

## SAFE AND EFFICIENT USE OF RESOURCES



Manufacturing Excellence, which develops Trelleborg's production processes, and the Group's Safety@Work program relating to health and safety, are two of the pillars of the company's efforts to achieve a safe workplace and efficient resource management.

In 2017, efforts have in part focused on gradually moving the newly added units closer to Trelleborg's standards and target levels in terms of safety and resource efficiency. The most important program to achieve this is Manufacturing Excellence, which also includes the occupational health and safety program Safety@Work.

Manufacturing Excellence takes a systematic approach to improvements for enhanced safety, quality, delivery precision that also yields distinct positive effects on resource consumption by focusing on minimizing all resource waste. Read more about the Excellence Programs on page 33 in the Annual Report.

**Occupational health and safety.** Trelleborg's Safety@Work program aims to create a shared safety culture and to prevent occupational accidents and injuries.

The program is monitored by performing annual audits in which the facilities are assessed in relation to best practice in terms of occupational health and safety management, machine safety, accident follow-ups, etc. Deviations are assessed according to a traffic light system where yellow and red dots require an action plan.

The outcome for the year for OHS-related indicators is shown in the table on page 24.

**Raw materials and chemicals.** The Group's principal raw materials in Trelleborg's processes are polymers (rubber, composites and plastics) and metal components, as well as additives comprising softening agents (oils), fillers such as carbon black, and vulcanizing agents (sulfur, peroxides). Trelleborg's environmental policy stipulates that attention is given to the precautionary principle, and that hazardous substances and materials are, to the greatest extent possible, to be reduced and replaced in products and processes. As a chemical

user, Trelleborg is affected by the EU REACH regulation.

In addition to the ongoing local work with REACH compliance, work related to chemicals during the year was carried out by the Global Chemical Task Force, a corporate-level team that assists the business units in their efforts to phase out substances considered harmful. An internal *Restricted Materials List* has been compiled, and a project was actively pursued by the team during the year focusing on prioritized materials.

**Energy.** A significant portion of the Group's energy consumption – and thus its climate impact – is connected to fossil-fuel combustion for the production of steam (direct energy and emissions) and purchased electricity, steam and district heating (indirect energy and emissions).

The outcome in 2017 for energy related indicators is shown in the table on page 24.

Energy Excellence, an initiative for systematic energy optimization at all units, is an integrated part of the Manufacturing Excellence program (refer to page 33 in the Annual Report).

All production units must present an



activity plan to reduce energy consumption, with the target to improve their energy efficiency by 3 percent per year. In addition to process-related measures, many units are focusing on systems for improved monitoring of energy consumption and on increasing energy awareness among personnel.

The results for the year (see table on page 24) reflect a higher production rate year-on-year, where it should be particularly noted that the major acquisition of CGS Holding is included with all of its units since 2016, and that 2017 is therefore the first full year for Trelleborg with a new, more energy-intensive product mix. Compared to the rest of Trelleborg, these recently acquired units generally have historically higher energy consumption relative to sales, because of a higher share of tire manufacturing, see comments in the table on page 24.

**Climate.** Trelleborg's 20 by 20 climate objectives (refer to page 25) address and reflect the carbon intensity, meaning the total size of CO<sub>2</sub> emissions relative to the size of operations, as well as work on a transition to emission-optimized energy

sources in each country. The outcome in 2017 for climate-related indicators is shown in the table on page 24.

A clear challenge for the years ahead remains to ensure that recently acquired units rapidly achieve high energy efficiency, particularly those with energy-intensive tire manufacturing. This would also enable improvements in climate efficiency, measured in emissions relative to sales.

To this end, a baseline was created for the "20 by 20" climate goal, based on performance in 2015 for all of the Trelleborg units and units from CGS at that time. Using this baseline, developments in 2017 – the first full fiscal year since the integration of the CGS units into the Trelleborg Group – were relatively stable and provide a foundation for continued improvement. Trelleborg is carefully following developments in order to achieve the "20 by 20" climate target.

The calculation of CO<sub>2</sub> emissions from the consumption of purchased electricity or steam is mainly based on national conversion factors from the International Energy Agency, see below for exceptions. These factors reflect the average total energy mix of each country. Emissions are lower when hydro and nuclear power dominate, but higher when coal and oil dominate.

The most recently acquired units are primarily located in countries (the Czech Republic, Serbia, etc.) with a national energy mix featuring a high level of fossil fuels, which produces relatively higher emissions. This means CO<sub>2</sub> emissions in 2017 increased in relative terms more than energy consumption. However, this will change as more and more Trelleborg units – in the Czech Republic from 2018 – are buying "green energy", which entails lower emissions of CO<sub>2</sub> per consumed unit of energy than in the country as a whole. This will thus be factored in to the total emissions figure moving forward, thereby producing significantly better results.

Only two of the Group's units – Prague and Tivoli – are included in the EU Emissions Trading System (EU ETS). Described

simply, operations are allotted emission allowances (1 allowance = 1 ton CO<sub>2</sub>) after applying for and/or purchasing emission allowances on the international market.

Each year, these operations must report their emissions of CO<sub>2</sub> and transfer emission allowances corresponding to the emissions caused.

**Water.** Water is mainly used for cooling and washing in our production processes. The outcome for the year for water-related indicators is shown in the table on page 24.

Major reductions in consumption have been made since 2008 by using, for example, improved cooling and recycling systems. Emissions to water are limited. They mainly comprise organic matter.

A mapping of water scarcity has been carried out for regions where Trelleborg's production units are located, and indicates that certain units are located in regions where water scarcity may become an issue, such as in China, Italy, the U.S. and Sri Lanka. The focus for follow-up is on these regions.

**Waste.** Continuous efforts are taking place within the local operations to cut production waste, which helps to reduce the amount of waste, and to increase the rate of recycling. Recycling is carried out by external partners and internally. Refer to the table on page 25.

**Emissions to air.** In addition to energy-related emissions – such as CO<sub>2</sub> (see page 22), sulfur dioxide and nitrogen oxides – the company's emissions to air mainly consist of volatile organic compounds (VOCs). Trelleborg uses the same definition of VOC as the EU. The reduction of VOC emissions is a priority, both from an environmental and health perspective. Emissions are mainly derived from the use of solvent-based adhesives, which are critical only for a relatively limited number of products and production units.

A newly installed VOC recovery plant will be commissioned in Barueri, Brazil, in 2018.



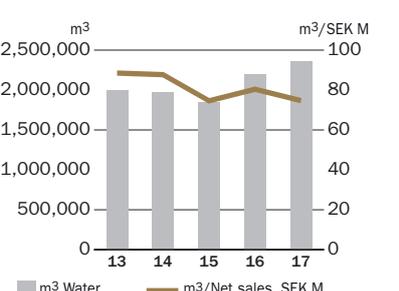
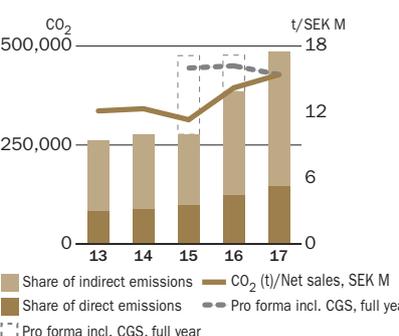
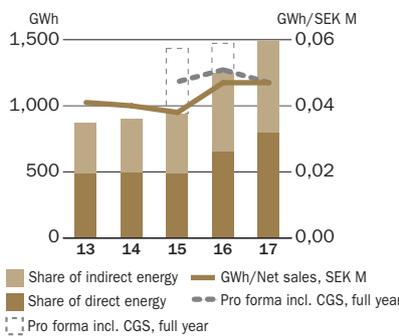
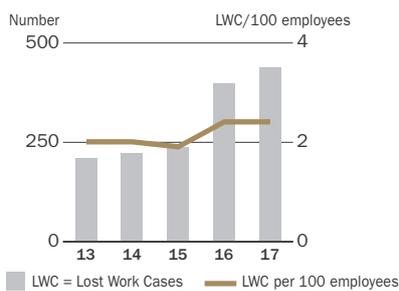
#### CLIMATE REPORTING IN ACCORDANCE WITH THE CDP

Since 2007, Trelleborg has participated in the CDP's (formerly referred to as the Carbon Disclosure Project) voluntary reporting of greenhouse gas emissions, which involves openly reporting relevant key figures and data, measures to prevent adverse climate impacts, and products, solutions and initiatives to improve society in this respect. In the Annual CDP Report for 2017, Trelleborg received a score of C, which means the company demonstrates Awareness of how environmental concerns are inter-related with operations (2016: C).

A company's path towards a high level of environmental protection/administration is described by CDP using a process in four scoring levels that begin with D (Disclosure), continues with C (Awareness), followed by B (Management), and finally A (Leadership).

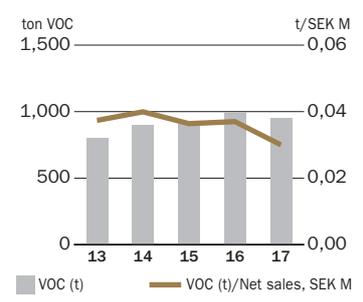
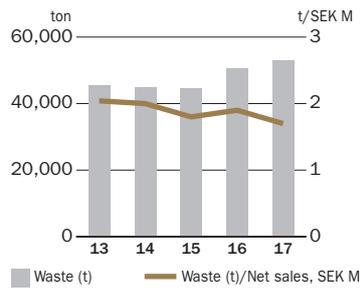
Outcome in brief for 2017 in the area of Resources

Resources	Where?	Outcome 2017	Description of goals and management approach
<b>HEALTH AND SAFETY</b>	■	The curve shows the number of work-related injury/illness cases per 100 employees resulting in more than one day's absence. This figure has gradually declined, but increased in 2016 due to recently acquired units. In 2017, the figure is stable despite the recently acquired units with a higher accident frequency rate being included for the first full year. However, work days lost per injury increased slightly.	The Safety@Work program aims to establish a shared safety culture through improvement programs and preventive measures at all production units. Self-assessment is combined with internal and external audits.
Fatal accidents	■	Zero fatal accidents (0)	
LWC	■	438 cases (402) resulting in at least one day's absence (LWC)	
LWC per 100 employees	■	2.4 LWC per 100 employees (2.4)	
LWD	■	30.3 work days lost on average per injury (24.1)	
Safety committee	■	84 percent of facilities have a safety committee (85)	
Absenteeism in Sweden	■	5.2 percent of normal working hours (5.9)	
<b>ENERGY</b>	■	In total, energy consumption has increased due to higher production volumes during the year and the impact of the recently acquired units (higher share of energy-intensive tire manufacturing) during their first full year with the Group in 2017.  Relative to sales, consumption is stable, which is consistent with the expectation that Trelleborg's systematic measures for energy efficiency over time will lead to improved results despite the fact that acquisitions may have a temporary impact.	Energy has been a prioritized area for Trelleborg for some time through the Energy Excellence initiative, which is part of the Manufacturing Excellence program (refer to page 33 in the Annual Report).  All production units must present an activity plan to reduce energy consumption, with the target to improve their energy efficiency by 3 percent per year.  Local energy coordinators are trained via global training sessions (most recently in 2017), and a shared toolbox is available.
Energy consumption	■	Total of 1,493 GWh (1,248). The share of direct energy is 696 GWh (590).	
Energy consumption relative to sales	■	0.047 GWh per SEK M (0.047). Energy consumption in relation to sales is stable, which is positive given the energy intensive product mix with a higher proportion of tire manufacturing in the Group, which has impacted the full-year 2017. The value has clearly improved compared with the forecast pro forma value for the full-year 2016 (0.051).	
Energy cost	■	SEK 1,109 M (610)	
<b>CLIMATE</b>	■	Both in total and relative to sales, CO <sub>2</sub> emissions have increased, which can be considered logical due to the impact of the recently acquired units on full-year 2017. In the long term, Trelleborg's systematic measures for energy efficiency and the transition to green energy are expected to yield results (refer to the box on page 25).  For 2015 and 2016, pro forma values are also included that reflect the total full-year outcome for Trelleborg including CGS units (acquired in 2016).	The "20 by 20" goal aims to achieve a 20 percent reduction of CO <sub>2</sub> emissions in relation to sales in the 2015–2020 period. See also the box on page 25.  Energy efficiency, supported by the Energy Excellence initiative (page 33 in the Annual Report), has been a prioritized method to reduce emissions, and this is supplemented with a transition to green energy. Read more in the "Trelleborg and climate" box on page 25.
Total CO <sub>2</sub> emissions	■	487,200 tons (385,000) of which direct emissions amounted to 144,700 tons (122,300). The rise reflects increased production volumes and the changed product mix with a higher share of tire manufacturing and a modified geographic footprint.	
CO <sub>2</sub> emissions in relation to sales	■	15.4 tons per SEK M (14.2) The forecast pro forma value for the full-year 2016 was 16.2, and compared with this, there was an improvement during 2017, both in terms of increased energy efficiency and the transition to green energy.	
<b>WATER</b>	■	In 2017, water consumption, meaning water for production and sanitary water, increased slightly in absolute terms but declined relative to sales.	Even if water is one of the central environmental key figures reported, consumption is most crucial in production areas with water shortages, or where water shortages or can be expected.
Water consumption	■	2.36 million m <sup>3</sup> (2.18)	
Water consumption relative to sales	■	74.7 m <sup>3</sup> per SEK M (80.4)	
Water sources	■	61 percent drinking water (57) 18 percent from the company's own wells (20) 20 percent surface water (rivers, lakes, etc.) (23) 1 percent other sources (0)	



Symbols: ■ = Internal, all units ■ = Internal, all production units ■ = Internal, certain units ■ = External, suppliers

Resources	Where?	Outcome 2017	Description of goals and management approach
<b>WASTE</b>		In 2017, the amount of waste increased in absolute terms due to rising production volumes, although a decrease was noted relative to sales due to efficiency enhancements.	<p>Waste minimization is an expressed goal in the Manufacturing Excellence initiative, which is conducted in all production units and is followed up on a monthly basis, see also page 33 in the Annual Report.</p>
Waste volume		53,500 tons (50,600). Of the total volume, rubber accounted for 28 percent (27)	
Waste volume related to net sales		1.7 tons per SEK M (1.9)	
Waste cost		SEK 51 M (68). A clear downward trend was noted for waste costs.	
Waste management		4 percent for internal recycling (4) 47 percent for external recycling (49) 14 percent for energy recovery (11) 24 percent for landfill (27) 11 percent for other waste management services (9)	
Hazardous waste		7,113 tons (6,287)	
<b>EMISSIONS</b>		Emissions of VOC:s (volatile organic compounds), measured as total emissions and relative to sales declined during the year despite increased production volumes. Emissions of sulfur and nitrogen oxides rose somewhat on account of the higher production volumes.	<p>Significant emissions comprise mainly VOC (volatile organic compounds), defined according to EU standards. Reducing VOC emissions is a priority both from an environmental and health perspective.</p>
VOC		952 tons (1,005)	
VOCs in relation to sales		0.030 tons per SEK M (0.037)	
Sulfur dioxide		187 tons (184)	
Nitrogen oxides		65 tons (54)	



**Symbols:** = Internal, all units = Internal, all production units = Internal, certain units = External, suppliers

### TRELLEBORG AND CLIMATE: THE “20 BY 20” GOAL

Climate change has been an important issue on Trelleborg’s sustainability agenda for many years. Being more energy efficient, and thus more climate efficient, is important to the Group’s efforts to achieve world-class manufacturing. Trelleborg has raised the bar until the end of 2020: The goal is now, using 2015 as the base year, to become 20 percent more climate efficient by the end of 2020, and we thus refer to the initiative as “20 by 20”.

The emissions in question are the direct emissions caused by energy produced internally, and that are included in Scope 1 of the Greenhouse Gas Protocol (see the diagram below), and the indirect emissions caused by energy purchased for own consumption, corresponding to Scope 2 in the diagram below.

The Energy Excellence program, which began in 2009 (refer to pages 33 in the Annual Report and 22–23 in this report) has over time reduced relative energy consumption in Trelleborg’s production, while simultaneously reducing CO<sub>2</sub> emissions to different degrees in different countries. 2008 was the base year for Trelleborg’s first long-term goal to become significantly more climate-efficient; the “15 by 15” goal – to become 15 percent more climate-efficient by year-end 2015 – was also achieved with a certain margin.

The new step “20 by 20” is important but also represents a major challenge since Trelleborg’s recent acquisition (2016) of CGS Holding resulted in the Group growing by approximately a fifth of its size, and increased the overall share of the energy-intensive tire manufacturing. To create correct comparative figures, the figure for the base year 2015 has been calculated by adding Trelleborg’s emissions together with emissions from CGS units from the same year.

Beyond becoming more energy-efficient, there is another path to take: In a growing

number of countries, “green” renewable energy, particularly electricity, is becoming available at prices comparable with those of fossil energy. As this happens, a transition can take place to renewable energy sources, such as wind, solar and hydropower. This transition has already taken place in Trelleborg’s Italian operations. All of the Group’s Italian manufacturing facilities switched to green energy in early 2016, which resulted in a clear reduction in CO<sub>2</sub> emissions. As this trend takes off in other countries, the Group is taking the opportunity to take decisive action to reduce its emissions, and next will be the Czech Republic, where green energy will be implemented from 2018.

Furthermore, in 2018 Trelleborg will continue its work toward reporting substantial parts of emissions in Scope 3 (see image below). This includes indirect emissions across the value chain, including purchased transport, travel, purchased materials, product use and waste management.

The ongoing analysis will provide a general inventory of the size of CO<sub>2</sub> emissions within the framework of Scope 3 in accordance with the Greenhouse Gas Protocol (GHG Protocol). Trelleborg is cooperating with EY in preparing a general calculation of Scope 3 emissions across the value chain. This approach is based on an initial inventory and classification using calculation instruments in order to quantify emissions by source and identify areas that are worthy of closer study.

Already in 2016, the consulting firm EY helped Trelleborg to calculate Scope 3 emissions from transportation carried out by suppliers downstream. The study confirmed that these were substantial and roughly in line with Trelleborg’s reported Scope 2 emissions.

