing work cell as there were no hazardous chemicals involved. As a result, the process involves fewer hand-overs as the same working group can now handle the entire process from silicon melting to warehouse storage.

#### **LOOKING FORWARD TO SEEING THE FIRST RESULTS**

Tests of the new machine produced successful results, and Jens Lillegaard looks forward to seeing the effects of the new process. “Although the name indicates something different, this is not a conventional washing machine like the one people use at home. It is uniquely designed for our purpose and based on a special proprietary process. We expect a lot from the new method.”

He explains, “We estimate that our annual consumption of chemicals for etching will be reduced by one third because of the new set-up. The soap is substantially less environmentally harmful and cheaper. In addition, it simplifies and shortens the process step. Altogether, I believe this it is a well thought out improvement we can be quite proud of.”

# CSR EFFORTS IN LINE WITH BUSINESS STRATEGY

Topsil's CSR activities are well aligned with our overall strategy of our company and an important element in our continued success. We aspire to grow responsibly, to focus on our use of resources and to maintain a motivated workforce to drive our business forward.

When prioritising our CSR initiatives, we will focus on areas believed to generate the most benefit. For instance it makes great sense to find new ways to minimise our harmful impact on the external environment, while at the same time cost optimising our business.

The CEO is responsible for Topsil's aggregated CSR efforts while dedicated management resources drive continuous improvements in each field. Thus, the personnel manager safeguards overall compliance with the human rights and anti-corruption principles whereas production management is responsible for the safety and environmental initiatives.

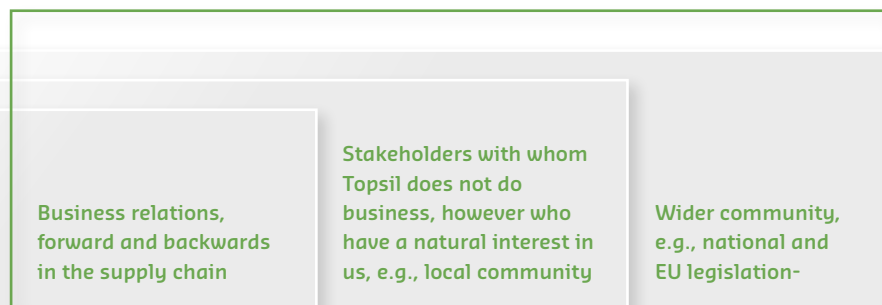
## STAKEHOLDERS, GOAL SETTING AND REPORTING

In order to structure our approach to CSR and decide where to focus, we distinguish between our sphere of control and sphere of influence as depicted below.

### SPHERE OF CONTROL



### SPHERE OF INFLUENCE



Within our sphere of control, we continually monitor our performance by setting corporate goals year-on-year. Hence, we have for instance set specific targets for reducing our environmental impact, improving our safety performance, and encouraging a more even gender balance in our Board of Directors and other managerial positions.

Enhancing of our environmental performance is further supported by use of the TS16949 and ISO14001 tools, which are our certified quality management system and environmental management system, respectively.

The outcome of all CSR performance is reported to the Board of Directors.



# SUPPLIER ASSESSMENT

Although the vast majorities of the CSR resources are applied within our sphere of control, Topsil also seeks to exercise its influence on external stakeholders.

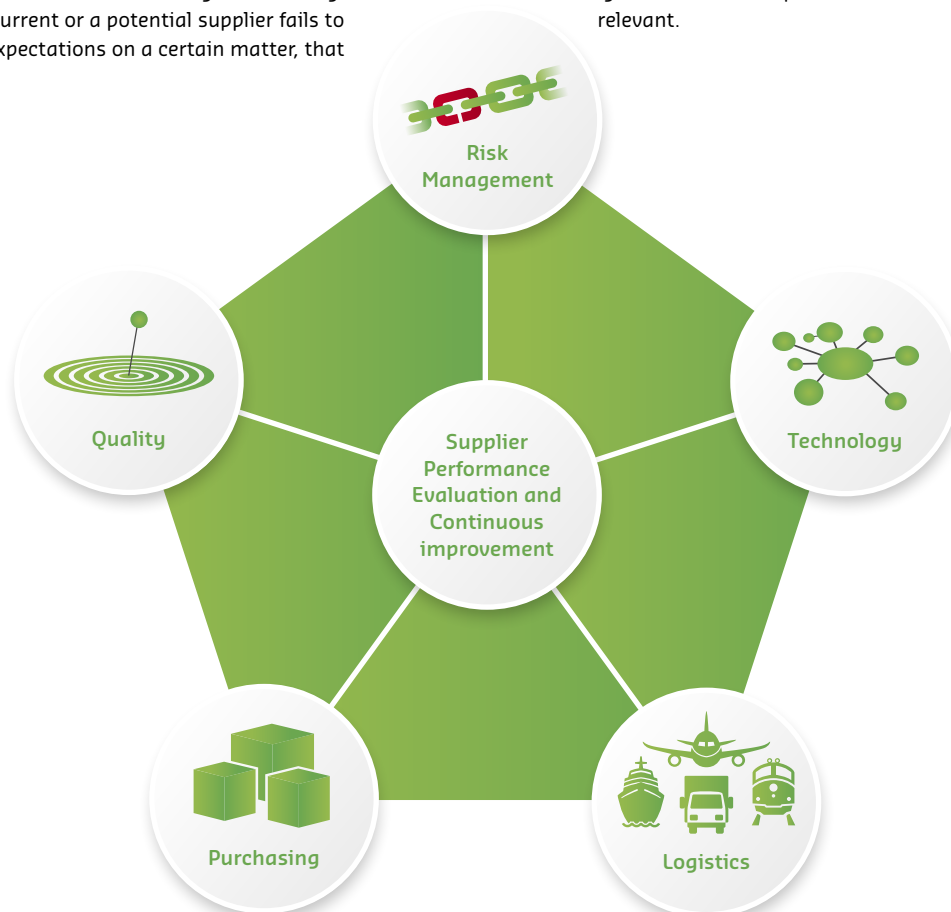
Hence, we have established an internally managed supplier assessment system that ranks our suppliers in relation to a vast number of parameters. The system, including its main parameters, is showed in the figure below. Corporate social responsibility forms part of the risk management assessment.

A number of evaluation criteria have been set up in relation to the various parameters. This enables a regular rating. Topsil addresses each criterion when screening and auditing a supplier, and if a current or a potential supplier fails to meet an explicit expectations on a certain matter, that

supplier will receive lower aggregated ranking. When reporting its findings to the supplier, Topsil presents suggested improvement actions, including those concerning CSR.

Each supplier belongs to a certain supplier category. The category depends on its relative importance to Topsil in terms of key manufacturing processes. The most business critical suppliers are ranked as A and B suppliers and are as a minimum reviewed every 3rd and 5th years, respectively.

In relation to other stakeholders within our sphere of influence, we obey national and international legislation and will further bring forward our view points and concerns whenever relevant.



# HUMAN RIGHTS PRINCIPLES

## TOPSIL SUPPORTS THE FOLLOWING HUMAN RIGHTS PRINCIPLES

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses

## POLICY ON DIVERSITY

Operating globally, Topsil regards a diverse work-force as an asset. We hire on the basis of talent and personality and offer the same possibilities to all employees, regardless of their background, religion, political conviction, gender or age. We encourage that everybody reach their full potential in accordance with personal ambitions and goals.

We promote a work environment of respect and inclusion and expect our employees to act politically and religiously neutral, when acting on the behalf of the company. We acknowledge the right to organise and bargain collectively and do everything in our power to avoid discrimination.

## GOALS FOR 2013 AND MEASUREMENT OF OUTCOME

In March, Topsil's Board of Directors approved the following policies and targets for the under-represented gender in management:

### TARGET FOR UNDER-REPRESENTED GENDER, BOARD OF DIRECTORS

In selecting new candidates for Topsil's Board of Directors, it is important that candidates have specific professional competencies and qualifications from listed companies and international experience. In addition, consideration concerning diversity in terms of nationality, religion, political conviction, age and gender applies. Specifically in respect of gender, Topsil aims to retain and, if possible, increase the number of women on the Board of Directors in the current strategy period (2013-2015). To be able to meet this goal, Topsil will ensure that during potential recruit-

ment processes, employees and external partners involved will be fully informed of the Company's diversity policy.

#### TARGET FOR UNDER-REPRESENTED GENDER, OTHER LEVELS OF MANAGEMENT

In regard to women in managerial positions, Topsil currently is under-represented. It is Topsil's aim to increase the number of women in managerial positions by ensuring a number of qualified female candidates for future management positions. Hence, in hiring processes, Topsil will instruct its recruitment agencies to act accordingly.

#### STATUS OF GENDER BALANCE, MANAGERIAL POSITIONS

2013	Males	Females
Board of Directors	4	0
Management	23	6
Total	27	6

#### EMPLOYEE SURVEY

As planned, Topsil conducted its biannual employee survey end of 2013. The survey consisted of around 40 questions related to employee wellbeing and opinions on the organisation. It was conducted anonymously and extended to comprise all company locations. The results were presented to management and staff for further discussion. Based on these discussion, areas for improvement were identified and action plans being implemented.

#### FOCUS OF 2014

In 2014, Topsil management plans to follow up on the employee survey to make sure that agreed focus points will be duly addressed.

Topsil will furthermore make sure that during recruitment processes, the diversity policy and targets for a more even gender balance in managerial positions will be put forward.

#### OTHER INFORMATION

According to the Danish Companies Act, Topsil's employees have a statutory right to elect a number of Board of Directors representatives, corresponding to half the number of externally elected members. Hence, two Topsil employees are full members of the Board.

According to EU legislation, Topsil calls for works council meetings on a regular basis, in which representatives from management and appointed employees have the possibility to discuss the overall situation and working climate of Topsil. The minutes of these meetings are communicated to local staff.

Topsil's next employee survey is scheduled for end of 2015.

Topsil's aggregated distribution of gender, age and ethnical composition is publicly available here: <http://www.topsil.com/en/career/personnel-figures.aspx>



*The new facility and new production equipment have given Topsil a unique possibility to strengthen its safety culture explains Jakob Kyllsbech, responsible Manager, Denmark.*

## Safety

# FOCUS ON EMPLOYEE SAFETY

Transferring production from one location to another means new safety routines. New production equipment must be handled correctly and safely, and larger-diameter silicon ingots have increased the need to use cranes throughout the production area. Production Manager and manager responsible for safety at Topsil, Denmark, Jakob Kyllsbech, defined new safety standards for production in 2013 and altogether lifted the focus on employee safety even further.

Changing well-established company routines often requires a lot of resources. Strong habits may be difficult to break. A transfer of production was the natural occasion for defining new safety standards at Topsil.

“The ongoing transfer of production to a new, future-proofed production plant has given us a unique opportunity to increase safety and strengthen our safety culture. The new generation of production equipment is built according to the latest knowledge about machine safety. More specifically, this means better shield-

ing and, thus, fewer potentially hazardous situations, for instance with respect to hand injuries,” explains Jakob Kyllsbech. “On the other hand, we now handle larger silicon ingots than we did before. This has increased the need for using lifting cranes between the various process steps. Employees must be trained to handle the equipment correctly and to understand the importance of using the equipment. In other words, we are working with the whole safety culture.”

One thing is that employees directly involved in production are required to wear protective clothing so they can avoid injuries during the production process. In this respect there are no major changes from the previous to the new location. But the transfer has led to new standards for the entire organisation “As we were already in the process of implementing new safety routines in production, we decided to also focus more on safety throughout the organisation. For example, we have reviewed our contingency plan at meetings attended by all employees, and we have tested our procedures in the event of a fire alarm,” he says.

It creates greater assurance in an organisation when all employees know the procedures and what to do. But safety is not just about what goes on at Topsil’s premises. “We also need effective interaction with the people outside the organisation who will help us in case of an emergency. We recently had healthcare staff from the local hospital visit us as well as representatives from the Poison Control Hotline who are experts in handling injuries caused by chemicals. It is important to us that the local hospital has the necessary knowledge and knows which countermeasures to apply if a staff member is exposed to hazardous chemicals. That is all important if an accident occurs,” explains Jakob Kyllsbech, then adds “We have a zero injury safety policy. That is a good benchmark. We will be taking more initiatives in the coming year”.

# LABOUR RIGHTS PRINCIPLES

## TOPSIL SUPPORTS THE FOLLOWING LABOUR RIGHTS PRINCIPLES

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

## POLICY ON SAFETY

Safety must be top of mind when Topsil employees go to work. It is our position that all accidents can and should be prevented and that all hazards must be minimised through ongoing, structured efforts. Literally speaking, we want our staff to go home from work as healthy as they were when they arrived at their work place.

In order to obtain this goal, it is a continuing objective to prevent accidents and work related ill-health through effective management, administration, education and training.

## GOALS FOR 2013 AND MEASUREMENT OF OUTCOME

Management regularly follows up on Topsil's safety performance. This is done by presenting corporate safety figures to management every three months at a management evaluation meeting.

## FOCUS OF 2014

Topsil strives to obtain an ultimate goal of zero work related accidents, defined as any work related injury, resulting in one or more days of absence.

Again in 2014, the safety organisation will scrutinise every work related accident as a means to improve its intelligence on safety and to avoid recurrence. Furthermore, the safety organisation will perform preventive inspection rounds of the production areas regularly to prevent the occurrence of potential dangerous situations. The safety organisation will, moreover, increase the number of emergency drills in order to train company employees in handling possible emergencies.

## OTHER INFORMATION

Following national legislation in Denmark and Poland respectively, a health and safety body is set on each company location. The safety organisation consists of management and staff representatives and is overall responsible for Topsil's health and safety performance. The body oversees compliance with applicable legislation and plans activities to minimise safety risks. It is also responsible for conducting workplace evaluations and implementing improvements.

# ENVIRONMENT PRINCIPLES

## TOPSIL SUPPORTS THE FOLLOWING ENVIRONMENT PRINCIPLES

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies

### POLICY ON THE ENVIRONMENT

Topsil continuously strives to reduce the environmental impact of our operations by integrating environmental consideration into any activity with an environmental impact.

We give priority to areas where we believe the effect will be greatest, and commit to working methodically with reducing our energy consumption and waste, year on year.

### GOALS FOR 2013 AND MEASUREMENT OF OUTCOME

Again in 2013, Topsil set up specific goals to minimise the consumption of energy and water.

The corporate figures of the environmental performance were presented to management every three months at a management evaluation meeting.

### FOCUS OF 2014

Programs for reduction of Topsil's environmental impact are an integrated part of Topsil's strategic initiatives. In 2014 new targets have been set which covers also the new production plant. The KPIs for the year include water and energy consumption as well as chemical usage and waste handling. We continue our discussion as to how we may further reduce our environmental impact.

### OTHER INFORMATION

The managerial framework for the monitoring of Topsil's environmental performance is the ISO14001 system to which all production sites are certified.

# ANTICORRUPTION PRINCIPLE

## TOPSIL SUPPORTS THE FOLLOWING ANTI-CORRUPTION PRINCIPLE

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery

### GUIDELINES ON ANTI-CORRUPTION

It is Topsil's fundamental principle that any business activity and relation with customers, business partners and authorities must be honest, fair and transparent and in compliance with applicable laws. We do explicitly not accept bribery or facilitation payment in any form and we do not permit gratitude activities between private individuals.

Topsil has adopted an internally communicated set of guidelines concerning business related gratitude, i.e. how we handle gifts, entertainment and hospitality provided by Topsil and its business partners.

### GOALS FOR 2013 AND MEASUREMENT OF OUTCOMES

In 2013 Topsil's main focus was the implementation of our Code of Conduct to make sure that our employees are able to identify possible ethical dilemmas and that they are able to make the right choices. We furthermore continued to address the issue with our external business partners.

### FOCUS OF 2014

Top strengthen our overall anti-corruption activities, a plan to establish an employee whistleblower function has been decided in the beginning of 2014. The function will be set up to further encourage that possible unethical behaviour or misconduct of the workplace will be duly reported to be acted upon.

# ADDITIONAL INFORMATION

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## DISSEMINATION OF OUR COP REPORTING

- Topsil's COP for 2013 is published on Topsil's website [www.topsil.com](http://www.topsil.com)
- Topsil's COP for 2013 is published on the UN Global Compact website [www.unglobalcompact.org](http://www.unglobalcompact.org)
- Topsil's COP for 2013 is published on Topsil's intranet.
- Topsil's COP for 2013 will be communicated to our suppliers

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## REPORTING PERIOD:

This report focuses on the results of activities for Topsil's fiscal year 2013 (from 1 January 2013 through 31 December 2013).

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## PUBLICATION:

Topsil signed the UN Global Compact 8 March 2011.

Current issue: March 2014

Next issue: Scheduled for March 2015, covering FY 2014

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## FURTHER INFORMATION:

Further information on Topsil A/S to be found on [www.topsil.com](http://www.topsil.com)

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