

Circular economy and the future of food

Knowing precisely what the future will bring is impossible. Yet we can get some idea of what to expect within the next 10-15 years if we consider the clear megatrends that are developing.

In my view it seems likely we will see the following within the next 10 to 15 years:

- Increasing urbanization: More of the growing global population will be migrating to large cities, reshaping consumption patterns
- Wealth expansion: The middle class will continue to grow, driving consumption and waste generation to new heights
- Increasing impacts from global warming: This will create a wide range of environmental challenges, and is likely to increasingly shape the political agenda
- Innovation-driven improvements: Smarter, more powerful and connected computing systems will enable greater productivity and precision, versatility and intelligence within value chains -- reshaping many businesses
- Greater collaboration: We will see increasing collaboration and partnerships form to help address the issue of how we will feed the planet and transform from a linear to a circular economy

In this complex environment it is critical to be focused and have a clear direction and purpose. Therefore in 2018, TOMRA defined its future strategic direction as the Circular Economy and the Future of Food.

TOMRA and the Circular Economy

Within the waste sector, the circular

economy is about “reduce, reuse and recycle.” Although the waste sector is a well-established and gigantic business sector, I dare to say that so far it is only scratching the surface as most material has yet to be addressed.

Looking at the fast-growing sector of plastic packaging waste, we note that out of the 78 million tons generated annually, 32% ends up in nature, 40% in landfills, 14% is incinerated and only 14% is collected for recycling. Out of the 14% collected for recycling, 8% is being “down-cycled” at a low value, and only 2% is re-used at an appropriate level in what we would describe as “clean loop recycling.” If we could manage to transform 50% of this sector and capture the true value out of waste, we would release \$50-80 billion in material-related value each year, and dramatically reduce social and environmental costs.

As a global leader in collection and sorting solutions for recycling in connection with digital services, TOMRA is uniquely positioned to provide mission-critical technologies for the circular economy. We are now also building a circular economy division where we will combine resources across our business areas, and we expect this initiative to be a leading platform for driving significant long-term business opportunities.

The high number of new deposit markets which are now under evaluation aimed at bringing beverage containers into a closed loop system certainly

represent large business opportunities for TOMRA. Further the commitments made by 11 leading brands, retailers, and packaging companies to work towards 100% reusable, recyclable or compostable packaging by 2025 also indicate an increased demand for the solutions we offer. Our ambitions are clear; we aim to be a shaper, collaborator and leading player in the emerging circular economy business and make a positive impact on climate change, sustainable business growth and environment protection.

TOMRA and the Future of Food

The food sector, our second strategic pillar, is a vast industry and one which is growing and becoming ever more sophisticated. Food loss and waste is a major challenge both in terms of values lost and food security, i.e. ending hunger and securing access to nutritious, safe and delicious food for all.

Our portfolio of sorting and grading solutions is the broadest in the industry, with a unique offering of mechanical platforms, sensing technologies and the number of food applications we serve. Most leading food brands use our technology and we serve them globally.

Sorting solutions make a difference in the food industry for their ability to sort food from impurities and hazardous or contaminated foreign objects, and perfectly grade food according to specified qualities. Our sorters help increase processing capacity and commodity

value, reduce costs and food loss, while enabling new market segments and more efficient handling and distribution processes.

Performance highlights

Over the past five years we have achieved approximately 14% annual growth in revenues and profitability. In parallel we drove our strategic agenda to expand into the fresh food sorting sector (acquisitions of Compac and BBC Technologies) and entered into new deposit markets in New South Wales and Queensland, Australia. Further the expansion into the Lithuania deposit market resulted in very convincing beverage bottle return levels at 92% and consumer popularity.

In 2018, we experienced a great deal of change in the political arena around the topics of marine littering, circular economy and achieving high collection targets of single use plastics in the EU. In parallel, China imposed a ban on importing waste under the National Sword initiative. The effects in most developed countries were significant, causing growing waste piles which accelerated demand for sorting solutions in recycling.

Our growth potential

Our aim is high in both the short and long-term perspectives. We strive to grow TOMRA revenues by 10-15% per year, with sound returns. Our leadership aspiration within the circular economy and the food sorting industry are

Stefan Ranstrand
President and CEO TOMRA Systems ASA



matched by ambitious targets, but we have a solid starting point:

- We are in promising sectors with good growth prospects
- We have a leading market position as the clear global number 1 in all we do
- Our team capabilities, culture and experience are core assets
- We are focused on maintaining our leadership in innovation, placing an increasing emphasis on the development of digital value-added services

The global food market continues to consolidate with more cross regional trade volumes. Sorting technologies enable consistent and improved quality, providing the industry with the means to improve yields (reduce losses), increase revenues and reduce costs and time to process. We anticipate a continuous increase in demand for food sorting technologies as the demand for food, and in particular high-quality branded food, continues to grow.

For TOMRA in the short term this means we need to focus on executing on the present opportunities. In the coming five-year period, we anticipate that more than 95% of the expansion will stem from core markets and adjacent areas such as new geographies, application areas and services.

In parallel we will aim at developing TOMRA further within the circular economy and food as well as enhancing our digital and people capabilities,

transforming our culture and remaining focused on servicing our customers.

We also remain committed to UN Global Compact (as a member since 2009) and strive to support the Compact's sustainable development goals (SDGs) to the best of our abilities. The 2018 Annual Report contains our ninth consecutive Communication on Progress to the UN Global Compact, reviewing the activities we are focused on as part of our Corporate Responsibility Program. Our aim is to use our business to contribute to a better environment, economy, and humanity.

S. Ranstrand

CORPORATE RESPONSIBILITY

Beginning with the invention of the world's first reverse vending machine in 1972, all the way to providing the most innovative sensor-based sorting solutions today, TOMRA has continuously redefined what it means to be resourceful.

In 2010, as part of integrating recent acquisitions and creating a unified brand, TOMRA updated its vision and mission to better reflect its activities and business strategy. The resulting vision of leading the resource revolution within the business streams of reverse vending, material recovery, food, recycling and mining will enable better utilisation of the world's natural resources as the resource revolution is about transforming how resources are obtained, used and reused for sustainable economic growth.

TOMRA's vision and its activities fit well with several of the UN Sustainable Development Goals (SDGs) and the move towards a circular economy and the increasing focus on the growing global population and the need for efficient use and reuse of resources such as food, plastic and metals.

As part of learning more about the impact of plastic in the ocean, TOMRA was the title sponsor of the marine litter research mission: the eXXpedition⁽²⁾ North Pacific voyage, sailing from Hawaii to Vancouver.

On June 25th, 14 women from all over the world with wide-ranging back-

grounds and expertise set sail from Hawaii, headed straight to the heart of the Great Pacific Garbage Patch – the densest plastic accumulation zone on the planet, with an estimated 80,000 tonnes of plastic⁽³⁾ (the equivalent of 500 jumbo jets) floating in the ocean.

TOMRA's Circular Economy Advisor, Kristine M. Berg, joined the voyage as part of the team focused on solutions to the problem, to provide insights and knowledge on how a circular economy mindset and land-based solutions, such as deposit schemes, are instrumental in solving this ocean-borne problem.

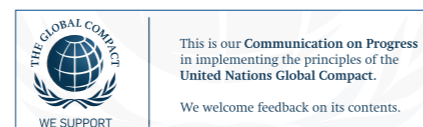


What the crew quickly learned out in the Pacific, as they sampled from plastic in rough conditions and strong winds, is that the biggest challenge is how small the plastic is. Pulling up samples of thousands of pieces of microplastics

as dense as soup and seeing something float by the boat every 10 seconds for weeks brought home the realization that cleaning up the oceans is near impossible. Closing the tap of litter on land is a critical solution to this global problem and TOMRA, with its technology and expertise, aims to be part of the solution.

At TOMRA, it is the role of the Board of Directors to ensure that the Group's corporate governance, environmental, social and ethical practices are sufficient. The Corporate Responsibility Committee assists the Board by monitoring and reviewing TOMRA's practices and policies in this area, including regular progress reviews.

As a member of the UN Global Compact, TOMRA aims to consistently support doing business responsibly and implement the principles of the UN Global Compact. The following pages form part of TOMRA's annual Communication on Progress.



References:

- (1) Circular Economy overview – Ellen MacArthur Foundation
- (2) eXXpedition is a series of all-women scientific sailing voyages to various parts of the world to do research on marine litter and raise awareness about the impacts on ocean and human health.
- (3) <https://www.theoceancleanup.com/great-pacific-garbage-patch/>

TOMRA'S CR PROGRAM



Decent work and economic growth - SDG 8
TOMRA will promote sustained, inclusive and sustainable economic growth and decent work for all.



Industry, innovation and infrastructure - SDG 9
TOMRA will contribute to building infrastructure by supporting sustainable use of natural resources and fostering sustainable innovation in the industry.



Sustainable cities and communities - SDG 11
TOMRA will contribute to making cities and communities more sustainable by delivering sorting and recycling solutions that ensure safe waste handling.



Responsible consumption and production SDG - 12
TOMRA will contribute to ensure sustainable consumption and production patterns.

SUSTAINABLE DEVELOPMENT GOALS





ENVIRONMENTAL
REVIEW

TOMRA's mission is to create sensor-based solutions for optimal resource productivity so that its products and services contribute to better use of the world's limited resources. Each of its business streams contributes to resource productivity in different ways.

- TCS Reverse Vending ensures efficient collection of beverage containers for high-grade recycling and reuse
- TCS Material Recovery processes empty beverage containers for recycling
- TSS Food sorts and processes fresh and processed food, increasing quality, yield, safety and efficiency
- TSS Recycling enables valuable materials to be recovered and reused from waste and metal material streams
- TSS Mining helps extend the life of mining operations by separating valuable mineral ores from waste rock while reducing water & energy consumption compared to traditional mining operations

The nature of TOMRA's activities means that climate change creates more business opportunities than risks as TOMRA's solutions contribute to sustainable consumption, increased recycling and reduced waste. As a result, TOMRA's strategy will focus on the circular economy so that it can contribute with its unique knowledge to solving global challenges. This includes creating a circular economy division to combine expertise and resources from across TOMRA's business areas.

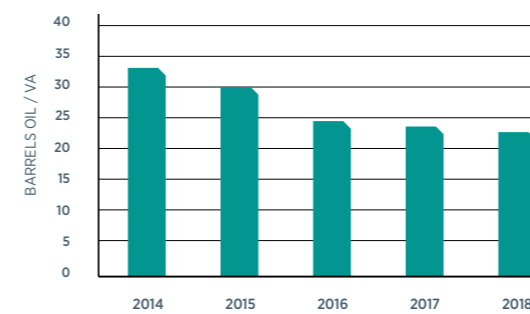
In New South Wales, Australia, around one billion containers were collected during 2018, the first full year of its "Return and Earn" scheme. This has contributed to a 69% increase in collection and recycling of eligible drink containers and a 44% reduction in eligible drink container litter and is an example of how TOMRA's technology and software are making a positive contribution to the environment.

TOMRA reports environmental data from its head office in Norway and all

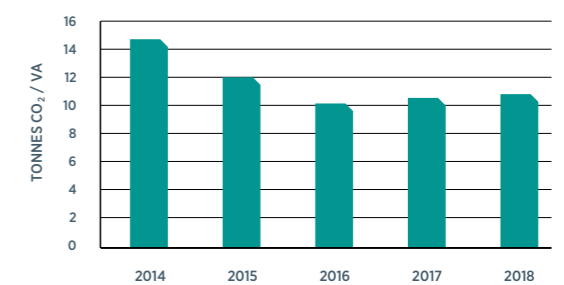
majority-owned subsidiaries. Energy consumption and carbon emissions are primarily driven by TOMRA's vehicle fleet, which consists of trucks in the Material Recovery segment and vans for the service teams. TOMRA has implemented several initiatives in recent years to address fuel consumption. TOMRA also reports avoided emissions to illustrate the positive environmental impact that TOMRA's products contribute to.

TOMRA's environmental performance in 2018 showed a slight increase in direct and indirect emissions, partly a result of increased activities and the inclusion of Compac, BBC and NSW, and partly due to improved reporting.

Energy Consumption per unit of value added



Greenhouse Gas Emissions from Operations per unit of value added



ENVIRONMENTAL
REVIEW**1. CLIMATE CHANGE ACCOUNT****CARBON DIOXIDE EMISSIONS FROM OPERATIONS**

TONNES CARBON DIOXIDE	2018	2017
Emission from stationary sources (Scope 1)	1 900	1 600
Heating oil	100	0
Natural gas	1 600	1 000
Propane	200	600
Emission from purchased grid electric (Scope 2)	7 700	6 500
Norway	0	0
Other Europe	1 100	800
North America	5 100	5 300
Rest of World	1 500	400
Certified low-carbon or renewable	0	0
Emission from transportation	23 400	20 500
Petrol vehicles (Scope 1)	3 400	3 700
Diesel vehicles (Scope 1)	11 800	11 300
LPG vehicles (Scope 1)	0	0
Employee-owned vehicles (Scope 3)	300	200
Air travel (Scope 3)	7 900	5 300
Total direct emissions (tonnes CO₂)	33 000	28 600
Emission from products during use-phase (Scope 3)	71 900	68 700
RVMs owned and operated by TOMRA and customers	63 600	61 700
Scanners owned by customers	8 300	7 000
Total direct and indirect emissions	105 000	97 000

AVOIDED CARBON DIOXIDE EMISSIONS THROUGH PRODUCT USE

TONNES CARBON DIOXIDE	2018	2017
Beverage container collection through RVMs and ARCs (1)	2 939 000	2 905 000
Plastic bottles	803 000	794 000
Glass bottles	548 000	541 000
Aluminium cans	1 552 000	1 534 000
Steel cans	36 000	36 000
Packaging material transport and handling (2)	802 400	815 000
Glass bottles	50 000	50 000
Aluminium cans	640 000	650 000
Plastic bottles, PET	110 000	110 000
Plastic bottles, HDPE	400	1 000
Cardboard and fiber	2 000	4 000
Material sorted for recycling from mixed sources (3)	24 060 000	23 800 000
Glass	110 000	110 000
Aluminium	4 950 000	4 850 000
PET	3 000 000	2 940 000
HDPE	520 000	510 000
Fiber	300 000	290 000
Non-ferrous metal	13 040 000	12 980 000
Other	2 140 000	2 120 000
Total emission avoidance	27 800 000	27 520 000
Net carbon dioxide emission/(avoidance)	(27 700 000)	(27 400 000)

2. ENERGY CONSUMPTION**ENERGY USED IN MANUFACTURING, SALES, SERVICE AND OPERATIONAL PROCESSES**

BARRELS OIL EQUIVALENT	2018	2017
Energy consumption, stationary sources (Scope 1)	5 800	5 000
Heating oil	100	0
Natural gas	5 200	3 300
Propane	500	1 700
Energy consumption, purchased grid electricity (Scope 2)	14 300	12 900
Norway	2 300	2 300
Europe EU25	2 100	1 700
North America	8 200	8 300
Rest of World	1 700	600
Energy consumption, transportation	49 800	45 600
Petrol vehicles (Scope 1)	8 300	8 900
Diesel vehicles (Scope 1)	27 600	26 400
LPG vehicles (Scope 1)	0	0
Employee-owned vehicles (Scope 3)	500	200
Air travel (Scope 3)	13 400	10 100
Total direct energy consumption	69 900	63 500
Energy consumption, products during use-phase (Scope 3)	86 100	82 300
RVMs owned and operated by TOMRA and customers	76 100	73 900
Scanners owned by customers	10 000	8 400
Total direct and indirect energy consumption	156 000	145 800

3. WASTE GENERATION**WASTE FROM MANUFACTURING, SALES, SERVICE AND OPERATIONS**

TONNES WASTE	2018	2017
Waste generation	4 130	3 840
Paper	90	50
Cardboard	350	275
Plastics	750	730
Wood	130	120
Electric and electronic waste	75	65
Metal scrap	360	280
Hazardous waste	25	30
Unsorted	2 350	2 290

4. WATER CONSUMPTION**WATER USED BY MANUFACTURING, SALES, SERVICE AND OPERATIONS**

CUBIC METRES WATER	2018	2017
Water consumed	22 100	20 100
Norway	3 100	2 600
Europe EU25	10 500	10 200
North America	4 500	4 300
Rest of World	4 000	3 000

Scope 1: All direct GHG emissions
 Scope 2: Indirect GHG emissions from purchased electricity, heat or steam
 Scope 3: Other indirect emissions from purchased goods or services

NOTES

Emissions have been calculated using the GHGProtocol calculation tools (www.ghgprotocol.org), and 'Waste Management Options and Climate Change' (ec.europa.eu/environment/waste/studies/pdf/climate_change.pdf).

Calculations are based on actual and estimated consumption.

1. Beverage container collection through RVMs, TOMRA Collection (Reverse Vending)

Calculated carbon dioxide savings based on the total number of beverage containers collected through TOMRA's over 80,000 RVM installations; around 38 billion units annually. All glass beverage containers are assumed to be non-refillable, giving significantly lower assumed weight. Split between packaging types is based on beverage consumption data and TOMRA estimates.

The full benefit of collecting and recycling the beverage containers into new material, versus landfill, is included in the calculation.

2. Packaging material transport and handling, TOMRA Collection (Material Recovery)

Carbon dioxide saving based on the tonnage of beverage container material transported and handled by TOMRA in USA. The full benefit of collecting and recycling beverage containers into new material, as opposed to landfill, is included in the calculation, meaning that some of the saving is also included under 'Beverage container collection through RVMs'.

3. Material sorted for recycling from mixed sources, TOMRA Sorting (Recycling)

Estimated material throughput in TSS Recycling installations is used in the calculation of avoided carbon dioxide emission. The full benefit of sorting materials and recycling into new is included in the calculation.

The provision of information on carbon dioxide emission avoidance is illustrative only, and intended solely as an aid to illustrate the benefit to society generated by the TOMRA Group. The above information does not constitute a full Life Cycle Analysis. The methodology and assumptions used in calculating carbon dioxide avoidance are available upon request.

SOCIAL AND ETHICAL REVIEW

RESPONSIBLE BUSINESS

TOMRA is committed to doing business ethically and operates with zero-tolerance for corruption. As part of this, risk assessments are performed for new customers and other business partners. TOMRA respects internationally recognized human rights principles and does not accept any form of discrimination or harassment. Any potential breaches are investigated promptly and, where necessary, appropriate action is taken.

TOMRA has developed a Corporate Responsibility Statement and Code of Conduct along with other policies and guidelines that apply to TOMRA's employees and business practices worldwide. Policies that apply to TOMRA Group have been published on the company intranet and local versions of selected policies are also available.

Information on company policies, including anti-corruption and non-discrimination, is also regularly included in internal company presentations. In addition, further information sessions and/or in-depth workshops are held throughout the year.

Awareness of and compliance with TOMRA's policies is monitored as part of internal audit and the non-financial reporting process. This is part of ensuring that the TOMRA team always acts responsibly and promotes TOMRA's core values.

TOMRA's Code of Conduct details how employees can raise concerns or report violations of TOMRA's policies. Some of these channels, including

ethics@tomra.com, are also available externally and it is possible to remain anonymous. The Corporate Responsibility Committee has reviewed the 2018 cases and the actions taken by TOMRA.

TOMRA PEOPLE

TOMRA aims to be an attractive employer and promotes equal employment opportunity. In the latest employee survey, almost 80% of employees reported that they were satisfied overall with working at TOMRA, a slight increase from the previous one. In Norway, TOMRA was ranked 5th in the Great Place to Work® awards for 2018.

The safety of all workers is of utmost importance and TOMRA continuously strives to reduce the injury rate. The number of job-related injuries in TOMRA requiring medical attention beyond basic first aid was 113, up from 102 in 2017, partly due to the inclusion of new companies. Most of these instances occurred within TOMRA's material recovery activities in the USA, which involve handling crushed glass and heavy lifting. There were no serious injuries or fatalities during 2018.

As part of preparing for growth and future opportunities, TOMRA is increasing the resources available in key functions and locations. Linked to this, TOMRA has expanded its training and leadership programs during 2018 to ensure that its people are prepared for the challenges ahead.

The total number of employees at the end of 2018 includes BBC Technologies, which was acquired on 1st March 2018. The relatively low number of female

employees at 20% reflects the significant proportion of positions within service. In countries such as China, Norway and the Nordic region, the percentage is around 30%.

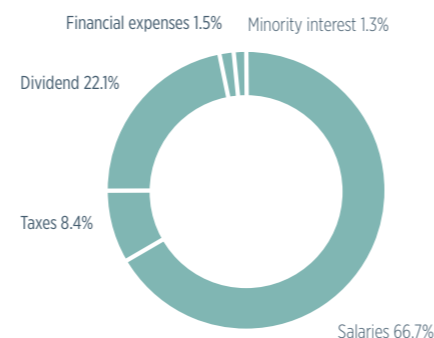
The continuation of the work described above contributes to UN SDG 8 – Decent Work and Economic Growth as part of TOMRA's Corporate Responsibility Program.

ECONOMIC IMPACT

TOMRA reports the value distributed to different stakeholder groups as a means of measuring the impact of its activities. These stakeholders include employees, shareholders and society in general.

In 2018, TOMRA created added value of over 3,000 MNOK, an increase of almost 14% compared to 2017. This was distributed to stakeholders as shown in the chart below.

VALUE DISTRIBUTED 2018



The safety of all workers is of utmost importance and TOMRA continuously strives to reduce the injury rate.

IMPACT ON PEOPLE WITHIN TOMRA GROUP

	2018	2017	2016
Number of employees	(#) 4,025	3,420	2,770
Female employees	(%) 20	19	18
Female managers	(%) 22	21	22
Reportable injuries	(#) 113	102	104
- per 100 FTE	(#) 3.0	3.1	3.9

