This report presents developments in our corporate sustainability strategy, activities and results in 2012. Corporate Social Responsibility (CSR) performance is an integral part of our operations. Every year we work on further improvements to enhance the data and reporting cycle for our non-financial performance. We have not yet had our CSR performance verified externally. This report has been compiled in accordance with the third generation guidelines of the Global Reporting Initiative (G3.1).

This Sustainability Report is published in digital form only. To increase its readability and functionality, the report has been posted on our website in HTML format and can also be downloaded as a PDF document. In the event of textual inconsistencies between this English translation and the original Dutch version, the latter shall prevail.

Enter the Trade Register of the Chamber of Commerce for the Southwest Netherlands under number 20028699.
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About Cosun

Profile

Royal Cosun is an agro-industrial group that is firmly rooted in the primary sector. The businesses that make up the Cosun group are Aviko, Duynie group, Sensus, Suiker Unie and SVZ. They make food ingredients and products that are sold through the food industry and the foodservice and retail channels. The Cosun businesses are also increasingly making components for non-food applications.

Our strength lies in extracting the maximum value from biomass. Our ambition is to earn a good return on all our activities while respecting the environment, people and society. As a cooperative of sugar beet growers we are fully aware of our responsibilities in the supply chain for current and future generations. We have been bearing this responsibility for so long that it is now second nature. But that does not mean we no longer have any ambitions for sustainability. Quite the opposite!

Of the five businesses that make up Cosun, Suiker Unie and Aviko are the most widely known. They have traditionally produced sugar and potato specialities respectively.

Sensus produces inulin from chicory for use in foodstuffs. Inulin is a dietary fibre that is used to reduce the sugar and/or fat content of food.

SVZ processes fruit and vegetables into concentrates and purees for the food industry. The Duynie group is a trader and distributor of animal feed and develops advanced applications based on residual flows and by-products from the food industry.

In addition to developing products themselves, the Cosun businesses can draw on the expertise of their own research and development centre: the Cosun Food Technology Centre (CFTC). CFTC supports the business groups with innovative technology and new applications.

Royal Cosun was formed more than 110 years ago by Dutch sugar beet growers who joined forces in a cooperative. At the end of 2012, the cooperative counted 9,708 members/beet growers and had grown into a group with some 3,400 full-time employees and a turnover of about EUR 1.9 billion.
Maximising the value of raw materials

Our success is increasingly being determined by our use of all the raw material in a process known as biorefinery. We begin by analysing the precise contents of a biomass flow. We then look at how we can extract the components as efficiently as possible using the most appropriate techniques.

The challenge is to extract as many components as possible in order to make optimal use of the biomass.
By maximising the value we extract from our raw materials and residuals, we help the farming industry remain viable. The primary sector indirectly creates many jobs in the food, transport, export and, in the longer term, non-food industries.

Cosun’s goal is to promote the sustainable and regional production of biomass. Together with the growers, we achieve this by closing water and nutrient cycles wherever possible. With the aid of excellent green education, growing advice, shared knowledge and experience, research and the most modern technologies, our growers are constantly increasing their yields per hectare and lowering their environmental footprints. The sugar yield in the Netherlands, for example, has advanced to more than 13 tonnes per hectare, with the potential for even further increases. This enables us to produce more raw materials from the fields and use them in new applications.

The starch that remains in the process water when potatoes are processed into chips and other products can be extracted and used as a raw material for paper and adhesives. We make horticultural potato cork from potato peelings, and ethanol and other chemicals from sugar beet. Molasses and thick juice are often processed by our customers into biobased products.

Bio-energy
The tops and tails of the sugar beet, some of the potato peelings and the fruit and vegetable residues used to be turned into compost. We can extract more value from them, however, if we ferment them into biogas and digestate. Suiker Unie upgrades the biogas into green gas and feeds it into the national natural gas network. Our goal is to produce more than 20 million cubic metres of green gas in the Netherlands every year, enough to meet the average annual needs of 15,000 households. When the digester in Anklam (Germany) is operational, Suiker Unie will have the capacity to produce more than 30 million m$^3$ of green gas per annum. Suiker Unie also takes part in practical tests and runs several cars and trucks on its own green gas instead of diesel. The digestate, which contains organic matter and minerals, is suitable to be returned to the fields so that nutrient cycles are closed.

Cosun wants to grow its turnover and profitability. We expect the demand for biobased materials and chemical applications to grow in the future. Society is calling for products that are produced in a responsible way. Cosun can respond to this demand by supplying products and ingredients made from renewable vegetable raw materials. As a matter of principle, we give priority to the applications with the highest added value. We are thus seeking both food and non-food applications. This seamlessly matches our ambition of optimizing the value of our raw materials.

We believe farmers and horticulturalists deserve a fair price for their products, both in Europe and elsewhere in the world. Growers will not continue to invest in further production improvements if they do not earn a decent living. They also need a variety of sales options for both food and non-food products that use all parts of the plant.

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Products

**Food for people and animals**
Cosun produces ingredients primarily for the food industry. By far the largest sales channel is industry. Sugar, inulin, potato flakes and fruit purees are processed and used in many products such as soft drinks and fruit juices, confectionery, biscuits and baked goods, breakfast products and cereal bars, dairy products and ice cream, savoury snacks, etc. Aviko sells many potato specialities and potato chip varieties in the foodservice sector and through the supermarket channel. Under the Van Gilse brand name, sugar specialities are marketed through the same channels. Most of the pulp produced when sugar is extracted from the beet is processed into animal feed. Chicory pulp and residual flows from the potatoes, too, are processed into animal feed. This is the market in which the Duynie group is active, also for other companies in the food industry. In addition to these ‘traditional’ applications, we encourage innovative applications and products. Natural colourings, extracted from fruit and vegetables, for example, are used by the food industry. Demand for natural colourings is also growing from manufacturers of pharmaceuticals and ‘nutraceuticals’ (functional foods).

**Biobased chemicals & materials**
We are extracting more high value components from our potatoes, sugar beets, chicory, fruit and vegetables. The inulin derivative, CMI, for example, is used as a phosphate substitute in dishwasher detergents. It is also used on offshore oil rigs to prevent scaling and in desalination plants to purify salt water into drinking water. CMI is also biodegradable.

**Strategic perspective**

Food production is and will remain our core business. More than eighty per cent of the biomass we process is used in foodstuffs. Ten per cent is processed into animal feed and the remainder into bio-energy and biobased materials.

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Locations* 

* Production locations in the Netherlands, Europe, U.S. and Asia.
**Key figures**

**Net turnover**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>1,674</td>
<td>1,758</td>
<td>1,766</td>
<td>1,772</td>
<td>1,945</td>
</tr>
</tbody>
</table>

Consolidated net turnover of Cosun.

**Recurring EBITDA**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>132</td>
<td>148</td>
<td>160</td>
<td>158</td>
<td>270</td>
</tr>
</tbody>
</table>

Recurring EBITDA is operating profit before depreciation and amortisation, after adjustment for activities divested and non-recurring items.

**Members’ bonus**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>33</td>
<td>50</td>
<td>64</td>
<td>118</td>
<td>179</td>
</tr>
</tbody>
</table>

The members’ bonus is paid to the members as part of the quota beet price and recognised as a cost of raw materials in ordinary operating profit.

**Beet yield per hectare in the Netherlands**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>2,902</td>
<td>3,252</td>
<td>3,082</td>
<td>4,038</td>
<td>4,871</td>
</tr>
</tbody>
</table>

The beet yield per hectare, calculated on the average yield with average quality and after premium payments.
The lower part of the figure represents direct emissions caused by our use of fossil fuels. The upper part is the indirect emission relating to the purchase of electricity, converted into tonnes of CO₂.

Total number of complaints about Cosun’s 30-plus production locations in the Netherlands and abroad.

Total water consumption of all Cosun production locations in m³ per tonne of product.

Total volume of residual material per tonne of product, broken down into organic, other separated and mixed flows. The figures relate to the proportion of other separated and mixed waste.
Average number of staff during the year with a contract of employment with Cosun or one of its business groups.

Average number of FTEs by Cosun business group in 2012.

Total number of lost time incidents at Cosun business groups per 1,000 employees.

Rate of sickness absence at the Dutch locations of the Cosun business groups, excluding maternity leave.
Cosun has evolved into a group that uses sustainable methods to process vegetable raw materials into products and ingredients for food, animal feed, non-food applications and, recently, renewable energy. We also have the ambition of gaining a foothold in new applications in the biobased economy founded on renewable raw materials. This ambition matches our aim of creating a more sustainable economy.

We understand how to grow the biomass (vegetable raw material) and process it in biorefineries, and we work with the buyers of the resultant components. Thanks to our knowledge we are able to grow and contribute to a more sustainable agri-food sector.

We are investing in more efficient production processes with a view to the return we earn and the environment. And we are investing in our people. Their dedication, skill and inventiveness largely determine our performance. We offer internal and external courses so that our staff can hone their skills and strengthen their personal development. As an employer, we are responsible for a pleasant and safe working environment in our factories and offices. Our safety and fitness programmes are a means to achieve this.

The cooperative is the ideal business model to realise this green growth. The members/growers invest in these activities in order to guarantee the longer-term profitability of beet cultivation in the arable farming sector and to retain an important crop in the crop rotation system.

On the sales side, we foresee a further reduction in the measures to protect the incomes of beet growers. Beet growers, sugar factories and sugar processors will therefore have to accept that price fluctuations will become stronger. That is why we are seeking added value within the cooperative in order to stabilise the financial yield per hectare of beet. This interplay between the members and their cooperative and the shared interest form a natural platform to take decisions for the future.

Our targets have been translated into key performance indicators (KPIs) to monitor the progress of our CSR policy. We made improvements in several areas in 2012. Energy consumption was reduced further. A growing proportion of the organic residual matter was fermented to produce biogas, which is fed into the national transmission network as green gas. In other areas, we have not yet achieved our targets. The number of lost time incidents, for example, was again too high. To bring the number down, we have taken extra measures and launched special programmes at various business groups.

We are facing many challenges that will make high demands on the group, our staff, our members and other suppliers of our raw materials. In the knowledge that we have excellent people and resources, we are looking to the future with confidence.

Jos van Campen
Chairman of the Board

Robert Smith
President & Chief Executive Officer

Green growth

Cosun Sustainability Report 2012

Jos van Campen
Chairman of the Board

Robert Smith
President & Chief Executive Officer
Our vision
The world population will expand further in the decades ahead and purchasing power is also forecast to grow. Raw materials, farmland and energy, by contrast, will become scarcer. These trends will force us to make fundamental choices. Our current prosperity must not be allowed to have serious consequences for nature and finite resources must not be lost for future generations. We must make even more careful and efficient use of the world’s natural wealth. In those areas which it is active and can bring its influence to bear, Cosun will play its part in making the world more sustainable.

Cosun takes a pragmatic approach to corporate social responsibility (CSR). CSR defines how we take account of the various interests in our decisions. We look further and deeper than just our own activities and the current financial year. The agri-food industry in which we operate provides both the framework and the departure point for our CSR policy.

Policy & organisation

Cosun’s sustainability policy is built on four pillars:

1. Sustainable cultivation and raw materials (supply chain responsibility)
   Cosun operates close to the arable sector and works with farmers on the sustainable cultivation of vegetable raw materials. We are convinced that the refinery of vegetable raw materials is essential to make optimal and sustainable use of our agricultural raw materials and natural resources. We deliver ingredients for food and feed, materials for many non-food applications and ultimately for energy production. We carefully balance respect for people, planet and profit with the continuity of the business and the cooperative.

2. Sustainable production (care for raw materials, consumables and the environment)
   Natural resources and raw materials are becoming scarcer and more expensive. The environment benefits when the impact of our activities is minimised and cycles are closed. Cosun invests in its processing facilities and people to make optimal use of scarce resources and improve the quality of life near its factories.

3. Good employment practices (committed employees)
   The Cosun business groups are process-based. But the critical factors are not the processes or the technology but the people. They run our processes, solve problems and present ideas for improvement. We invest in our people by offering them professional training courses. We also provide a safe workplace and pleasant working conditions and look after their physical and mental condition. Fit and motivated employees are more productive.

4. Transparency (accountability to stakeholders)
   Cosun is a cooperative that is transparent to its members. We have long-term ties with our members because they also supply the beet to our Dutch sugar factories. They are considered in the deliberations and decisions of the cooperative’s management and in its meetings and publications. Other stakeholder groups are also actively involved in and informed of issues that affect them, for example by means of this report.
We have set a series of social and environmental KPIs to measure the results of our efforts. We also account to our members for the return earned on the capital invested and our contribution to the financial result per hectare of sugar beet. Responsibility for the financial result is shared between our members/beet growers and ourselves as a sugar manufacturer. More information on our financial results can be found in our Annual Report for 2012.

<table>
<thead>
<tr>
<th>Social</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The rate of staff sickness absence must remain at least 20% below the rate reported for Dutch industry as a whole.</td>
<td>• Energy consumption in our production processes must be reduced by 2% on average per annum. This will contribute to a further reduction in the CO2 emitted by our production processes.</td>
</tr>
<tr>
<td>• Absenteeism due to incidents at work must eventually be reduced to zero. The target for 2013 is 25 cases at most per 1,000 FTEs.</td>
<td>• Water consumption must be further reduced. In 2013 we will study how this can best be achieved.</td>
</tr>
<tr>
<td>• The number of complaints by local residents must be reduced. The target for 2015 is less than one on average per location.</td>
<td>• Organic waste from our production processes must be minimised and/or used to produce biogas or green gas.</td>
</tr>
</tbody>
</table>

**Other targets**

In addition to the KPIs stated above, we have set goals in other areas, too. Initiatives have been taken to make the cultivation of agricultural raw materials more sustainable, to increase cooperation in the supply chain, to reduce the CO2 emitted during transportation and to train our people. We also report on our performance in these areas in this report. We measure the outputs in these areas but we have not yet set a Cosun-wide target.

**Embedding**

Corporate social responsibility is embedded in our strategy. The Board bears final responsibility for the policy; the Supervisory Board oversees its implementation by the Executive Board; the Chief Executive Officer in turn reports to the Board.

**Cooperation and coordination**

The business group directors are responsible for their own business groups’ policies and their implementation. At Cosun level, a central CSR platform is responsible for cooperation and coordination.

The CSR platform is made up of:

- Robert Smith, Chief Executive Officer and Chairman of the CSR platform
- Edgar Biemans, marketing & sales manager, SVZ (until 1 February 2013)
- Iwan Blankers, group director, Sensus
- Anouk ter Laak, commercial director, SVZ (as from 1 February 2013)
- Derk van Manen, Quality, Nutrition & Research Manager, Duynie group
- Frank van Noord, R&D director, Suiker Unie
- John Stoopen, member of the Central Works Council
- Martin van de Ven, group director, Aviko group
- Willy van Oorschot, Cosun corporate communications manager

All the business groups have their own steering groups and some have working groups for specific issues such as the environment or employee relations. The business groups’ management teams coordinate, steer and monitor the operations and report on them within the group and to the CSR platform. The lines join up again in the Executive Board. Together with the business groups, a working group at Cosun level takes people, profit and planet initiatives and reports on them at group level.
Performance

Financial and economic: for customers, members and employees

Cosun considers its results for the year and the main events at the cooperative in its Annual Report 2012. In it, we take a detailed look at the figures in the annual accounts. This Sustainability Report considers the value of our operations in terms of turnover, income for our members and employees, and investments in the sustainability of our production processes.

**Turnover**
We create value by making optimal use of our vegetable raw materials. Our total turnover rose to EUR 1,945 million in 2012, a 10% increase on the previous year. After adjustment for the turnover of activities divested in 2011, net turnover for 2012 was even 16% higher. All our activities increased their turnover and strengthened their market position, thanks in part to the favourable circumstances in the world sugar market. Aviko benefited from the growing demand for potato products in Asia and South America. Our other business groups also reported good growth in their product lines (inulin, fruit and vegetable products, animal feed and starch). The greater part of our turnover is earned in Europe (about 90%).

**Result**
Cosun turned in excellent financial results in 2012. Operating profit before depreciation and amortisation and after adjustment for activities divested and non-recurring items (recurring EBITDA) rose from EUR 158 million in 2011 to EUR 270 million in 2012, despite the sharp increase in the members’ bonus. Practically all business groups made a higher contribution to the result.

**Members**
As a cooperative we distribute a large proportion of the result to our members. The higher result for the year increased the members’ bonus by more than 52% to EUR 179 million. The price paid to members for quota beet with average sugar content and average extractability came to EUR 68.80 per tonne (2011: EUR 55.69 per tonne of quota beet).

The average sugar yield per hectare was fractionally lower than in 2011 at 13.5 tonnes. However, the average financial yield per hectare for Dutch beet growers was about EUR 800 higher than in the previous year at EUR 4,871. The financial yield per hectare is a key indicator of the profitability of beet cultivation. Cosun comfortably met its target of realising the highest financial yield in the EU for its members/beet growers in 2012.

**Investments**
Cash flow from operating activities was more than enough to fund investments in our factories from our own resources. The healthy financial position puts us in a strong position to carry out our growth strategy. Investments totalled EUR 120 million in 2012, considerably more than in the previous year (2011: EUR 91 million).
We made particularly high investments in our sugar activities. New thick juice tanks have made us more flexible and have increased our capacity. Two new biomass digesters are producing green gas. Cosun will continue to invest in its activities in the current year in order to strengthen its market position.

**Personnel**

Employee costs, including social charges and pension contributions, for the nearly 3,400 employees of Cosun totalled EUR 213 million in 2012. We also invested in our staff’s know-how and skills: the number of training days increased from just over two to three days per FTE in 2012.

**Supply chain responsibility: cultivation of vegetable raw materials**

The way in which our vegetable raw materials are grown is very important. It is a key factor in the volume and quality of our production. The profitability of our factory processes is also closely linked to the cultivation method. That is why we and our growers invest in the further improvement, optimisation and sustainability of cultivation.

The use of pesticides and herbicides is kept to a minimum. This is good for the environment and for the grower, as it limits the cost of cultivation. Modern processing techniques preserve the soil and better protect biodiversity. They also improve the quality of groundwater and surface water. Ultimately, they improve the yield per hectare.

Per unit of end product, considerably less energy and fewer production aids are needed now than just a few years ago. We think even more savings are possible. The direct contact between the agricultural services of Aviko, Sensus and Suiker Unie and the growers nourishes a truly shared sense of responsibility. Improvements have also been made in how we harvest and store the produce. Supply logistics to the factories is also more efficient. Furthermore, Sensus Unie replaced more than 60 beet trucks with lighter models in 2011 and we are transporting more beet using our own green gas.

**Cooperation in the supply chain**

Suiker Unie is a pioneer when it comes to helping and advising the growers. Since beet cultivation at Cosun has traditionally been a cooperative endeavour, all links in the supply chain recognise the importance of delivering high quality raw materials to the sugar factories. This shared responsibility is underlined by working groups, demonstrations of sowing, processing and harvesting techniques and the like. Such demonstrations have been common practice at Suiker Unie for many years and were recently introduced at Sensus and Aviko.

**Support for growers**

Many beet growers use Unitip to optimise their cultivation and make it more sustainable. The programme provides an insight into the growers’ progress, makes comparisons between growers, generates useful information for both the growers and Suiker Unie and produces targeted advice for the growers. A sustainability module was added to Unitip some years ago.
One of its metrics is energy consumption during beet cultivation. For more information, see www.unitip.nl (in Dutch) and www.irs.nl (in Dutch).

Sensus has followed this example and introduced its own online registration and evaluation programme for chicory growers: i-Top. It shows growers how they can make better use of crop protection agents and how to improve their yields. For more information, see: www.sensus.nl and www.cichorei.nl (in Dutch).

In 2012, Sensus and the growers reduced the tare soil attaching to roots supplied from the Veenkoloniën (area in the north east of the Netherlands), Limburg and just over the border in Germany by half in comparison with other regions. They did so by cleaning the crop just before it was loaded. We intend to introduce similar cleaning facilities in other regions, too.

Aviko is investing in the quality of its raw material, potatoes, and making potato growing more sustainable. The close contacts between the field service and the growers are of decisive importance, as is Aviko's Potato Growing Committee (ATC). The ATC advises on the implementation of improvements.

Together with Suiker Unie, Aviko encourages growers to work in accordance with the guidance of the Skylark Foundation (see www.veldleeuwerik.nl). Skylark is a joint initiative of growers, processors and consultancies to make arable farming more sustainable. Specialists from Suiker Unie, Aviko and other participants consult and advise on soil fertility, fertilisation, crop protection, biodiversity and supply chain management. Skylark also includes renowned institutions such as the Centre for Agriculture and the Environment (CLM) and the Louis Bolk Institute, an international research and advisory organisation to advance truly sustainable agriculture, nutrition and health.

Suiker Unie will pay its growers participating in the Skylark programme a premium as from the 2012 campaign.

The premium in the 2013 campaign will be EUR 300 per beet farm plus EUR 50 per hectare of beet, to a maximum of 50 hectares per grower. The market for the sugar produced from their beet will also be developed to create the added value necessary to pay for the premiums. The premium will be set each year on the basis of the volume of beet and the growth and margin in the market. The premium is an incentive for participating growers to increase the sustainability of their operations.

SVZ buys most of its raw materials on the open market. The relationship between growers/sellers and industry/buyers is based on supply and demand. Quality, of course, is an important factor. In recent years, SVZ has noticed that large customers are making strict demands on the sustainable production of their fruit. SVZ makes the same demands on the growers it contracts, such as the strawberry growers in the southwest of Spain. In early 2013, SVZ organised a conference in this region in cooperation with Innocent and Unilever. It was also attended by local authorities and international non-governmental organisations. The conference’s aim was to make production in the region more environmentally friendly and improve the quality of the produce.

In Poland, SVZ made further investments in model farming. It is aiming to make the cultivation of soft fruits more sustainable by using fewer growing agents and reducing CO2 emissions during cultivation and transportation to the factories. It is also improving social aspects such as safe working conditions for the growers in the fields and the production workers in the factories. SVZ is attempting to minimise the distance between the field and the factory. It is also making substantial investments in the know-how and skills of enthusiastic fruit growers in the areas around its factories in order to strengthen cooperation within the supply chain.

The companies in the Duynie group buy their raw materials not from growers but from other businesses in the food industry, including Suiker Unie and Aviko.
Sustainable processing: optimising the production processes

Environmental care when processing vegetable raw materials often comes down to the prevention of waste. We want to make optimal use of all our raw materials and consumables, energy, water and residual flows. We also seek to limit odour and noise emissions and take a critical stance on road safety around our locations and the appearance of our buildings, facilities and sites.

All Cosun business groups have adopted TPM (Total Productive Maintenance) to optimise their production processes. TPM begins on the shop floor. That is where the ideas come from to alleviate the environmental impact. The improvements are often small but they are very practical and can make a real difference when taken together.

Cosun records the CO₂ emissions of its factories, the water consumption of its processes, the volume of residual flows and the number of complaints made by local residents. The figures disclosed in this report include locations outside the Netherlands.

**CO₂ emissions**

Energy costs account for a substantial proportion of our overall cost base. Energy savings have therefore been high on Cosun’s agenda for many years. Where savings can be made, they are, and we optimise our processes wherever possible. Our aim is to cut energy consumption by at least 2% every year. We have come very close to achieving this target in the past five years.

Cosun also considers the CO₂ emissions in the links before and after its production processes, such as during the supply of raw materials to its factories and the transportation of products to its customers. Better planning and loading, maximum return loads, lighter and more economical vehicles, the New Driving Style and similar measures are reducing the number of transport kilometres per tonne of product and thus CO₂ emissions.

Another example is the sale of intermediate products to customers. Since Suiker Unie started supplying thick juice to its customers, for example, we no longer need to carry out energy-intensive crystallisation processes. The customers use the product directly in their own processes without needing to add water. This reduces total energy consumption in the supply chain.

**Water consumption**

Aviko accounts for almost all our groundwater consumption. Most of its production facilities are located in areas with sufficient groundwater of drinking water quality. Sensus currently uses more mains water but will switch to locally available groundwater in the course of 2013. The groundwater will not be extracted from the vulnerable nature areas from which the water companies usually pump their water. Using groundwater is also financially attractive.
Cosun’s water consumption is closely related to the volume of raw materials it processes. We use water in our production processes to wash the raw materials, for internal transport during production and to clean the production facilities and equipment. Since we produce foodstuffs, the water has to be of very high quality.

After treatment, water is re-used wherever possible but food safety standards mean it cannot be recycled indefinitely. Surplus water is treated at our own factories and discharged into surface water or, after treatment, into the public sewer system. Our treatment facilities work to very high standards. Treated water is sometimes so pure that we can discharge it into surface water that is subject to the strictest environmental standards.

Aviko Rixona in Venray recently started discharging its treated process water directly into the Oostrum stream instead of the public sewer system. The facility extracts about 800,000 m³ of groundwater every year for its production processes. The spent process water is treated in stages and some is re-used to wash the potatoes. Analysis has shown that the water Aviko Rixona discharged into the sewer system was usually of very high quality. Aviko Rixona therefore studied whether it could discharge it directly into the local surface water. The area around the factory often needs additional fresh water in the summer as rainfall can be very low. Special ecological demands are made on the Oostrum stream close to the Aviko Rixona factory and strict agreements have been made with the Peel & Maas Vallei water board on the discharges and conditions.

Residual flows
Cosun recognises three residual flows: organic residuals, other separated waste and mixed waste. The size of the organic residual flow is determined by the volume of vegetable raw materials we process: the bigger the harvest, the bigger the flow of organic residual matter. More and more of the organic matter remaining when all useful components have been extracted is being fermented in our own digesters into green gas. Good use is made of nearly all the organic residuals.

The second flow, other separated waste, consists of separated paper and board, wood, plastic and synthetics, and chemicals. The remainder is mixed waste. It increased significantly in 2011 and 2012 as the sugar factory in Anklam does not separate its waste but supplies it to a waste company that separates it more effectively and efficiently than it could itself.

Cosun’s ambition is to prevent waste and make maximum use of valuable residual flows. The TPM optimisation programme gives high priority to clean and orderly production areas. The benefits were reflected in the increase in other separated waste in 2012. The increase is temporary, however, and the situation will return to normal when everything is in order again and proper records are kept. Immediately after it was acquired by SVZ in 2012, Mondi Foods began a study of how to minimise its waste.

Complaints
Cosun has more than 30 production locations in total in the Netherlands and abroad (see the map on page 7). In total, 62 complaints were received in 2012.

The industrial production processes at Suiker Unie and Aviko were the main cause of nuisance to local residents.

The sugar specialities factory in Roosendaal releases odour when producing sugar syrups. In certain weather conditions, it is perceptible around the factory. One local resident made several complaints about this odour nuisance. Cosun has taken measures to limit the odour and the number of complaints has declined.

The number of local complaints increased after the biomass digester was taken into operation in Dinteloord in November 2011. Technical problems created a noise nuisance during the start-up stage but they were quickly resolved. Complaints were made about odours after the winter. This nuisance was due to the way in which the biomass was stored and covered in the large clamp silos. Changes in the way Suiker Unie stored the biomass significantly reduced the problem. The experience Suiker Unie gained with the digester in Dinteloord has been used in the construction of a similar digester in Vierverlaten. This has no doubt been one of the reasons that no complaints have been received in Vierverlaten so far.

Bio-energy
Cosun has been recovering biogas from its own water treatment plants and using it to fire the boilers at Aviko, Sensus and Suiker Unie for many years. The more efficient the production process, the less biogas can be produced from the relatively clean water. Investments to improve the treatment process can increase the production of biogas, as demonstrated at the locations in Steenderen (Aviko) and Warffum (Aviko Rixona).

Suiker Unie’s biomass digesters also produce biogas. Dinteloord started producing biogas in 2011. Vierverlaten did so during the 2012 campaign and a digester is being built in Anklam. When all three are in full operation, Suiker Unie will produce about 30 million m³ of biogas a year, which it will sell as green gas for distribution through the public gas network.

The fermentation of biomass and organic residual flows is an important step in the transition from fossil fuels to completely renewable energy sources. The production of first generation biofuels using food ingredients from crops (vegetable oils, starch, sugar) must take account of the overall energy balance, with all energy consumption from the start of cultivation up to the conversion of the raw material being set off against the energy produced. The energy balance and related CO₂ reduction differ widely depending on the crop.

Sugar cane and sugar beet score considerably better than many other raw materials. The energy balance is also affected by whether the crop was grown specifically for energy purposes or whether the surplus from an abundant harvest was used to make biofuel. Suiker Unie’s factory in Germany produces about 50,000 hectolitres of bio-ethanol from sugar beet every year. It is blended with fossil fuels and also used as a feedstock for chemical products.

A second generation of biofuels is now being worked on. The fuels can be produced from fibrous materials that are not suitable for human consumption, such as leaves and stalks.

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Cosun expects several generations to be in use alongside each other in the future. Biofuel factories will source different raw materials and residuals depending on what is available, the price and the net CO₂ emission.

**Related issues**

Cosun invests a great deal in the use of natural gas during its production processes. Natural gas contains far less sulphur dioxide than oil. By using natural gas instead of oil, our facilities emit less sulphur dioxide. The effect is clear to see in the fall in Cosun’s SO₂ emissions from 101 tonnes to 71 tonnes between 2008 and 2012. Sensus in Roosendaal uses considerably less sulphurous consumables than in the past and produces less SO₂. Since some of the SO₂ is derived from plant proteins, a further reduction is not yet realistic.
Training
The average number of training days per FTE rose slightly to three per annum, due largely to the TPM programme being rolled out at all business groups. Training courses were also offered during reorganisations to improve people's prospects on the external labour market when they could not be transferred internally. Internally we enable people to qualify for other positions by offering them additional training courses.

Safety at work
Aviko commenced an extensive programme to increase safety at work. The number of incidents and near-incidents is too high; all production staff must increase their safety awareness. In the future, we will also report and address incidents and dangerous situations that do not lead to lost time. At the beginning of 2012, the Steenderen location was the first to start the safety at work programme. The other locations, including those abroad, will follow in the course of 2013. All the measures are targeted at reducing the number of incidents and near-incidents. The number of lost time incidents is shown in the figure on page 10.

Sensus has also given high priority to safety at work. A survey of production staff found that not everyone always felt safe at work. A second study found that safety procedures and instructions were not always correct.

Sensus started to address this problem with the aid of TPM in 2012. Since procedures and instructions by themselves do not make the work safer, a safety specialist has been engaged. Together with the staff, the specialist has analysed where improvements must and can be made. Staff are now more aware of how to work safely and correct each other if they do not keep to the rules.

Suiker Unie, too, has given greater priority to preventing incidents and accidents but there has not yet been a decline in their number. Again, changes in the workplace are not enough by themselves. The staff must know how to work safely and, even more importantly, act accordingly.

The two specialities factories are setting the pace with a programme to encourage required conduct and to hold each other accountable. Posters were hung up in the Puttershoek factory in early 2013 that show at a glance what is definitely not wanted but is unfortunately still all too common: riding on the back of fork lift trucks and climbing up gantries to fix a conveyor belt. The slogan is, 'We work safely or we don't work at all!' Other factories have also taken measures to increase safety and make the staff more aware.
Health and fitness
The average age at Aviko is increasing. Statistics show that as age increases, so does long-term sickness absence, chiefly because of musculoskeletal complaints. In response, Aviko decided to set up a special programme in 2008. Fit people are absent less often, are more productive and enjoy longer productive lives. This is important for both the employee and the employer. Employees benefit from their good health not only during but also after their working lives.

The programme targets physical ability in relation to the staff’s work and their workplace. The results are then used in preventive medical studies involving other risk factors such as weight, smoking, lack of exercise and stress. Measurements show that the programme works: many members of staff have lost weight, recover faster from physical exertion and have better blood counts. After a number of years, however, some needed more support to maintain their healthy lifestyles. A new impulse was therefore given to the programme in 2012 for participants at higher risk.

The programme’s impact can also be seen in the stability of sickness absence relative to the higher average age of the workforce in recent years. Furthermore, the risk group is on average fitter. However, the programme requires continuous input from the programme managers and the staff themselves.

Suiker Unie will also move fitness up the agenda in 2013. Suiker Unie scores relatively well for sickness absence.

The medical officer holds regular drop-in surgeries at every location. The staff value them and they help detect problems at an early stage. If a member of staff is absent, his or her superior maintains contact during and after the sickness. If necessary, the work is adapted or a suitable alternative is found.

Many members of staff appreciate this approach and the commitment it displays. The managers are also enthusiastic. We are therefore introducing management training courses to encourage the approach. The sickness absence rate in the past five years is shown in the figure on page 10.

Code of conduct
The Cosun code of conduct will be revised and supplemented. The current code is directed chiefly at the conduct of individual members of staff. The new one will pay more attention to the corporate principles applicable to both our managers and staff. It may even be extended towards our suppliers and other business associates. The revised code will be introduced in the course of 2013.

In the final quarter of 2012, we again highlighted ways to report suspected abuse, if necessary anonymously through the Speak-Up system. New posters with contact details have been placed at meeting places at all the locations. Six reports were received in 2011 and none in 2012.
Food safety and health issues

Food safety begins with knowing the source. This is one of the reasons why Cosun is investing so much in making the cultivation more sustainable and assuring the source by means of certification.

Our customers must have a guarantee that what they receive from us and process in their own products meets all the agreed requirements and specifications. Hygiene in the factories, quality controls during production, correct labelling, traceability of supplies and watertight records are part of the assurance.

Good food is necessary to lead a healthy life. Our modern lifestyle of eating and drinking whenever and wherever we want, with little physical exercise, is leading to greater obesity and thus to health problems. The cost of lifestyle sicknesses is rising sharply in terms of both lost time and treatment. It is a complex problem that can only be solved if different organisations work together. We can make people aware of the consequences of their choices and make it easier and more attractive for them to make responsible decisions. Consumers have a right to receive understandable information on nutrition, the relationship between calorie intake and consumption and healthy lifestyles.

As a member of the Netherlands Food Industry Federation (FNLI), Cosun is a signatory to the Healthy Weight Covenant. Under this agreement, public authorities, businesses and civil society organisations work together to reverse the growing problem of obesity. The JOGG programme to help young people attain a healthy weight is part of the covenant.

Cosun Food Technology Centre in Roosendaal provides a number of placements to upper secondary and higher professional vocational students. In 2012, it accepted and supervised 14 trainees, most of whom worked on technical assignments.

The low inflow into technical education is a problem not only for our business and our industry but also for the entire economy. The lack of interest in technology is due to the image of the manufacturing industry and the relative unfamiliarity with what technical professions entail and the opportunities that a background in technology can open up. We invite secondary school and pre-vocational students to take a look behind the scenes in our laboratories so that they can learn about our industry and see what we do. Students that are already studying chemical technology or food and process technology are also welcome to come and meet our professionals and learn about their work to help them choose a specialisation or career after graduation.

Labour market

Young, well-educated people are finding it hard to find work when they enter the labour market in the current economic crisis especially if they lack experience. This seems to be in part a temporary problem caused by not enough young people opting for a technical education. Where possible, Cosun takes on young people on temporary contracts to give them work experience. They provide us with additional capacity and the latest insights into specific areas. The temporary staff are coached by experienced colleagues and can put what they learn into practice. Work placements are also part of our social engagement.

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