

# Recycling in Perspective



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# Face...



...the challenge





# ...the reality



Laysan Island, Hawaii – Courtesy of photographer Milo Burcham

## **ENERGY**

If all of the 145 billion aluminum and PET beverage containers produced in the U.S. are recycled, the energy saved compared to producing new containers from virgin material would equal 43 TWh comparable to the annual energy consumption of Washington D.C.

## **POLLUTION**

Disposing of empty beverage containers in the environment creates difficulties both in regard to sparse landfill space, and the significant visual pollution brought about by littering. To take one example, it is estimated that in the streets of Germany a beverage container can be found at an interval of every eight meters. Or on the other side of the globe, the problem of litter can be seen in the U.S. state of Hawaii where consumption of beverage containers equals approximately 800 million per year. Twenty four percent of these containers are recycled, the rest end up going to landfill or as litter. While Hawaii's 1.2 million inhabitants have access to curbside collection programs, the state's 7 million tourists do not.



Colosseum, Italy

#### CONSUMPTION

The volume of empty containers in the current daily global consumption of beverages equals approximately 1.4 million cubic meters. This would fill the Colosseum in Rome in less than one day.

#### GROWTH

The world's population is expected to increase by approximately 50 percent from 6.1 billion people today to over 9.3 billion people in 50 years. Assuming an annual growth rate in consumption of beverages of 3.5 percent, which is approximately half of the annual growth rate over the last ten years, the number of beverage containers used in 2050 will equal over 4.4 trillion units.

Making the difference...



A close-up photograph of a hand holding a blue steering wheel. The hand is positioned on the left side of the wheel, with fingers wrapped around it. The background is dark, and the lighting highlights the texture of the steering wheel and the skin of the hand. The text "...is up to you" is overlaid on the bottom right of the image.

...is up to you

# Facing the challenge: working toward a sustainable future

Thirty years ago, at the same time as TOMRA was just getting started as a small entrepreneurial venture in Norway, the worldwide recycling movement was also making its first steps out of its infancy. Although this movement has gained considerable momentum since that time, society continues to face a growing challenge in managing the problem of packaging waste.

This problem is growing at a pace that should awaken considerable concern. While TOMRA is proud to be providing the systems that today recycle some 25 billion used beverage containers a year, this represents just a small fraction of the total number of beverage containers. The world now consumes approximately 800 billion packaged beverages a year—the vast majority of which are not being recycled! This represents not only a tremendous waste of resources, but also a significant contributing factor to the problems of litter and scarce landfill space. With the projected growth in world population and beverage consumption rates, the question arises: what actions can be taken to produce a viable framework that can manage the environmental impact from an increasing number of beverage containers?

Clearly the magnitude of this challenge will require a multi-faceted approach that makes use of a variety of solutions and collection methods. Although all of the methods in use today have particular advantages, it is our experience that the collection method delivering the optimum benefit is achieved through incentive-based “bring” systems. These systems encourage individuals, typically through a container deposit or other financial incentives, to take an active part in the recycling process by returning their used drink containers to dedicated collection sites.

**The world now consumes approximately 800 billion packaged beverages a year—the vast majority of which are not being recycled!**

With the inclusion of an automated sorting capability, this type of return system provides the mechanism to raise collection volume significantly, and sets therefore the basic premise for maximizing recycling efficiency and cost-effectiveness. This is the foundation upon which TOMRA has built its business model, a model focusing on maximizing efficiency and positive environmental impact throughout the entire recycling loop—all the way from the collection of used containers until they are eventually reused or recycled. In this way we are able to achieve our goal of creating value for all of TOMRA's stakeholders, including its customers, employees, suppliers, shareholders and society in general.

TOMRA is committed to increasing this value by investing today for the opportunities of tomorrow. Raising the worldwide recycling rate is going to require forward-thinking, innovative solutions, and a strong commitment from all parties who impact this issue to work together to form a framework conducive to its success. To help make these solutions a reality, TOMRA has over the past year devoted considerably more resources to its research and development program as well as our work to promote new recycling initiatives in both existing and emerging markets. This pioneering spirit has been the hallmark of TOMRA throughout its history, and this willingness to take risks has to a large degree brought us to where we are today. Unfortunately, we have recently witnessed the downside of this strategy with regard to TOMRA's attempt to build a more attractive recycling model in the state of California. The substantial write-off that we have taken on our activities in California is of course a major setback and a painful lesson.

Although some temporary hardships have occurred in the past year, one should not forget that the hard work, fighting spirit and enthusiasm characterizing the entire TOMRA organization continue to drive the overall success of our business. During the past year we have been successful in further developing our solid and profitable core business in both Europe and North America, and have brought to life numerous technological advancements within our product portfolio. Further, successful

**Raising the worldwide recycling rate is going to require forward-thinking, innovative solutions, and a strong commitment from all parties who impact this issue to work together to form a framework conducive to its success.**

business development initiatives such as those being pursued in Brazil and Japan show that TOMRA is not only adept at pursuing new business opportunities within its existing operations, but at seeking and developing new areas for growth as well. This represents one of the key assets that will allow TOMRA to execute its long-term goal of 30 percent annual growth.

We view 2002 as a milestone, not only in that it is our 30th year of doing business, but that it can open an exciting new stage of development for the recycling movement. We have made important investments for the future, and are prepared to deliver our proven solutions as the commitment to recycling gains priority. For TOMRA, we feel the story has just begun, and look forward to what we can achieve in the next thirty years in continuing our mission of *Helping the world recycle*. We stand ready to face the challenge, find the appropriate solutions, and bring about a better tomorrow.

Recycling makes a difference and it's up to all of us to make it happen!

ERIK THORSEN  
*President & CEO*



# It's all about value!

TOMRA's social and environmental engagement is guided by the company's corporate social responsibility (CSR) policy. In accordance with this policy, TOMRA each year presents a review of the Group's social and environmental performance.

TOMRA's business is all about creating value through the design, manufacturing and operation of attractive solutions for the collection and recycling of beverage packaging. In doing so, TOMRA maintains a strong social and environmental engagement that is guided by the principles outlined in the company's corporate social responsibility (CSR) policy. This policy was presented for the first time in TOMRA's annual report for 2000, and is applicable to all companies within the TOMRA Group. In accordance with this policy, TOMRA each year presents in its annual management report a review of the Group's social responsibility performance.

For reporting purposes, TOMRA assembles these efforts under the heading "non-financial performance", which is further sub-divided into three main areas:

## TOMRA's triple-bottom line consists of financial, environmental and social indicators.

### ECO-EFFICIENT RECYCLING SYSTEMS

TOMRA is engaged in the recycling of used beverage containers and therefore helps to increase the eco-efficiency of the beverage industry. TOMRA therefore contributes positively to society and the environment through its recycling solutions, and this contribution will be augmented as the company expands its activities in new markets, either independently or in alliance with key players in the beverage container value chain.

### ENVIRONMENTAL PERFORMANCE

In providing its products and services, TOMRA needs to have a physical presence in a wide range of markets. TOMRA's manufacturing units, transportation activities and material processing plants all create negative environmental impacts if viewed solely in isolation. These aspects however are counteracted by the positive impacts that these activities engender, bringing about a net positive effect for the environment. To ensure and improve this positive effect, it is TOMRA's objective to continually reduce its negative impacts through systematic environmental management initiatives.

### LIVING OUR VALUES

Many stakeholder groups are involved in and are influenced by TOMRA's operations. As TOMRA expands into new markets, the organization will also be faced with new challenges in terms of industrial relations and accountability. TOMRA's Core Values are used actively to develop sound business practices wherever we operate.



#### CSR report methodology

Please refer to TOMRA's corporate website at [www.tomra.com](http://www.tomra.com) for a detailed explanation of the methodology used in compiling this report.

On the website you can also find:

- TOMRA's CSR Policy
- A description of TOMRA's environmental objectives and program
- Additional information and late-breaking news

#### CSR report verification

While it is still premature for TOMRA to have the non-financial content of its report verified by a professional auditor, several third-party organizations are in regular dialogue with TOMRA on social and environmental performance.

#### Good reporting practice

The TOMRA 2000 Annual Report was nominated by the jury of the Norwegian Environmental Reporting Prize as the Norwegian candidate to the European Environmental Reporting Award for the category of "sustainability reporting." This award will be presented later in 2002.

## KEY TRIPLE-BOTTOM LINE INDICATORS 2000 - 2001

This year, TOMRA presents year-to-year performance trends for the entire TOMRA Group for the first time. Although it is probably too early to draw definitive conclusions after only two years of Group-wide reporting, we have begun to form a solid base for future performance tracking. Having established a working reporting system,

our next objective is to demonstrate improvements in eco-efficiency from year to year.

TOMRA's triple-bottom line consists of financial, environmental and social indicators. These are presented here in absolute figures, and for financial and environmental performance also as eco-efficiency indicators in the Environmental Performance chapter.

Indicators, absolute figures	2001	2000
<b>FINANCIAL PROFILE</b> NOK million		
Reporting scope (operating revenue)	100 %	89 %
Operating revenue	2,924	2,436
Value added, MNOK	1,552	1,209
Equity, MNOK	2,631	2,636
Return on equity, %	(0.3) %	15.4 %
Stock Bonus plan payments, MNOK	1.2	11.4
<b>ENVIRONMENTAL PROFILE (DIRECT ENVIRONMENTAL IMPACTS)</b>		
Energy consumption, GWhs	91.5	47.2
Carbon dioxide emissions, tonnes (1 tonne = 1,000 kg)	22,412	13,200
Water consumption, cubic meters	30,101	25,300
Waste generation, tonnes	2,998	712
<b>ENVIRONMENTAL PROFILE (INDIRECT ENVIRONMENTAL IMPACTS)</b>		
Total number of containers collected, billions	25.1	21.0
Weight of material collected, tonnes	753,000	630,000
Weight of material processed, tonnes	395,133	205,000
Weight of material reclaimed, tonnes	44,412	N/A
Total material handled, tonnes	1,192,545	835,000
Number of RVM installations (total)	44,850	-
Number of new RVMs manufactured	5,036	-
<b>SOCIAL PROFILE</b>		
Number of employees	1,912	1,742
Female employees	19 %	21 %
Ethnic minority employees	25 %	15 %
Number of reportable injuries	119	139

While this report is informed by several sustainability reporting initiatives including those of the Global Reporting Initiative (GRI), UNEP and WBCSD, TOMRA does not claim full coherence to either.

TOMRA is a component of all major international Socially Responsible Investment (SRI) indexes.

Please contact TOMRA's environmental managers if you need further information on TOMRA's CSR and environmental programs.

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# Eco-efficient recycling systems

A wide variety of recycling models have been implemented around the world to collect the ever-growing number of used beverage containers discarded annually. This chapter provides an overview of the various models in use today and the assumptions that should be weighed when evaluating the degree to which they can be considered truly eco-efficient systems.

**Table 1: Global beverage consumption**

(Billions of liters)	Growth 1996-00	2000 Total	1996 Total
Soft Drinks	22.4 %	165.5	135.2
Bottled Water	22.2 %	20.4	16.7
Mineral Water	21.9 %	54.9	45.0
Non-Carbonated Drinks	126.2 %	74.4	32.9
Milk	8.2 %	116.6	107.7
Beer	22.4 %	136.4	111.4
Wine & Spirits	15.4 %	29.4	25.5
<b>Total</b>	<b>26.0 %</b>	<b>597.6</b>	<b>474.4</b>

Sources: Canadean & TOMRA

**Table 2: Number of containers consumed (2000)**

(Billions of containers)	Glass	Plastic	Cans	Laminates	Total
Soft Drinks	46.0	89.0	95.7	0.0	230.7
Bottled Water	6.0	14.6	0.8	3.0	24.3
Mineral Water	16.2	39.4	2.0	8.3	66.0
Non-Carbonated Drinks	13.7	16.1	30.0	44.7	104.4
Milk	9.4	15.5	0.0	106.1	131.0
Beer	30.5	1.0	160.7	0.0	192.2
Wine & Spirits	38.3	1.3	0.0	5.1	44.7
<b>Total</b>	<b>160.2</b>	<b>176.9</b>	<b>289.1</b>	<b>167.1</b>	<b>793.3</b>

Source: TOMRA

## WORLD BEVERAGE CONSUMPTION

### Consumption trends

The global consumption of beverages in 2000 is estimated to have been approximately 598 billion liters, which equals about 99 liters per person on average. Consumption in the developed world is high, while consumption in the developing world is low but growing. Over the past four years, drink consumption has increased by approximately six percent annually, and a similar trend is anticipated in the coming decade. As outlined in Table 1, the greatest increase in consumption since 1996 has occurred within the non-carbonated drinks.

**Annual global beverage consumption:  
793,000,000,000 containers  
Collected by TOMRA:  
25,100,000,000 containers**





## COMMON COLLECTION MODELS

The collection models used today range from collection of used beverage containers (UBCs) through the household waste stream to various deposit models. Five common collection systems are described in the following section:

### Waste stream recycling

Waste stream recycling systems are in operation in all industrial countries. It involves collecting unsorted household waste fractions simultaneously, relying on secondary manual sorting of recyclable fractions. The system offers a high degree of convenience for consumers, but it often results in a high degree of cross contamination with a consequent loss of material value and poor working conditions for sorting staff.

### Curbside collection

Curbside collection is widely used in all parts of the world, and involves pick-up of pre-sorted waste in residential areas. The system offers a high degree of convenience for consumers and works well in residential areas with low recycling targets. Transportation and back-end sorting costs are high, and material is often cross-contaminated due to lack of sorting control.



Waste stream recycling



Curbside collection



Igloo systems



Incentive/deposit based out-of-store collection system (recycling centers)



Incentive/deposit based in-store collection system with RVM technology

### Igloo systems

Igloo systems require that consumers bring their waste material to a recycling location. The centralized pick-up location for waste reduces the transportation cost of the system (compared to waste stream recycling and curbside collection). The lack of sorting control, however, results in low yield of high quality material. Participation in the system can only be driven by consumer awareness, which often entails expensive marketing campaigns.

### Incentive/deposit based out-of-store collection system (recycling centers)

In principle equal to igloo systems, but the system is based on incentive for consumer participation and the centers can be automated. Material quality and sorting can be monitored, resulting in a higher yield of high quality material (than in non-automated systems). Transportation costs can also be reduced if material compaction is introduced. In order to achieve recycling rates comparable to in-store collection systems, high investments are needed in order to establish a sufficient number of recycling centers, which makes it convenient enough for consumers to participate in the system.

### Incentive/deposit based in-store collection system with RVM technology

In the traditional in-store deposit model the consumer returns the empty beverage container at the retail store and redeems a deposit, which was initially paid at the time of purchase of the beverage container. The system offers convenience to the consumer with a high number of return points. The system may also utilize existing logistical capacity for transporting empty containers. Through RVM technology, sorting and compaction is possible, thereby resulting in a high yield of high quality material and reduced overall transportation costs. The system has demonstrated recovery rates of up to 98% and reduction of litter problems caused by beverage containers.

## TOMRA ENVIRONMENTAL RESEARCH

In order to truly understand all the different factors that impact the cost and environmental efficiency of recycling systems, TOMRA has been engaged in systematic recycling system research for a number of years. In last year's annual report, TOMRA presented the findings from its first comprehensive LCA study undertaken in 1999.

This pioneering report has formed the basis for TOMRA's further activities within this field, and is now complemented with further studies undertaken both within the organization and in collaboration with other multi-stakeholder groups. The objective of these activities is to gain a real understanding of how to create even more attractive and eco-efficient recycling systems.

## CHARACTERISTICS OF ECO-EFFICIENT RECYCLING SYSTEMS

TOMRA has been involved in the design and operation of recycling technology, system design and administration for 30 years. During this period, beverage container collection and recycling has changed from being simply a logistics and cost-issue into being an issue influenced by a wide variety of forces.

Financial, environmental, demographic, political, non-governmental and commercial forces are all influencing the recycling systems that are designed to handle the huge volumes of UBC material in circulation worldwide. Regardless of the recycling model implemented, TOMRA believes that the following characteristics need to be present in order to achieve environmental efficiency, low per unit cost, high collection and recycling rates, and produce recycled material that is a valued commodity.

### Consumer incentives

Recycling models that provide no other incentive for consumer participation than responsible social action will rarely achieve collection rates above 10-15 percent. On the other hand, deposit systems with a significant deposit (USD 0.05 or more) have achieved collection rates of more than 70 percent. Effective incentives are typically monetary in nature or based on promotional concepts.

### Consumer involvement

The transportation and man-hours required to pick up packaging waste household by household are the most significant causes for the high cost and use of energy related to traditional recycling systems. Curbside and waste disposal systems carry out just one activity in the use of their transportation energy, and this adds significantly to the overall cost of the systems. "Bring systems," where the consumer combines recycling with their regular shopping or other errands, saves considerable amounts of energy, greenhouse gas emissions and financial cost to society through the efficiency of multi-task transportation. This is particularly true in markets with high consumption of beverage containers such as in the United States where UBC packaging often makes up more than 40 percent of household waste in terms of volume.

### Density of collection points

Density in the number of recycling points determines to a large extent collection levels, particularly in urban areas. Although a high density increases the initial investment and pick-up costs in the recycling system, it also achieves a high flow of materials, particularly in recycling models offering little or no financial incentive for the consumer.

### Intelligent sorting and accumulation

In order for collected material to maintain its value, it is essential that it is separated according to the different packaging material types (aluminum, steel, PET, glass) as well as sorted by color. Front-end sorting eliminates the need for costly secondary manual sorting at a material processing plant.

### Efficient pick-up and transportation

One other main contributor to cost and energy consumption in recycling systems is the transportation of collected material from recycling centers and RVMs to the material processing plant. TOMRA's solution to make this more efficient is to reduce the volume of the material at the point of collection through the application of compaction and shredding technology. Even though the use of compactors and shredders increases the energy consumption of the RVM, the energy savings created by more efficient transportation pays off both financially and environmentally. This becomes increasingly important when one does not utilize return freight capacity.

### CLOSED-LOOP RECYCLING

As described above, there are a number of advantages and disadvantages with the various container collection models in use in the world today. The model or combination of models chosen for any given market should reflect the political goals for reduction of litter and collection and recycling rates (see page 37 for a description of the EU Packaging & Waste Directive). If the goal is a low collection rate with a high degree of energy recovery (incineration) or landfill, then an effective model could be waste stream recycling. On the other hand, if the goals are high collection and recycling rates, a deposit system with reverse vending machine technology is the optimal solution.

When discussing recycling systems it is important to keep in mind the relationship between the collection of containers and the process of recycling. Material can be collected and recycled in many different ways. Mixing high-value used beverage containers with low-value household waste contaminates the beverage container material stream, and reduces the overall value of the collected volume. Reduced material value further reduces the beverage container material's ability to finance its own cost of recycling. TOMRA argues that to obtain high resource efficiency, the collected material should be recycled and brought back into productive use, staying within a "closed loop." With its advanced technology for material recognition and sorting, TOMRA is playing a significant role in helping to keep some 25 billion containers a year within the recycling loop.

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For a more in-depth explanation of TOMRA's advanced recognition and sorting technology, as well as the uses of recycled material please refer to the technology and environment sections of TOMRA's corporate website ([www.tomra.com](http://www.tomra.com)).



## RECENT TOMRA RECYCLING SYSTEM RESEARCH

### LCA/LCC Report (1999)

The 1999 LCA/LCC report was TOMRA's first recycling system research report based on the LCA methodology. The report looked into recycling systems in two US states as well as the environmental aspects of the RVM itself. The main findings of the report were the importance of reducing RVM energy consumption, and that the most efficient systems rely on the consumer to bring packaging waste to a recycling point while going shopping or running other errands.

### Germany Bluebook (2001)

As a part of TOMRA's internal preparations for the introduction of deposit on non-refillable containers in Germany, TOMRA compiled an extensive report based on TOMRA's experience from similar deposit models. The Bluebook is a complete technical manual for the entire deposit system value chain—from collection through to materials recycling.

### P2005 Industrial Ecology

TOMRA is a core member of the P2005 Industrial Ecology research program supported by the Norwegian Research Council, The Norwegian University of Science and Technology and Oestfold Research Institute. TOMRA is participating in two different research cases in the program: "Eco-efficiency in Recycling Systems" and "Factor 10 in Logistics Networks."

The aim of these research cases is to further develop knowledge and competence in eco-efficient recycling systems, and to develop methods for achieving a "Factor 10" improvement (referring to the concept of increasing productivity while decreasing resource consumption by a factor of ten), in the beverage industry through establishing business networks.

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More information is available on the P2005 website ([www.p2005.ntnu.no](http://www.p2005.ntnu.no))

### BEAR Alliance Report (2001)

The BEAR (Businesses and Environmentalists Allied for Recycling) Alliance is a US multi-stakeholder alliance with the aim of achieving an 80% recycling rate for used beverage containers within the US. The BEAR Alliance recently published its first report highlighting the importance of introducing recycling incentives and high density of recycling points to achieve high recycling rates. TOMRA is a participating member of the BEAR alliance.

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More information is available on BEAR's website ([www.globalgreen.org/BEAR/](http://www.globalgreen.org/BEAR/))

### TOMRA Greenbook (2002)

The TOMRA Greenbook is intended as a tool for decision-makers responsible for designing packaging material collection and recycling systems.

TOMRA is dedicating its expertise to develop the Greenbook, which will be a software-based tool for performing detailed analyses of environmental, financial and demographic characteristics of a given market. The output of the Greenbook will provide valuable assistance in designing optimal recycling systems adapted to local market conditions.

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Please visit the Environment section of [www.tomra.com](http://www.tomra.com) for further information on how to obtain electronic copies of TOMRA's environmental research reports.

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# Environmental performance

TOMRA is a multinational organization with operations in 46 markets on three continents. As with any business enterprise, this entails certain unavoidable negative impacts to the environment in terms of energy usage, greenhouse gas emissions, waste generation and water usage.

In this chapter we will describe the environmental costs connected to TOMRA's operations, factors that we describe as "direct" environmental impacts. TOMRA's direct environmental impacts should be considered in connection with the organization's indirect environmental impacts described in the previous chapter. For example, TOMRA annually collects approximately 25 billion used beverage containers and handles a total of 1.1 million tonnes of aluminum, PET and glass—all of which is returned to productive use. This represents significant environmental savings worldwide. This is illustrated by the fact that production of one aluminum can from recycled feedstock requires only approximately five percent of the energy required to produce the same can from mined material.

**TOMRA's objective is to ensure that the positive indirect environmental impacts created by its operations are greater than the direct negative impacts.**

While the negative direct environmental impacts of TOMRA's activities are described herein, TOMRA's objective is to ensure that the positive indirect environmental impacts created by its operations are greater than the direct negative impacts described in this chapter. One of the company's environmental goals is by 2005 to be able to fully report the net positive environmental impact created by the organization. This is a complicated task that requires extensive research and the gathering of generally accepted life cycle analysis (LCA) data for beverage container production and recycling.

## MEASURING TOMRA'S ECOLOGICAL FOOTPRINT

The information presented herein is collated annually through TOMRA's Corporate Social Responsibility Reporting Initiative. This reporting exercise was launched globally in 2000, and includes all majority-owned TOMRA subsidiaries worldwide. In practice this includes all technology development and production units, our operations in all major European and US markets, as well as one unit in the emerging South American market.

## FOCUSING ON THE SIGNIFICANT ISSUES

We realize that we cannot measure and control every single impact on the environment generated by TOMRA throughout the world. Our environmental management system focuses therefore on the most significant factors affecting our environmental performance. These factors include energy consumption, greenhouse gas emissions, waste generation and water consumption, as well as the resources used for the production of TOMRA reverse vending systems.

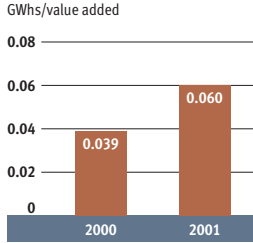
## RELATING ENVIRONMENTAL COST TO VALUE CREATION

In order to make sense of environmental impacts it is important to relate the impacts to the value that is created. To this end, TOMRA reports both absolute impact figures and eco-efficiency indicators for all the significant impact categories.

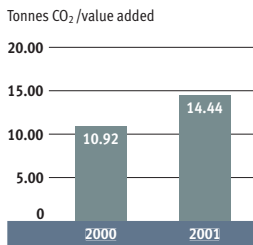
Eco-efficiency indicators are obtained by calculating environmental impact per unit of resulting financial value created. This enables businesses to demonstrate improvements in efficiency from year to year, even if the underlying structure of the organization changes or expands.



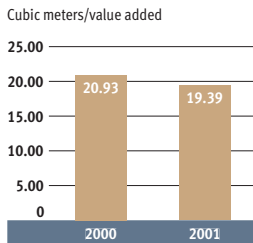
### Eco-efficiency, energy usage



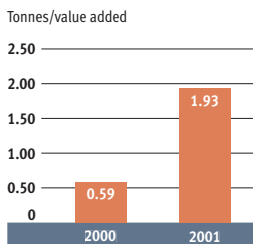
### Eco-efficiency, CO<sub>2</sub> emissions



### Eco-efficiency, water consumption



### Eco-efficiency, waste generation



In previous reports we have followed the generally accepted indicator for eco-efficiency developed by the World Business Council for Sustainable Development (WBCSD), which measures eco-efficiency as a factor of financial value added divided by environmental impact. However, we feel that eco-efficiency can be more readily understood by inverting this quotient, showing instead the relationship between impact and value created as something which should be moving downwards through time. Therefore, with this report TOMRA will hereafter measure its eco-efficiency performance according to the following equation:

$$\text{Eco-efficiency} = \text{Environmental Impact} / \text{Value Added}$$

### SIGNIFICANT ENVIRONMENTAL IMPACTS, 2001

As most business ventures, TOMRA relies on a number of natural resources in order to deliver its products and services. This section provides an overview of the environmental costs connected to TOMRA's operations worldwide in 2001.

Energy usage, GWh	2001	2000
Grid electricity	15.6	8.2
- CO <sub>2</sub> neutral	2.2	2.2
- Fossil-fuels based	13.4	6.0
Natural Gas	30.6	-
Vehicle fuels	45.2	39.0
<b>Group Total, GWh</b>	<b>91.5</b>	<b>47.2</b>

Conversion: UNEP GHG Indicator / WBCSD GHG Protocol

The increase in energy consumption from 2000 to 2001 is mostly due to the inclusion of the aluminum reclamation activities in Brazil, operated by Tomra Latasa Reciclagem S.A. While aluminum reclamation is an energy intensive activity, the reclamation plant manufactured close to 45,000 tonnes of recycled aluminum during 2001.

An increase in energy used by the vehicle fleet is also evidenced as the number of vehicles included in the reporting scope is up from 422 in 2000 to 495 in 2001.

Emissions, CO <sub>2</sub>	2001	2000
Grid electricity	4,451	2,900
Natural gas	6,195	-
Vehicle fuels	11,767	10,300
<b>Group Total, tonnes CO<sub>2</sub></b>	<b>22,413</b>	<b>13,200</b>

Conversion: UNEP GHG Indicator / WBCSD GHG Protocol

In relation to greenhouse gasses TOMRA reports only carbon dioxide (CO<sub>2</sub>). This is due to the fact that most other greenhouse gasses follow the emission of CO<sub>2</sub> closely, and can easily be extrapolated from the CO<sub>2</sub> or energy consumption figures. CO<sub>2</sub> is the most often discussed greenhouse gas and is therefore meaningful for most readers.

The majority of the CO<sub>2</sub> emissions stem from operation of the vehicle park used for sales and service activities and transportation of collected UBC material from collection points to material handling units. Natural gas used by the aluminum reclamation unit in Brazil also contributes significantly to the increase in CO<sub>2</sub> emissions from 2000 to 2001.

Water consumption	2001	2000
Office and hygienic usage	10,257	10,120
Industrial usage	19,845	15,180
<b>Group Total, m<sup>3</sup></b>	<b>30,101</b>	<b>25,300</b>

No single unit consumes large amounts of water. The total water consumption during 2001 was 30,101 m<sup>3</sup> or approximately 30,000,000 liters. Water management within the TOMRA Group should focus on reducing unnecessary consumption and implementation of storm water management plans where applicable.

Waste generation	2001	2000
<b>TRAD. RVM-BASED BUSINESS</b>		
Paper	31	35
Cardboard	223	45
Plastics	76	10
Wood	1,045	43
Electronics	20	17
Metals	63	52
Expanded polystyrene	3	-
Hazardous	11	-
Unsorted	96	511
By volume (cubic yards converted)	865	-
<b>Total</b>	<b>2,433</b>	<b>712</b>
<b>ALUMINUM RECLAMATION</b>		
Sand	299	-
Metals	256	-
<b>Total</b>	<b>555</b>	<b>-</b>
<b>Group Total, tonnes</b>	<b>2,988</b>	<b>712</b>

TOMRA's internal recycling program has been well implemented in most operations, and will continue to be implemented throughout the rest of the Group. Waste is reported in 10 main fractions representing the fractions with significant volumes. The increase in waste volumes from 2000 illustrates that the waste reporting practices have been improved and now reflects real waste volumes.

Scrap RVMs recycled under TOMRA's expanding product take-back program is reported as electronic, hazardous and metal waste. In the Norwegian market alone, 68 tonnes of scrapped RVMs were recycled by specialist recyclers during 2001.

Waste reported in cubic yards has been converted according to waste management practices.

An additional 9,917 tonnes of aluminum reclamation by-products are sold as input to commercial processes by permission of Brazilian environmental authorities. This volume is not included in the waste figures as it is utilized directly in a closed-loop system.

#### MATERIAL USAGE, RVM MANUFACTURING UNITS

TOMRA's reverse vending machine manufacturing units assembled 5,036 RVMs during 2001. All components and parts going into RVM manufacturing are sourced from TOMRA's technology supplier network.

Material content, T-42 RVM, kg			
Sheet metal	136.00	PC	2.67
Steel	72.60	ABS	3.10
Aluminum	14.30	Epoxy	0.41
Nickel	0.20	Other plastics	2.56
Tin	0.08	Rubber	0.50
Copper	10.00	Oil	0.50
Lead	0.03	Flame retardants	
Silicone	0.03	Brominated	0.16
PVC	4.04	Triphenyl phosphate	0.73
<b>Total</b>			<b>249</b>

Source: TOMRA LCA analysis 1999

The estimated volume of materials going into RVM manufacturing are based on the LCA analysis of one of TOMRA's high volume products, the T-42 RVM for non-refillable containers.

Based on an average weight of 250 kilograms per unit, the total volume of materials used for RVM production was approximately 1,260 tonnes.

TOMRA's R&D departments are researching and designing new products in line with the principles outlined in the TOMRA R&D Greenbook. The Greenbook is a Design for Environment manual for engineers and project managers, and helps them to design products with a reduced environmental impact throughout the product life cycle.

TOMRA RVMs are increasingly being designed for easy dismantling and recycling when they reach the end of their operating life, normally after 7-10 years. Combined with TOMRA's expanding product take-back programs this will ensure that worn out RVMs are recycled and that the material content is returned to productive use when the product is decommissioned. In the Norwegian market alone, a specialist electronics recycler recycled 68 tonnes of discarded RVMs during 2001.

One of the objectives of TOMRA's Design for Environment program is to increase the content of recycled material used in the construction of TOMRA's products, as well as to eliminate the need for surface treatment and additives which complicate the recycling process.

**TOMRA RVMs are increasingly being designed for easy dismantling and recycling when they reach the end of their operating life.**

Beverage container processing



#### **COLLECTED, PROCESSED AND RECLAIMED MATERIAL OUTPUT**

Based on the available information and reasonable assumptions, TOMRA's products and services helped the world recycle 1,100,000 tonnes of aluminum, PET and glass material during 2001.

#### **Beverage container collection**

Through its products and services, TOMRA is responsible for collecting about three percent of the total global used beverage container volume, or approximately 25 billion containers annually. Assuming each container weighs 0.03 kilograms, this equals 750,000 tonnes of aluminum, PET and glass annually.

#### **Beverage container processing**

TOMRA processed 395,100 tonnes of used beverage container (UBC) material in its materials handling units in the US, bringing the collected material one step closer to recycling. Materials processing includes additional material refinement and bailing of the UBC material as well as marketing of the material in the commodity market.

#### **Aluminum container reclamation**

With the addition of the aluminum smelting operations in Brazil, TOMRA is now also involved in the reclamation of aluminum cans. During 2001, Tomra Latasa Reciclagem S.A reclaimed close to 45,000 tonnes of aluminum.

#### **MANAGING ENVIRONMENTAL PERFORMANCE**

TOMRA implemented its first environmental program during the implementation and certification of the ISO 14001 Environmental Management System in its Norwegian operations in 1998. The objectives focused on increasing TOMRA's knowledge and understanding of environmental efficiency and performance. A full summary of the achievements and activities that were part of the first environmental program is available on TOMRA's website.

#### **Clarifying environmental objectives**

Having completed its first environmental program cycle, TOMRA will now focus on improving performance through implementation of a second environmental program. While the objectives of the program are firmly defined and presented in this report, targets will be announced on TOMRA's website at a later date. The program applies to all companies consolidated into the accounts of Tomra Systems ASA.

The nature of TOMRA's business makes it difficult to achieve great leaps in improving environmental performance by introducing large single measures to reduce resource consumption. Rather, a variety of smaller actions must be widely implemented throughout the organization. Raising environmental awareness among all TOMRA

employees is the key to achieving our ambitious objectives. In accordance with our company mission, we must be able to demonstrate that environmental efforts pay-off both in terms of sustainable business solutions and short-term cost savings.

#### **Environmental management**

TOMRA's two technology development and manufacturing units in Norway and Finland are certified according to the ISO 14001 Environmental Management Systems standard.

The Finnish unit, Tomra Systems OY, achieved its ISO 14001 certification in the summer of 2001, within the previously announced target date.

Today, all of TOMRA's R&D and manufacturing units are operating under the strict requirements of the international standard. All TOMRA customers can thereby rest assured that they are offering their customers the most convenient and environmentally friendly reverse vending machines available anywhere.

**Raising environmental awareness among all employees is the key to achieving our ambitious objectives.**

#### **ENVIRONMENTAL OBJECTIVES, 2002 - 2005**

##### **1. Eco-efficient products and services**

- Introducing lead-free electronics and manufacturing processes gradually throughout the period with an aim of introducing the first 100% lead-free product in 2007.
- Continue to reduce the content of hazardous flame-retardants and environmentally hazardous surface treatment methods.
- To reduce environmental impact by continuing to replace physical or material actions and services with electronic equivalents when possible.
- To continue to reduce the energy requirements of new products.

##### **2. Resources and consumption**

To demonstrate continual improvements in eco-efficiency in all significant environmental impact categories.

- Energy usage
- Greenhouse gas emissions
- Water usage
- Waste generation

##### **3. Systems analysis**

- To continue to conduct research into eco-efficient recycling systems, both internally and through cooperation with external resources.
- To develop models and scenario tools for cost and environmental efficiency analysis of recycling systems under different market conditions.

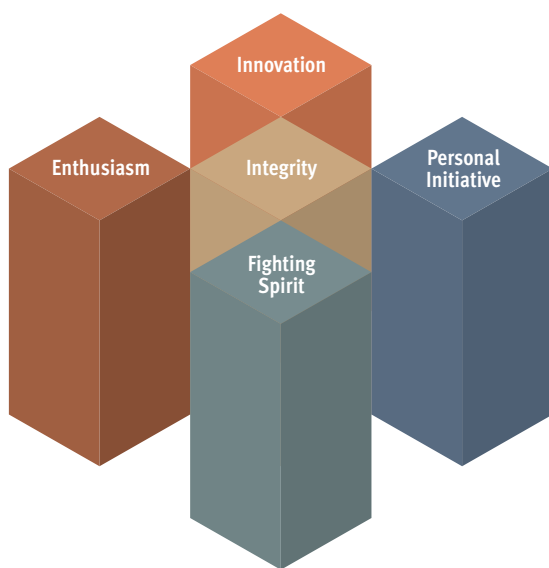
##### **4. People and knowledge**

- Involving all TOMRA employees in an online environmental training program by the end of 2004, and recognizing all those who satisfactorily complete the program with the TOMRA Environmental Expert Award.
- Integrating environmental objectives into the job targets of all managers by the end of 2003.
- Initiate a second review (the first having been undertaken in 1998/99) of the operations of TOMRA's technology suppliers to ascertain their environmental performance and affect improvements where necessary.

##### **5. Measuring and reporting our positive contribution**

- To increase the volume of collected and recycled material by 30 percent annually, or in line with TOMRA's overall growth targets.
- To continue to achieve the company's rating as a preferred socially responsible investment through open and transparent reporting practices.
- To report quantitatively on TOMRA's net positive environmental contribution by 2005.

# Living our values



**Companies that want to operate on a global scale need to determine the values that influence the way they do business.**

Our world is changing rapidly, and businesses need to respond to this change in order to safeguard the social license to operate. The increasing globalization of business leads to a weakening of the traditional role of nation states, and makes international cooperation and alignment more important than ever.

In this scenario, companies that want to operate on a global scale need to determine the values that influence the way they do business. TOMRA has traditionally operated in Scandinavia, Western Europe and North America—areas that are well regulated in terms of employment and environmental concerns. As TOMRA continues to expand into new markets in South America and Asia, the organization will be faced with a whole new set of issues in terms of industrial relations and cultural understanding.

## HELPING THE WORLD RECYCLE

TOMRA has a clearly defined mission: Helping the world recycle. And through our innovative products and services, we are doing just that. As evidenced in the previous chapter, TOMRA helped to recycle more than one million tonnes of packaging materials during 2001, returning these materials to productive use either as new containers or other useful products. The total positive environmental effect of this is difficult to fully assess, but the knowledge that one is working to bring about such a societal benefit is a source of pride for TOMRA employees. We know that we are contributing to the common good of society while at the same time generating growth and profit.

## OUR CORE VALUES

TOMRA's core values represent key drivers in growing our business. These values were identified and formulated through an extensive process in 1996/97, in which both internal and external stakeholders participated. The aim was to identify the intrinsic values of the organization; the ground rules that guide TOMRA employees' day-to-day decisions, and in sum, set our company's trajectory in the long-term. The five TOMRA core values are:

### Innovation

TOMRA has always been in the forefront of technological innovation, and was the first Norwegian company to utilize the microprocessor in a commercial product in the early 1970s. Innovation allows us to break new ground both in terms of technology and market development, as well as to promote improvements in all our business practices.

### **Fighting Spirit**

We have the attitude of winners and build team spirit. We are resilient and will not give up even in times when we face resistance and defeat. The strength of our mission and corporate culture serves to keep us focused and motivated.

### **Enthusiasm**

We are enthusiastic about the opportunities we can realize. The satisfaction of achieving our goals and delivering value to society serves as a constant source of energy.

### **Personal Initiative**

We pride ourselves in taking initiative, and we will not sit passively by when opportunity knocks. We act and take responsibility not only for our own areas of concern, but wherever we can affect positive change.

### **Integrity**

Our integrity guides us in making our choices and decisions, and provides the foundation upon which our stakeholders can rely on us. It also acts to shape and discipline the observance of the four other core values. Our integrity further acts as a guide in helping us to do the right thing the first time around.

These core values are held in unison by all TOMRA operations around the world. It is the responsibility of each TOMRA leader to clarify to his or her local organization the practical impact of TOMRA core values. TOMRA realizes that each organization may want to adapt the way in which the core values are actually put in practice according to the local customs and culture. This flexibility ensures that the corporation remains pluralistic and open to new ideas.



TOMRA has recently produced a new video about its core values entitled, "Values in Practice," which can be seen on TOMRA's website: [www.tomra.com](http://www.tomra.com)

### **VALUE-DRIVEN LEADERSHIP**

The ability of TOMRA managers to employ the talents and motivate the inner drive of TOMRA employees is a critical success factor. The building blocks of TOMRA management practices are TOMRA's six leadership principles. These principles are based on a management philosophy emphasizing employee involvement and a recognition of the fact that employees are human beings with a full range of qualifications, needs and desires that need to be nurtured in order to develop their full potential.

TOMRA's Integrated Leadership Process is directly linked to our overall corporate goals and core values, and has been developed to systemize and standardize management practices throughout TOMRA's business units and companies.

TOMRA's Integrated Leadership Process is an annual

process of goal-setting, assessment of achievements at an individual level, and employee and customer surveys that help monitor how well we are practicing our core values.

### **Customer Satisfaction**

The Customer Satisfaction Index (CSI) is an annual survey run since 1992 designed to monitor how well our customers are satisfied with TOMRA. The CSI attempts to place a quantitative measurement on the satisfaction level of both internal customers within the TOMRA Group and external customers in the market, so that a comparative analysis can be made from year to year. The survey helps TOMRA to focus on the concerns and comments of our customers, and to initiate corrective and preventive action where required.

### **Job Discussions**

A job discussion is an annual one-on-one discussion between an employee and his or her immediate leader in which short and long-term work objectives, as well as all issues relating to work organizational and personal development, are discussed and agreed.

### **Performance Evaluation**

Each year TOMRA leaders assess their employees' achievements, contributions and performance relating to the goals and activities defined in each individual's job discussion. The performance evaluation process is concluded in a meeting between the employee and the leader where the leader provides the employee with feedback about how the past year's achievements and performance are evaluated. More important, the performance evaluation is meant as a systematic way to focus on learning and build an understanding about what is needed for future performance. An integral part of the performance evaluation is how the employee practices TOMRA's core values.



### Living Our Values

The annual internal "Living Our Values" survey provides a means of assessing the way in which TOMRA's core values are perceived by employees and how they are actually practiced in the day-to-day operations. This helps to expose any gaps, and the results form the basis for identifying potential areas of improvement during the employee job discussions and through work group processes.

### 360° Leader Feedback

The 360° Leader Feedback survey is conducted annually to allow managers the chance to receive feedback from co-workers, peers and superiors on the effectiveness of their management practice. This tool is also closely linked to TOMRA's core values and leadership principles, and allows a manager to identify strengths and development opportunities that could be translated into specific objectives and activities during their own job discussions.

### SOCIAL PERFORMANCE

The third leg of TOMRA's triple-bottom line is related to people and how TOMRA as an organization impacts on employees and local communities. Social performance is a relatively new parameter of business monitoring, and TOMRA is still analyzing exactly what should be included as social performance indicators. TOMRA will participate in defining, and monitor the common understanding within this field of reporting and adopt best-practice reporting methodologies also within this field.

### Healthy and safe workplaces

TOMRA facilitates healthy and safe workplaces in which employees and customers can thrive and develop.

Social Profile	2001	2000
<b>EMPLOYEES</b>		
Total (end of year)	1,902	1,742
Female	19 %	21 %
Minority	25 %	15 %
Special needs	1 %	-
Work release / training	4 %	-
<b>HEALTH AND SAFETY</b>		
Reportable accidents	119	139
<b>BONUS PLAN</b>		
Stock Bonus plan payments, MNOK	1.2	11.4

### Employees

The total number of employees in the TOMRA Group on 31.12.2001 is reduced from last year due to discontinuation of US non-deposit and some processing activities in California. TOMRA's restructuring of activities in the US is discussed further in the report from business unit North America.

The number of employees within the CSR reporting scope at the end of 2001 was 1902, up from 1742 last year. This figure includes 50 new employees in Brazil.

### Reaching out to local communities

By virtue of its business, TOMRA is committed to benefiting the local community in which it operates. Beyond this, TOMRA is actively engaged in facilitating knowledge about the benefits recycling offers a community as well as a greater awareness of environmental issues in general. TOMRA's innovative recycling schemes in Norway, California, Sweden and Brazil are good examples of this.

### *Non-refillable container recycling center, Norway*

Disposable containers such as jam jars, shampoo bottles and tin cans are normally not recycled in Norway. In response to this, TOMRA has set up an experimental recycling center in the municipality of Asker (the home of TOMRA's headquarters), which has enabled the local population to recycle certain types of packaging that are normally thrown in the waste basket. The project's aim was to learn more about how the population could be mobilized to adopt new recycling habits in areas where deposits are not placed on recyclable containers. Therefore, instead of a monetary deposit the project offered attractive competitions in which the families that recycled the most objects could win prizes such as mobile telephones, tickets to the cinema or an amusement park, and kick-bikes. The competitions were closely connected to the local schools as a means of increasing recycling awareness among children.

The project is now reaching its conclusion, but has given TOMRA valuable knowledge about what motivates people to participate in recycling activities while at the same time providing a fun way for the local community to gain increased recycling awareness.

*rePLANET tree planting program, California*

TOMRA's rePLANET recycling centers in California initiated the Tree Planting Program in 1999. For every 200,000 containers redeemed at rePLANET centers, the program donated one tree that was planted in the local community.

More than 2,000 trees were planted during the program, mostly in parks and landscapes in local communities. The remaining trees donated by TOMRA not already planted will be planted by the American Forests Global reLEAF Project in Afton Canyon, Barstow, California.

The tree planting program helped to increase biodiversity and amenity value in the areas it was implemented, and is another fine example of cooperation with local communities in order to facilitate recycling and improving the environment.

*rePLANET Earn and Learn program, California*

The "Earn and Learn" program in California is the successor to the Tree Planting Program and enables recyclers in California to donate the value of their recyclables to their local school simply by pushing a donation button. The donation is automatically registered online, and a receipt is printed out for the customer showing the donation amount and the name of the school receiving the donation. The program is designed both to promote more recycling with rePLANET and at the same time encourage students to learn more about the value of recycling and conservation for society.

In addition to the funding provided to participating schools, rePLANET also provides a fully developed multimedia curriculum kit. The educational material is offered free of charge, and teaches students about recycling as well as basic science and math.

*Environmental Room, Sweden*

The idea behind the Environmental Room is to offer customers a better and more complete recycling experience by providing consumers a one-stop location to do all their recycling, while also offering educational activities and other convenient services.

The Environmental Room concept was developed in cooperation with the Swedish supermarket chain Coop Forum.

*School Program, Brazil*

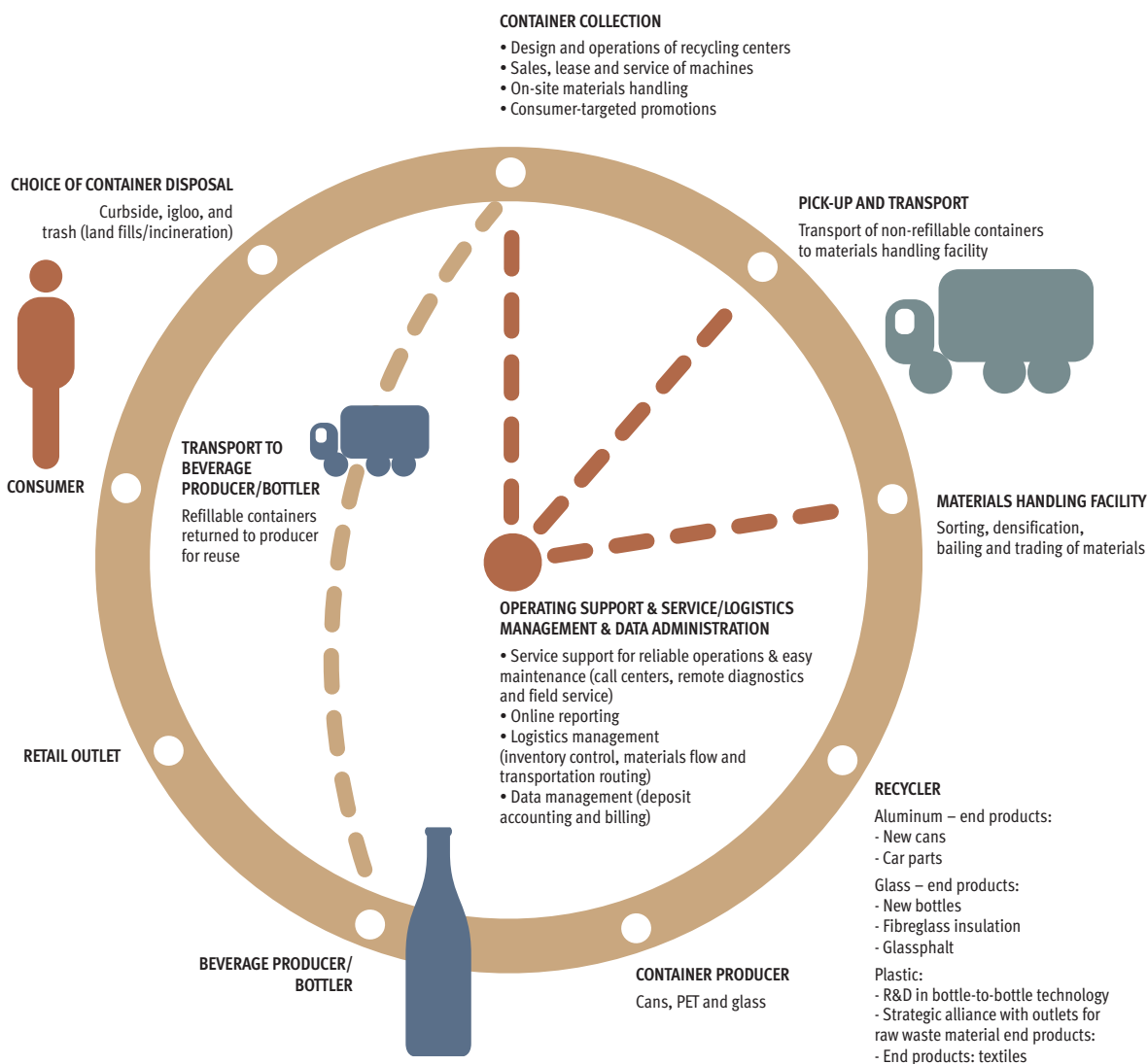
The "School Program" in Brazil was initiated in 1993 with the objective of collecting aluminum cans and PET bottles from schools and institutions. The program started out with three participating institutions and by the end of the first year 1,000 institutions had signed up with the program. Schools and institutions collect used beverage containers and trade the material in for equipment such as computers, wheelchairs and ceiling fans, thereby contributing much needed equipment to local communities. The program increases environmental awareness among the participants, helps to collect valuable container material and reduces littering. Today, 16,000 institutions participate in the program and more than 60,000 pieces of equipment have been donated by Tomra Latasa.

**TOMRA is committed to benefiting the local community in which it operates.**



# TOMRA's role in the recycling loop

TOMRA is currently active in 46 markets worldwide and has established operations in Europe, North America, South America and Japan. Recovery and recycling systems are a result of many factors such as legislation, consumption patterns, demographics and container types. Given the various frameworks in which TOMRA operates, the company's role in the recycling loop differs from region to region—from primarily the sale of technology in some regions to forward integrating into the container recycling value chain in order to develop efficient handling systems for all parts of the value chain.



Over the past thirty years TOMRA has developed from a company focused purely on the sale and servicing of reverse vending machines (RVMs) to a company involved in most parts of the beverage container recycling value chain. In 1972 TOMRA developed and marketed its first RVM for the domestic Norwegian market and expanded internationally a year later. While focusing its early product development on RVMs for refillable containers, TOMRA developed equipment to handle non-refillable containers in the 1980's as these beverage containers started taking more market share.

In the past ten years the company has integrated a number of elements within the container recycling value chain, including the collection of beverage containers, management systems which monitor container collection volumes and related cash flow, pick-up of container materials at collection sites, as well as material processing and marketing.

Recovery and recycling programs for packaging material in the world today are shaped by a number of factors such as recycling legislation, consumption patterns, demographics and container types. For containers to be recycled, they must first be separated by material type, color, and whether they are refillable or non-refillable. Non-refillable containers are now the most used type of beverage container. Given these complexities, TOMRA's role in the recycling loop varies across different regions of the world.

#### BUSINESS UNIT EUROPE

Figures in NOK million	2001	2000	1999	1998
Sales	597	628	695	407
Service	295	250	240	180
Adm. & prom.	18	15	15	15
<b>Total BU Europe</b>	<b>910</b>	<b>893</b>	<b>950</b>	<b>602</b>
% of total revenues	35 %	38 %	48 %	46 %

Refillable containers still hold a dominant market position in the countries in Europe where TOMRA is active today. One reason for this is that Europe still is a fragmented market. Certain areas are still dominated by small to medium-sized regional brewers. In these regions, short transportation distances can justify the cost of cleaning and transporting refillable containers between the brewery, the point of sale and back again. The consumer, who gets back the deposit at the store, returns the empty refillable containers to the store. The containers are then returned to the brewery by the same truck that delivers full containers to the store. This closed-loop system of transporting full and empty containers is the most efficient way of transporting the containers between the filling point and point of sale. As such, TOMRA's role in the refillable container loop is limited to the sale and service of RVMs.

In Norway, Sweden and Finland deposit on non-refillable containers has also been implemented. Similar to the refillable deposit systems in Europe, TOMRA's role in the recycling loop in Scandinavia consists largely of the sale and service of RVMs. Non-profit material handling companies owned by the brewery and retail industries, have been established to handle the transportation, processing and recycling of empty non-refillable containers.

In addition to the sale and service of RVMs and on-site materials handling systems, BU Europe also provides data administration services to the material handling companies. These services include accounting for deposit charges and handling fees on behalf of retailers. These services are highly automated through TOMRA-developed communication software and commercial online communication systems.

#### BEVERAGE CONTAINER RECYCLING VALUE CHAIN

Collection	Pick-up	Materials processing	Materials marketing/ trading	Recycling	Container production
<ul style="list-style-type: none"> <li>RVM sales &amp; service</li> <li>Recycling centers</li> <li>Promotions</li> <li>Data administration</li> </ul>	<ul style="list-style-type: none"> <li>Transportation</li> <li>Reverse logistics to depot/processing</li> </ul>	<ul style="list-style-type: none"> <li>Sorting</li> <li>Cleaning</li> <li>Shredding</li> <li>Flaking</li> <li>Crushing</li> <li>Bailing</li> <li>Smelting</li> </ul>	<ul style="list-style-type: none"> <li>Scrap sales to recycling industry</li> </ul>	<ul style="list-style-type: none"> <li>Metal to can sheets</li> <li>Glass to glass products</li> <li>Plastic to fiber</li> </ul>	<ul style="list-style-type: none"> <li>Cans</li> <li>Plastic bottles</li> <li>Glass bottles</li> <li>Cartons</li> </ul>
Europe, 8 U.S. deposit states, California, Brazil	Connecticut, New York, Michigan, Massachusetts, California, Brazil	Connecticut, New York, Michigan, Massachusetts, California, Brazil	California	UltrPET	

A fourth activity area in BU Europe is value-added marketing services delivered via TOMRA RVMs. These include a variety of programs such as fundraising, rebate couponing, and loyalty card interface services. While these services do not currently represent a major activity area, interest in these programs is growing and TOMRA is placing more resources toward developing these concepts further.

#### BUSINESS UNIT NORTH AMERICA

Figures in NOK million*	2001	2000	1999	1998
Sales/lease	166	154	142	130
Service	132	134	129	104
Adm. & prom.	96	99	97	89
Recycling centers	242	240	175	78
Materials handling	718	802	455	298
<b>Total BUNA</b>	<b>1,354</b>	<b>1,429</b>	<b>998</b>	<b>699</b>
% of total revenues	52 %	61 %	51 %	53 %

\* Continuing operations only

In North America non-refillable containers are the dominant packaging alternative. A primary reason for this is that the U.S. is an open market with free trade of goods across state boundaries, as well as limited language barriers. This has led to a consolidation of the bottling industry with centralized production facilities, the end result being long transportation distances between bottling facilities and end-user markets. This in turn has led to non-refillable containers being the preferred packaging solution. Empty non-refillable containers are either thrown away or recycled and therefore do not need to be returned to the bottler.

Ten states in the U.S. have implemented deposit laws for various types of containers. Under these laws consumers return their empty containers to the retail store or a recycling center (California) in order to collect their deposit back. Given that the non-refillable containers will not be returned to the brewer for refilling, there is a need for a material handling system in the U.S.

Reverse vending systems, collection data administration, value-added services and recycling center operations are TOMRA's core business areas. In order to maximize the value of collected material through efficient integration of the value chain, TOMRA has expanded into materials handling services through several acquisitions in the U.S. market. TOMRA's objective is, together with the industry, to develop efficient handling systems and establish baseline-operating metrics for all parts of the container recycling value chain. TOMRA's activities in North America therefore also include:

#### Logistics management

Through recognition and collection of containers, TOMRA also accumulates data from each transaction for administrative use. This information is used to schedule optimal pick-up routes. TOMRA operates its own transportation network in certain states, out-sourcing certain other operations.

#### Materials processing

TOMRA operates 13 processing plants for sorting, cleaning, shredding, flaking, crushing and bailing the different materials into optimal recycling forms.

#### Materials marketing/trading

Outside California, bottlers own all TOMRA collected container materials. TOMRA takes possession of these materials only after obtaining price bids from recyclers. No major risks are tied to the materials marketing/trading. In California, TOMRA has established a trading organization primarily for aluminum trading. This is necessary due to the fact that TOMRA's recycling center operations actually take ownership of the returned containers and are therefore exposed to the fluctuations of the aluminum commodity market. For plastics and glass the exposure is limited since the bottlers are legally obliged to guarantee minimum prices for these materials.

**BUSINESS UNIT SOUTH AMERICA**

Figures in NOK million	2001	2000	1999	1998
Sales	4	2	2	7
Recycling centers	182	0	0	0
Materials handling	142	0	0	0
<b>Total BUSA</b>	<b>328</b>	<b>2</b>	<b>2</b>	<b>7</b>
% of total revenues	13 %	1 %	1 %	1 %

The recycling rate of aluminum beverage containers in Brazil where 99 percent of TOMRA's revenue in South America is generated, equals approximately 80 percent. In the early 1990's the littering of used aluminum containers was becoming an environmental hazard, and the recycling rate at this point equalled approximately 20 percent. Politicians seriously discussed introducing deposit on used aluminum containers if the beverage industry did not solve the littering problem. At the behest of political pressure the industry has over the past ten years established a manual collection system of aluminum beverage containers based on a monetary incentive for the consumer covered by the intrinsic value of the container material.

Aluminum containers are today the only container type that is able to cover the cost of recycling based on the intrinsic market value of the material. When Brazilians return empty containers to various collection sites, a portion of the material value of the aluminum container is paid as compensation. Due to the low per capita income level in Brazil, the low incentive to consumers is sufficient to achieve high recycling rates in the 80 percent range. The collection process is further simplified by the fact that approximately 70 percent of all beverage container consumption in Brazil occurs on the east coast of Brazil, especially in the region between Rio de Janeiro, São Paulo and Belo Horizonte.

Based on the already established collection system of aluminum containers, TOMRA's current activity in Brazil is geared to the manual collection, processing and smelting of aluminum containers. Through the acquisition of 70 percent of Tomra Latasa, TOMRA controls Brazil's largest aluminum used beverage container (UBC) collection network, with a market share of approximately 25 percent. All volume generated through Tomra Latasa's network is sold to Latasa, which is the owner of the remaining 30 percent in Tomra Latasa and South America's largest aluminum can producer.

Deposit legislation on aluminum cans has been avoided through the reduction of litter through a voluntary collection and recycling system established by the aluminum industry. Similar to the problem caused by aluminum cans in the early 1990's, PET containers are now a major cause of littering in Brazil. As in other markets, these containers have gained market share in recent years. Brazilian politicians are currently discussing the introduction of a waste management law for all packaging. Such a law would entail the establishment of a collection and recycling system for all packaging including PET beverage containers.

**As in other markets, PET containers have gained market share in Brazil. Brazilian politicians are discussing the introduction of a waste management law for all packaging including PET beverage containers.**

# Business Unit Europe

Replacement market

Non deposit markets

Growth markets

Emerging markets

For Business Unit Europe, 2001 was a year dominated by intensive preparations to meet the substantial increase in potential demand for TOMRA's reverse vending solutions in the event that plans to expand and modernize deposit systems in several countries are adopted. The discussions in Germany and Denmark however were not resolved in 2001 as expected, and the continued uncertainty in these two key markets had a significant effect on BU Europe's operating revenues for the year. In mid-January 2002 however the discussions in Denmark were concluded, and immediate actions have been taken to execute the new deposit system there. The process in Germany is still pending, but we are confident that TOMRA is fully prepared should the proposed deposit on non-refillable containers in this country go forward. Although we did not achieve our overall sales growth objectives in 2001, BU Europe accomplished more during the past year than perhaps ever before in its history in developing the knowledge and resources to help capitalize on our business opportunities.

**R** TOMRA representative/  
distributor

**●** TOMRA subsidiary  
No. of Tomra installations



## REGIONAL OVERVIEW 2001

- Top-line growth for the unit ended the year at two percent, falling considerably short of our growth target for the year. We continued to witness that retailers in Germany and Denmark were reluctant to invest in reverse vending technology while awaiting clarification on the direction of the proposed new deposit systems in these markets. Consequently, we experienced temporary revenue declines of 13 percent in Germany and 18 percent in Denmark compared to the previous year.
- The Dutch and Finnish markets showed strong growth rates in 2001 and ended the year up 32 percent and 30 percent respectively compared to 2000. This was mainly driven by replacement of older machines in preparation for the implementation of the EURO in January 2002.
- BU Europe installed about 4,100 new machines during 2001, up from 3,800 in 2000.
- Service revenue increased by 18 percent compared to 2000 fuelled by the implementation of EURO. Approximately 10,000 machines were upgraded during 2001 and an additional 2,000 machines will be upgraded during first quarter 2002. Additionally, approximately 1,000 machines were replaced in 2001 due to the EURO implementation.
- TOMRA acquired its Belgian distributor, Tomra Systems NV, for NOK 36 million. Tomra Systems NV experienced a record year and logged revenue growth of 80 percent compared to the previous year. This was partly driven by the EURO conversion, but also by the completion of some high volume orders.
- Several new product launches were executed in 2001, with one of the most important being Tempo, an all-container machine designed for the small store segment.

## OUTLOOK AND GROWTH PROSPECTS

Business and growth opportunities for Business Unit Europe remain very strong for the coming years.

### Deposit legislation

- The on-going discussion about introducing deposit on non-refillable containers in Germany is approaching a conclusion, and could potentially offer growth opportunities of historic proportions for TOMRA: sales of 30,000 to 40,000 machines and a revenue potential of several billion Norwegian kroner. Given the low penetration of RVMs in this market, we target annual growth rates of 20 to 30 percent for several years even without deposit on non-refillable containers in Germany.
- The Danish deposit system is currently being modernized and implementation of deposit on non-refillable containers is scheduled to take place 1 June 2002. TOMRA estimates the business potential relating to this to be approximately NOK 400 million over the coming two year period.
- Government authorities in Holland and the Dutch beverage and retail industries have agreed on introducing deposit on non-refillable containers from January 2004 if the current levels of littering from used beverage containers cannot be reduced by two-thirds within 2003.
- The Israeli deposit system will be built up during 2002 with expected 500 RVM installations. The deposit law, which covers most beverage containers below 1.5 liters, took effect in October 2001. A deposit organization has been founded by Israeli beverage industry and retailers, and the process of specifying the deposit system and testing needed technology is well underway. Installations are expected to begin in the second quarter 2002.
- The Baltic States are reviewing potential deposit legislation for both refillable and non-refillable containers. Implementation may occur during 2003, offering business opportunities for TOMRA in this market toward the end of 2002.

### Revised EU Directive on Packaging and Packaging Waste

- The revised EU Directive, expected to be approved in the first half of 2002, will in its current form pose significant challenges to key member states, such as France, UK, Italy and Spain, and potentially open up significant business opportunities for TOMRA. For a detailed description of the Directive, please see the Business development initiative section of the Management Report.

### Strengthened portfolio of products and services

During 2001 we have developed a comprehensive series of innovations to be introduced in several markets.

- RVMs: The TOMRA 83 HCp and Bravo are new flagship machines tailor-made for the new challenges in Germany and Denmark. They are also relevant in several other markets, especially Sweden. For Denmark, the new T-403 has been developed specifically to meet the requirements of the Danish market. In addition, another small store machine for non-refillable containers, the Quattro, has been developed for launch in Sweden early 2002.
- Backroom: Our SmartSort concept has been radically expanded and advanced to provide a modular and flexible system for handling complex combinations of different containers with minimum use of space and maximum efficiency. A series of new modules have been developed and are in the pipeline for introduction in 2002.
- The retail trade and beverage industries are increasingly focusing on cutting costs through investments in more efficient sorting and accumulation of empty refillables. To serve this customer need, our newly established product group "Logistima", which covers all of our backroom and accumulation equipment, will be a major focus area from 2002 onwards. We have dedicated product management and R&D resources working on this full time.
- Promotions: Our coupon, card loyalty and fundraising programs have been extensively tested in Sweden and the Netherlands. The results are very encouraging, giving us confidence that these programs will provide a real growth catalyst in the years to come. We are also working on a new and comprehensive fundraising concept to be launched in Norway in 2002.
- Added-value services: Newly launched service products like Electronic Receipt Control, which offers a means of eliminating fraud through an electronic receipt system, and Recond, which offers professional cleaning of the machines at regular intervals, have been very positively received and will be rolled out in 2002.

### Replacement opportunities

- Going into 2002, the European market contains approximately 6,000 machines which are more than seven years old. The business potential here is continuously pursued through targeted replacement programs and the introduction of improved machines in all categories. The introduction of promotion programs and added-value services, to which many older machines will be adapted, is expected to maintain a high replacement rate going forward.

# Business Unit North America

Deposit market served by TOMRA

Deposit market unserved

Non-deposit market unserved

BU North America had a weak financial performance in 2001 due to the restructuring of its West Coast operations, but is expecting substantial financial improvements from operations in 2002.



	British Columbia	California	Connecticut	Iowa	Maine	Massachusetts	Michigan	New York	Quebec
Population	4 mill.	33.1 mill.	3.3 mill.	2.9 mill.	1.3 mill.	6.2 mill.	9.9 mill.	18.2 mill.	7.4 mill.
Total # of containers:	2.3 bill	22 bill.	2.1 bill.	1.8 bill.	0.8 bill.	3.9 bill.	5.6 bill.	12 bill.	4.1 bill.
Containers w/deposit:	1 bill.	16.6 bill.	1.6 bill.	1.8 bill.	0.8 bill.	2.1 bill.	5.6 bill.	5.4 bill.	2.4 bill.
TOMRA's MH share of dep. containers*:	0 %	25 %	62 %	40 %	0 %	57 %	40 %	97 %	18 %
# of TOMRA RVM's:	22	445	677	147	144	968	3,724	4,316	1,461
RVM penetration rate:	3%	-	40 %	25 %	35 %	40 %	42 %	53 %	55 %
TOMRA's RVM market share:	69 %	99 %	38 %	53 %	83 %	53 %	88 %	93 %	93 %

\* MH = materials handling

#### THE NORTH AMERICAN MARKET

- TOMRA is present in nine of ten deposit states in the USA.
- Nine territories and provinces have deposit systems in Canada. TOMRA is currently present in two of these provinces and is targeting additional initiatives for 2002.
- TOMRA operates different business models in North America especially adapted to the unique local market conditions.

#### HIGHLIGHTS 2001

- Revenues from continuing operations of NOK 1,354 million, down 5 percent from 2000.
- Two successive restructuring processes in California.
- Withdrawal from non-deposit operations in Washington, Colorado and New Mexico. Hawaii to be maintained for the first half-year 2002.
- Total restructuring charges in California and non-deposit operations of USD 44.5 million.
- Other North American operations have developed closer to plan.
- Launched both TOMRA Duo and TOMRA 83 HCp.

#### OUTLOOK AND GROWTH PROSPECTS

- Growth in RVM sales in existing markets in the USA.
- No growth expected in California – operational challenges in this state will continue to require significant management focus and support from retailers and the California Department of Conservation (DoC).
- New initiatives both in materials handling activities and RVM sales to encourage growth in Canada.

#### California

TOMRA's operations in California have been substantially restructured during 2001 with total write-downs and restructuring charges of USD 44.5 million. The main operational challenges are related to high administrative costs, lower material volumes and significantly lower scrap material prices. TOMRA's short-term plan in California is to achieve a break-even operating result in the second quarter 2002. This plan is based on cuts in administrative costs, stable volumes and flat scrap material prices.

Assuming that TOMRA is able to achieve a break-even result by mid-year 2002, TOMRA's medium-term plan is to continue discussions with the DoC to evaluate possible adjustments of the current redemption model to better ensure a viable and sustainable business model for recycling operations in California. The current challenges, which are being discussed with the DoC, include low recycling rates caused by low incentive and convenience for the consumer, rigid regulations of minimum manual hours at recycling center locations and minimum/maximum limitations of handling fees. An adjustment of these and other regulations will be necessary in order to achieve acceptable profitability and continued long-term operations in California.

#### Tomra East Coast

TOMRA initiated in November 2001 some organizational changes in its East Coast operations. As part of this restructuring, both Tomra Metro and Mobile Redemptions will be split into separate technology and materials handling companies. This is expected to focus our resources and yield improved operational performance within these business segments.

In most states where TOMRA is active, TOMRA has a market share within materials handling and RVM sales below 60 percent, providing considerable growth opportunities in the future. TOMRA anticipates that its new flagship machine, TOMRA 83 HCp, will be a catalyst in replacing older machines and gaining new markets. TOMRA Duo was launched in 2001 as the solution for lower volume stores. TOMRA estimates a considerable market potential for this machine. TOMRA expects stronger sales development for both RVM models in 2002.

In 2002 the East Coast operations are expected to grow at the level of 2001 and to further improve operating margins.

#### Canada

In November 2001 TOMRA appointed the president of CAMCO, TOMRA's materials handling entity in Quebec, to head up TOMRA's entire Canadian activities. TOMRA expects substantial growth in this market during 2002. Increased materials handling volumes from new suppliers into our existing operations combined with further automation of current collection systems are the main drivers of this growth. TOMRA is well prepared to assist the beverage and retail industries in improving efficiencies in the various collection systems in Canada.

# Business Unit South America

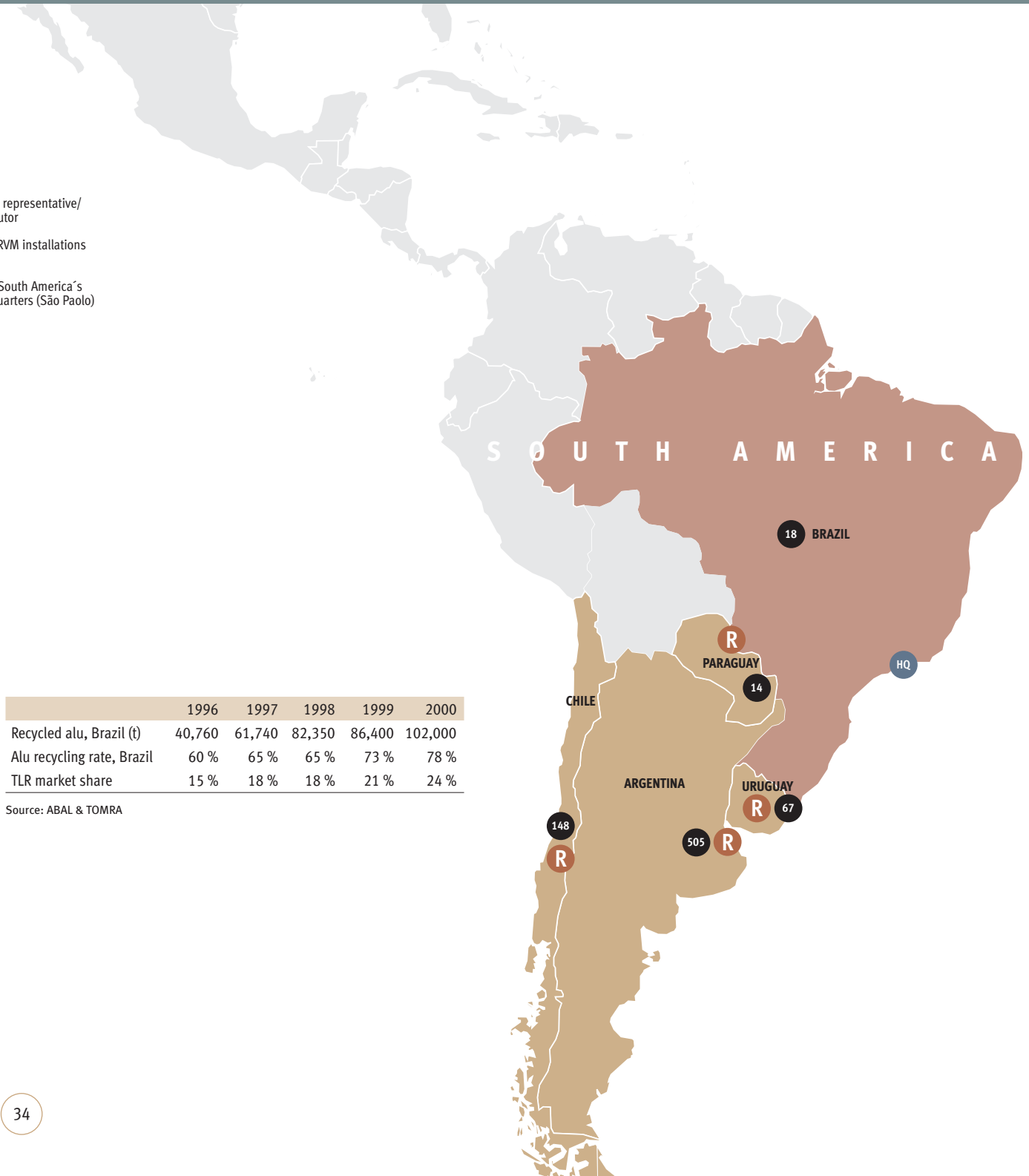
Non deposit market

Deposit/Non-deposit side by side

Emerging market

With the establishment of operations in Brazil, Business Unit South America performed well in 2001 with revenue of NOK 328 million, of which 99 percent stemmed from Brazil. TOMRA expects strong growth in Brazil in 2002, with new business initiatives forming a major part of this growth.

- R TOMRA representative/distributor
- No. of RVM installations
- HQ Tomra South America's Headquarters (São Paulo)



	1996	1997	1998	1999	2000
Recycled alu, Brazil (t)	40,760	61,740	82,350	86,400	102,000
Alu recycling rate, Brazil	60 %	65 %	65 %	73 %	78 %
TLR market share	15 %	18 %	18 %	21 %	24 %

Source: ABAL & TOMRA

#### HIGHLIGHTS 2001

- Investment of USD 28 million to create Tomra Latasa Reciclagem S.A (TLR). The transaction was completed on 7 March 2001. TLR has activity in Brazil, Argentina and Chile.
- Tomra South America S.A., the administrative head of BU South America, was officially established in August 2001.
- Started testing phase of TOMRA's rePLANETA concept in Rio de Janeiro, with eight new centers collecting can and PET containers.

#### TOMRA IN BRAZIL

TOMRA's main operations in South America are generated through TLR, which is jointly owned by TOMRA (70 percent) and Latasa, which is Latin America's largest aluminum can producer. Latasa's recycling division, which is now under the auspices of TLR, was a recycling pioneer in Brazil through the creation and organization of aluminum container collection systems ten years ago. All the aluminum collected through the network of sub-suppliers, warehouses and recycling programs is sent to TLR's reclamation plant for processing and smelting. The material is then transported to Alcan's rolling mill where they produce can body stock for production of new aluminum containers at Latasa's can plant. TOMRA's participation in TLR has been important in establishing a presence in Brazil and it will be the base for further expansion.

#### OUTLOOK AND GROWTH PROSPECTS

##### rePLANETA

In the latter half of 2001, TOMRA together with AmBev, Brazil's largest beverage company, and Extra, part of Brazil's largest supermarket chain, tested eight rePlaneta centers for the purpose of collecting both aluminum cans and PET containers. A total of sixteen TOMRA reverse vending machines were installed in the centers, which are located in key locations in Rio de Janeiro. Collection numbers have grown steadily since the project started in June 2001, proving that consumer awareness and participation are a driving force in the region. The underlying trends in the market remain very positive, and with the support of industrial players TOMRA hopes to increase the spectrum of this program in the near future.

#### GROWING PET PROBLEM IN BRAZIL

Brazil has a consumption of approximately six billion PET containers per year, of which approximately five billion are not recycled and end up in landfills, local rivers or on the streets. PET represents a huge environmental problem and TLR has initiated discussions with various stakeholders to identify solutions through incentive-based collection systems such as rePLANETA and "School Project".

#### School Project

Over the past ten years the "School Project", which includes thousands of schools and other institutions, has been responsible for the collection of millions of aluminum cans, providing the schools with recycling credits that can be exchanged for several different products. In 2002, TLR will dedicate extra resources to enhance the program's spectrum and also include the collection of PET.

#### Deposit legislation in Brazil

In 2001 the Brazilian Congress created a special commission to review the fifty-seven law proposals that deal with packaging and solid waste. The different proposals have been consolidated into one law proposal, which may be voted on by the Congress in 2002.

The preliminary draft of the bill states that those responsible for bringing beverage containers to the consumers importers, producers, fillers and retailers shall be responsible for creating a collection system that provides incentive to recycle by remunerating the consumer and the recycling industry. The point of sale (retail stores) shall be one of the main point-of-returns for the empty beverage containers. The required return rate for containers is expected to equal an average of 70 percent and companies that do not reach this target will be fined. Companies that comply with the law will receive tax incentives. Recycling companies such as TOMRA will also receive tax concessions and incentives.

The proposed packaging waste legislation in Brazil may create extensive business opportunities for TOMRA. As the only professional company with the experience, technology and know-how in collecting beverage containers from consumers in Brazil, TOMRA will be a natural partner for the beverage industry and retailers in setting up and managing an efficient collection system.

	Consumption (t)	Recycled (t)	Recycling rate
1997	180,000	27,000	15.0 %
1998	224,000	40,000	17.9 %
1999	245,000	50,000	20.4 %
2000	272,000	67,000	24.6 %

Source: ABEPET

# Business development initiatives in TOMRA

2001 was the first year with all key resources on board on the Global Business Development team. Key projects in Germany, the Americas and Japan were further developed.

## HIGHLIGHTS 2001

- In Germany, TOMRA focused on facilitating the smooth implementation of a well-functioning deposit system for non-refillable beverage containers for the biggest market in the European Union. A key product of this work is the compilation of a Blue Book, which is a development guide for security and systems requirements of the deposit system. The Blue Book will be an important instrument to help guide the creation of an expanded deposit system in Germany.
- The business development resources invested in South America over the last three years culminated in the 70 percent acquisition of Tomra Latasa Reciclagem S.A in March 2001. TOMRA's Global Business Development unit in South America was absorbed by the new Business Unit South America.
- 2001 was the first year of operation for TOMRA's subsidiary in Japan, which has a staff of four. Activities were focused to develop a strategic framework, and to identify and build industrial partnerships within the framework of TOMRA's overall strategy. On this basis, steps were taken to adapt TOMRA's technology platform to Japanese needs and requirements. Our first test installation in the Japanese market was established providing significant results and experience for a potential future rollout.

## JAPAN

### Background and trends

Like most other areas in the world, Japan is facing a rapid increase in the consumption of PET containers. The recycling rate of PET bottles, however, is low compared to other types of beverage containers. In addition, other packaging materials are in decline whereas PET packaging is still growing significantly and gaining market share.

Japan All figures from 2000	Recycling rate	Production ('000 tons)
Pet containers	34.5 %	362
Glass bottles	77.8 %	1,820
Aluminum cans	80.6 %	266
Steel cans	84.2 %	1,215

Source: Japan Clean Center

## Legislation framework

Japan has several laws, which are important to the recycling of beverage containers. Under these laws all beverage containers irrespective of material type are subject to recycling. The laws obligate consumers to sort these materials for disposal, municipalities to implement sorted collection, and business entities to recycle them. Municipalities must also bear the cost of transportation, collection and sorting. The system is based on volunteerism, not deposit, with curbside collection being the chosen solution.

## Tokyo Rule

Under Tokyo Rule all retailers and convenience stores within Tokyo metropolis (approximately 12 million people), which sell PET containers, must facilitate the take-back of such packaging. Most choose to have simple bins outside the stores. In 1998 a total of 3,000 tonnes of PET-bottles was collected from around 4,300 stores in Tokyo at a cost of about Yen 350,000/tonne. The implementation of Tokyo Rule has resulted in huge expenses for the Tokyo Metropolitan Government, as well as the retailers and stores for internal handling of the empty PET bottles. As such, there exist opportunities to create more cost-efficient collection systems for the city of Tokyo and handling systems for empty beverage packaging in retail outlets.

## TOMRA's business opportunities in Japan

### 100% recycling concept

The amendment of the Packaging Waste Recycling Law from April 2000 also obliges retailers to recycle their organic waste, i.e. food that has expired. In combination with the organic waste, retailers choose to recycle the packaging of the food. An example is Japanese lunch boxes sold by retailers and convenience stores, which are normally made out of paper or PET. This law, combined with Tokyo Rule, has resulted in the need for a 100% recycling service for organic waste, food packaging and beverage packaging. TOMRA has entered into a strategic alliance with a waste management company in Tokyo, which has unique operational permits and licenses. TOMRA and our

partner plan to execute on a large scale the service consisting of RVM front-end collection facilities combined with back-end integrated logistics and 100% recycling services. Value is created at the retailer level by simplified in-store logistics, space savings, unique recognition, sorting and compaction. In addition, retailers see this as an opportunity to offer voluntary take-back solutions to their customers, as most curbside programs are viewed as inconvenient with only one (or less) pick-up per week. Such a service is viewed to enhance the retailer's brand image.

In line with the 100% recycling concept described above, TOMRA has entered into a strategic alliance with the Japanese retailer chain The Seiyu Ltd., among Japan's top five retail organisations. Together with Seiyu we are in the process of developing and testing various types of technology and collection platforms, thereby contributing to fulfilling Seiyu's vision of reaching zero emission of waste by 2010. We will further build on this strategy by securing other key Japanese retailer commitments to this concept, after its launch at Seiyu locations during first quarter 2002.

### Improving municipalities' cost structure

As a result of legislation, municipalities have a high cost structure connected to curbside collection programs. For example, in Tokyo approximately 3,000 trucks collect garbage from 240,000 curbside collection points on a weekly basis. There are altogether 3,300 municipalities in Japan. Many municipalities are worried about the costs involved in operating this system. Several have ordered RVMs in an attempt to offer improved convenience, reduce the number of collection points and reduce transportation costs through compaction. This creates opportunity for TOMRA by optimizing the municipalities' logistics and collection cost structure.

In order to capitalize on this opportunity, we have identified and secured a strategic distribution alliance with TM Erde, a subsidiary of the Takahashi Kinzoku Group. TM Erde specialises in environmental equipment concepts and distributes to Japanese municipalities. Through TM Erde's broad network and competencies TOMRA will be able to utilize the significant potential for automated collection of beverage packaging that has resulted from the legislative developments described above. We expect to place a number of RVMs in Japan during 2002 within this segment.

### EUROPEAN DIRECTIVE 94/62/EC ON PACKAGING AND PACKAGING WASTE

The European Packaging Directive is the overall legal framework for all Member States when it comes to recovery targets. It entered into force in 1994 and is currently being revised. The revision is expected to be completed in the first half of 2002 and will set new recycling targets for the years 2001 to 2006.

The current draft raises recycling targets considerably compared to the first Directive. In the period 1996 to 2001 the Member States had to reach 15 percent recycling per material. This was quite a challenge for some Member States, in particular when it came to plastics recycling. Based on the studies of the European Commission (EC) and on the existing high recycling rates in some of the Member States, the EC has proposed the following targets (targets subject to possible changes made by the European Parliament):

- Material specific targets:
  - Glass: 60 %
  - Metals: 50 %
  - Paper/Cardboard: 55 %
  - Plastics: 20 %
- Overall recycling target between 55 and 70%
- Overall recovery (consisting of recycling plus energy recovery) target between 60% and 75%

These targets must be reached no later than June 30, 2006 (except Greece, Portugal and Ireland which get an extended deadline by 2009).

### The Quantified Challenge

The ambitious targets expected to be set by the European Parliament will seriously challenge existing recovery systems in several Member States (see table below). TOMRA argues that in order to meet the recycling challenges in the coming five-year period, collection schemes for plastics, glass and metals stemming from households must be introduced or expanded upon. The basic options are curbside collection, deposit systems or other incentive-driven bring systems. TOMRA will be involved in analyzing existing systems and developing and profiling collection models, which fit the respective national needs. With TOMRA's continued focus on developing new solutions, we anticipate that the recycling challenges faced by certain Member States will lead to exciting opportunities in the coming five-year period.

### The quantified recycling challenge vis-à-vis the new EU recycling targets in 2006

	Glass	Paper	Metals	Plastics
<b>United Kingdom</b>				
Recycling rate (1998)	23 %	47 %	23 %	8 %
"Quantified Challenge" (kt)	814	320	228	204
<b>France</b>				
Recycling rate (1998)	45 %	61 %	45 %	8 %
"Quantified Challenge" (kt)	527	0	34	195
<b>Italy</b>				
Recycling rate (1998)	37 %	37 %	7 %	11 %
"Quantified Challenge" (kt)	505	724	220	162
<b>Spain</b>				
Recycling rate (1998)	37 %	52 %	22 %	9 %
"Quantified Challenge" (kt)	350	78	101	128

Source: EU

# Tomra Technology

In preparation for the potential implementation of deposit on non-refillable containers in Germany and Denmark, as well as other market opportunities, TOMRA's product lines have been renewed and upgraded extensively in 2001. TOMRA's product lines cover all the retailer's needs for the most efficient collection, sorting and processing of empty beverage containers.

## JUMP SHIFT IN TOMRA'S RATE OF TECHNOLOGY DEVELOPMENT

- The rate of innovation is increasing. Products that were introduced in the last fifteen months generated 20 percent of TOMRA's sales volume, while products introduced in 1999-01 generated 50 percent of the sales volume.
- The total R&D and product support investment equalled approximately NOK 147 million, up approximately 40 percent from 2000, showing our long-term commitment to provide existing and new markets with new technology.
- Tomra Technology has throughout 2001 been able to attract and recruit twenty-five talented engineers and individuals with other key competencies. More than 100 people are now creating breakthrough technology for new products and product improvements.

## NEW PRODUCT LAUNCHES IN 2001

The following products were released in 2001:

### Minima products

- Duo (for cans and PET bottles) is targeted for the convenience segment in the U.S. Northeast and Canada.
- Tempo (for refillable bottles and cans) is targeted toward smaller stores in the Nordic countries.
- Bravo (for cans, plastic and glass bottles) will be marketed primarily in Germany.

The two former products have already more than tripled the number of RVMs within the small store segment.



Bravo

Duo

Tempo

## Ultima products

- T-403 has been developed specifically for the Danish market to handle the new requirements placed on Danish retailers under the new deposit system being unrolled in this market.
- TOMRA 83 HCp is produced for handling high volumes of non-refillable containers.
- T-600 and T-610, TOMRA's existing European flagship RVM series, have been equipped with major new options and an unparalleled level of flexibility to cover all the needs for markets that have deposit on both refillable and non-refillable containers.



TOMRA 83 HCp

T-610

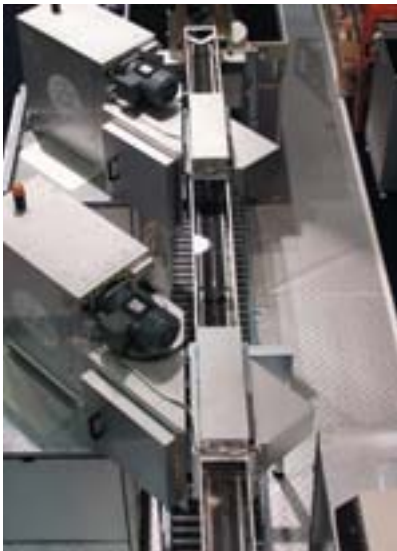
TOMRA 83 HCp is expected to improve TOMRA's market position within the high-end segment previously dominated by the T-22/32/42/62 series. On another note, the Norwegian Design Council recognized TOMRA 83 HCp with the Award for Design Excellence in November 2001.

#### Logistima products

- Line of accumulation and processing equipment has been completed to cover current market requirements in the Nordic countries and the upcoming needs in Germany and other central European markets.

**TOMRA's R&D investments equalled NOK 147 million in 2001, up 40 percent from the year before.**

SmartSort, a part of the Logistima product line.



#### REDUCED TIME TO MARKET THROUGH INCREASED PACE AND THOROUGHNESS IN PRODUCT VERIFICATION

The engineering of new products and product combinations for non-refillable containers in Germany with all the complexity required for this market has been by far the biggest activity throughout 2001. Tomra Technology is now well prepared to meet those market needs through extensive field-testing spearheaded by dedicated people in Michigan, Sweden and Norway. A large number of new product combinations have been verified and launched in a very short period of time. Increased focus on online monitoring and reporting, as well as project follow-through all the way to final on-site testing, has made this possible. Investments made in integrated tools and methods for systemizing our engineering processes have paid off within the year.

#### PREPARATIONS FOR HIGHER VOLUMES THROUGH STREAMLINED LOGISTICS

TOMRA has focused on the use of standardized modules throughout the Minima (small store RVMs assembled at Tomra Systems Oy in Finland) and Ultima (high volume RVMs assembled at Tomra Production AS in Norway) product lines. In spite of a broader portfolio, standardization has increased, yielding savings both in production and maintenance phases. This also increases our volume flexibility for the future, and we have throughout 2001 challenged our sub-contractors to contribute to this flexibility. In September a new 3,800 m<sup>2</sup> assembly facility was opened in Lier, Norway (20 km from TOMRA's headquarters), further adding to our capacity and freeing up some space for R&D project teams at TOMRA's headquarters.

#### CREATING FUTURE OPPORTUNITIES

The technology team will support the TOMRA's entrance into new markets such as Japan, Israel and Brazil with dedicated product engineering. In addition, TOMRA's Consumer Recycling Initiative, which was established in 2001, will continue to develop and pilot alternative collection solutions with new and innovative incentives. Throughout this work TOMRA has been guided by a total value chain approach, making sure that all proposed solutions are more cost-effective and have a net positive environmental impact compared to existing solutions. Key to success in this area is also the continued research activities within such different fields as recognition systems, compaction technology and reverse logistics.

TOMRA will continue to focus its development effort on RVM operations systems. 2001 has given important breakthroughs in RVM-based marketing services and new possibilities will be introduced in the coming year. Innovation is flowing through the Tomra Technology pipeline and the outlook for new development of our products and services in 2002 is excellent.

# Shares and shareholders

Pursuant to its shareholders' policy, TOMRA endeavors to provide its shareholders and the financial markets in general with information in as much detail and as frequently as possible so that the TOMRA share price reflects the underlying values as well as future growth potential of the company. In this way, TOMRA seeks to maximize our shareholders' return on investment over time measured in terms of both dividend and increase in share price. It is also TOMRA's policy to maintain a high rate of equity to provide a platform for the company's high growth expectations. Based on this need, TOMRA shareholders can expect a dividend distribution within the range of 10 to 15 percent as long as the company's growth reaches targeted levels.

TOMRA's Articles of Association has no limitations on the transferability of shares. Each share carries one vote at the company's general meeting. Foreign ownership stood at 66.7 percent at the end of 2001, down from 76.9 percent at the beginning of the year. The shares in TOMRA are currently traded on the Oslo Stock Exchange and through an ADR (American Depository Receipts, Level 1) program in the U.S. TOMRA is included in the Dow Jones Sustainable Group Index as one of the 200 top sustainable companies in 68 industries and 22 countries. The TOMRA share price was NOK 86.00 (-49.7 percent) at the end of 2001, down from NOK 171.00 at the beginning of the year. The Oslo Stock Exchange All Share Index decreased by 16 percent during the same period. The highest price quoted in 2001 was NOK 180.00 in January, while the lowest was NOK 72.50 in September.

At the end of 2001 the stock market capitalization of TOMRA was NOK 15.3 billion compared with NOK 30.1 billion at the beginning of the year. Total TOMRA shares traded equalled 670.7 million during 2001 compared to 230.1 million in 2000. Tomra Systems ASA and its subsidiaries do not own any TOMRA shares. The Board of Directors proposes a dividend of NOK 0.20 per share for 2001, equal to the 2000 dividend.

## TOMRA on the Internet

TOMRA's investor relations services were expanded in 2001 with the launch of TOMRA's redesigned corporate website. On [www.tomra.com](http://www.tomra.com) you will now find annual and interim reports as well as an overview of shareholders, key figures, shareholder policy and listing of analysts that follow TOMRA. You will also find useful links to quarterly presentations as well as the Oslo Stock Exchange. If you have any comments concerning information you would like us to include on our website, please contact us.



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## THE COMPANY'S LARGEST SHAREHOLDERS

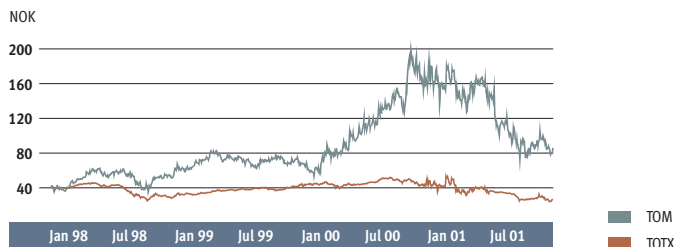
Registered as of December 28, 2001	No of shares	Ownership
1. State Street Bank, Clients	11,072,509	6.21 %
2. JPMorgan Chase Bank, Clients Treaty Account	7,584,988	4.26 %
3. Folketrygdfondet	6,800,000	3.82 %
4. CDC Ixis c/o Sparebanken NOR	5,440,000	3.05 %
5. ABN Amro Bank, Danish Clients	3,527,700	1.98 %
6. Vital Forsikring ASA, v/DnB Kapitalforvaltning	3,225,940	1.81 %
7. Danske Bank A/S 0%, Client Account 38	3,184,773	1.79 %
8. Clearstream Banking Ope, Custody Admin	3,137,844	1.76 %
9. J.P. Morgan Bank Lux S/A, Carnegie FCP's	3,032,200	1.70 %
10. J.P. Morgan Bank Lux S/A, Luxembourg Mutua.	2,944,300	1.65 %
11. Danske Bank A/S 3887 Operations Sec.	2,823,915	1.58 %
12. Euroclear Bank S. A., 25% Clients	2,801,111	1.57 %
13. Storebrand Livsforsikring P980, Aksjefondet	2,769,900	1.55 %
14. HSBC Bank PLC Clients' Account 15%	2,733,798	1.53 %
15. Deutsche Bank AG Kundendepot	2,678,517	1.50 %
16. KLP Forsikring aksje	2,632,550	1.48 %
17. Gjensidige Nor Spare	2,627,583	1.47 %
18. Danske Bank A/S	2,540,000	1.43 %
19. Skandinaviska Enskilda A/C, Clients Account	2,529,987	1.42 %
20. Boston Safe dep & Tr c/o, Sparebanken NOR	2,368,255	1.33 %
<b>Total</b>	<b>76,455,870</b>	<b>42.91 %</b>
Other shareholders	101,715,789	57.09 %
Total (9 137 shareholders)	178,223,225	100.00 %
Shares owned by Norwegian shareholders	59,288,264	33.28 %
Shares owned by foreign shareholders	118,883,395	66.72 %
<b>Total</b>	<b>178,223,225</b>	<b>100.00 %</b>

## SHARE ADJUSTMENT FACTORS

Figures in NOK 1,000

Year	Type of issue	Share capital increases			Nominal share capital		
		Paid in	Share capital	Total	Par value	Shares	Adj. factor
1985/Jan	Intro. at Oslo Stock Exchange	-	-	36 700	50	734 000	-
1985/Jan	Split 5:1	-	-	36 700	10	3 670 000	0.200
1986/Dec	Rights issue 5:2	51 992	48 933	68 506	4	17 126 655	0.633
1992/Apr	Bonus issue 1:10	-	7 694	84 634	4	21 158 500	0.909
1994/Jan	Rights issue 1:2	45 691	44 107	132 321	4	33 080 250	0.746
1999/Dec	Stock split 1:2	-	-	166 695	2	83 347 666	0.500
2000/Nov	Stock split 1:2	-	-	176 027	1	176 026 664	0.500

## Share price



# Annual Report 2001



# Annual Report 2001

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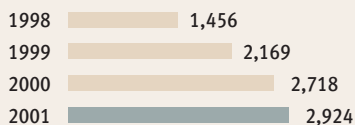


# Highlights

Key figures		2001	2000	1999	1998
Operating revenues	NOK million	2 924	2 718	2 169	1 456
EBITDA	NOK million	589	646	524	430
Operating profit	NOK million	(40)	466	381	271
Ordinary profit before taxes	NOK million	63	493	406	254
Net profit	NOK million	16	76	283	173
<hr/>					
Total assets	NOK million	3 493	3 272	2 348	1 818
Equity	NOK million	2 631	2 636	1 559	1 263
<hr/>					
Return on equity, ex. other items	%	(0.3)	15.4	19.7	14.6
Return on total assets	%	2.0	17.7	20.2	18.1
<hr/>					
Earnings per share	NOK	(0.08)	0.36	1.67	1.02
Earnings per share, ex. other items	NOK	(0.04)	1.90	1.67	1.02
Earnings per share fully diluted	NOK	(0.08)	0.35	1.66	1.01
Net investments	NOK million	653	396	203	276
<hr/>					
Number of employees as of December 31		1 537	1 886	1 744	1 720

## OPERATING REVENUES

NOK Million



## HIGHLIGHTS

- Sales growth of 8%. Revenues from continuing operations up 11%. Decline in North America, flat growth in Europe and revenues of NOK 328 million in South America.
- Ordinary profit before tax of NOK 63 million, down 87% from 2000. EBITDA NOK 589 million, down 9%.
- Write-down of NOK 444 million recorded in 2001 related to activity in California, U.S non-deposit states and Germany.
- Postponed implementation of deposit on non-refillable containers in Germany and The Netherlands. Denmark introduced deposit on non-refillable containers January 2002.
- Established platform for future operations in Japan.
- 40% increase in technology investments.

# Directors' report

For TOMRA, 2001 was a year of repeated disappointments concerning political clarification of new market opportunities in Germany, The Netherlands, and Denmark. This affected the company's level of activity in Europe negatively in 2001. The European markets meanwhile developed somewhat stronger toward the end of the year, and in January 2002 a final clarification concerning the new deposit system in Denmark was received. In the second half of the year TOMRA instituted significant structural changes in its North American operations as a result of a weak financial performance in this region. This work has laid the foundation for improving the financial performance for 2002. TOMRA's positioning in South America through its expansion in Brazil helped to create some growth, while the focus in Japan concentrated on mapping market opportunities and identifying potential business partners.



Board from left:  
Jan Chr. Opsahl (Chairman of the board)  
Tharald Brøvig  
Jørgen Randers  
Svein S. Jacobsen  
Helge Kroghrud  
Klaus Nærø  
Erik Thorsen (CEO)

## STRATEGIC OBJECTIVES AND CHALLENGES

TOMRA's vision is "to be the world's number one supplier of solutions that make it attractive for people to return packaging for reuse and recycling." In pursuit of this vision, TOMRA works toward assuring the highest possible return percentage at the lowest possible cost—the most important success factor in any return system.

TOMRA's technological solutions provide an efficient means of collecting used beverage containers from consumers. Accessibility, ease of use, correct recognition of returned containers, and use of integrated systems combine to motivate consumers to participate in the recycling effort. These ideas established the basis for TOMRA's formation in 1972, at a time when automated collection was an unknown phenomenon. The company's growth since that time has been driven principally by the ability to automate the operation of existing and new deposit systems in various parts of the world. This will continue to make up the core of TOMRA's activities in the years ahead.

In later years the strategy has expanded to include forming integrated solutions for the entire beverage container recycling value chain. In this way TOMRA seeks to take advantage of the opportunities that an automated collection system provides in reducing the costs of container transport and processing, as well as assuring the efficient operation and control of the total return system. Based on a collaboration with the industrial partners who carry the financial responsibility involved with the recycling process, TOMRA contributes to establishing more cost-effective solutions for all involved parties.

Large parts of the world today have not established effective and incentive-based return systems that can assure a high degree of recycling, reduced litter and a better environment. The international community however is focusing on these issues to a greater degree and numerous initiatives have been taken to find sustainable solutions for container reuse and recycling. The working draft of the revision to the EU Packaging Directive, an analysis of the effectiveness of different return systems undertaken by the recycling alliance BEAR in the USA, as well as new directives and regulatory proposals both in Brazil and Japan, are examples of this. This movement gives TOMRA an opportunity to maintain an aggressive growth strategy.

Concepts that are solely based on industry cooperation without an established regulatory framework, have proven to be both costly and minimally effective. Collection systems that are solely based on the value of the collected materials function today only relative to aluminium. Recycling of PET and other plastic materials have moved in the direction of profitability, but recycling of glass and steel will never be profitable if one does not calculate in the environmental costs related to littering, landfill, or destruction.

Local initiatives to increase recycling are characterized by large variations in the operative framework both in regard to defined objectives and structural solutions. TOMRA's choice of operative areas and collaborative partners is therefore largely connected to the opportunities one sees within a specific market. In Brazil TOMRA has entered into a collaboration with the industry in order to develop a collection system for PET, while in Japan we have thus far directed our efforts toward both local authorities and the industry to develop solutions for the future.

A clarification between industry and government authorities concerning who should carry the financial burden of developing an effective return system is a decisive issue. This does not necessarily need to entail political requirements governing producer responsibility. TOMRA is dependant however on receiving clarification over the distribution of responsibility before it can begin collaborating on the creation of effective and attractive container recycling solutions.

TOMRA's strategy is to contribute to the establishment of fully integrated systems for collection, processing and material recycling. TOMRA's core activity areas continue to remain within the technology-related part of the value chain, consisting of among other things reverse vending machines as well as system integration and expertise. TOMRA does not wish to become actively involved within areas that can effectively be served by established industry.

## ANNUAL ACCOUNTS 2001

Operating revenues increased by eight percent over the previous year, going from NOK 2,718 million in 2000 to NOK 2,924 million in 2001. To clarify the accounting affects of TOMRA's extensive restructuring of its US activities, a separate schedule is presented (Note 1) showing the development of those activities that shall be continued. The growth in revenues from continued activities rose 11 percent, going from NOK 2,325 million in 2000 to NOK 2,592 million in 2001.

Principally as a result of write-offs of NOK 390 million related to the restructuring efforts in California, operating profit went down from NOK 466 million in 2000 to a loss of NOK 40 million in 2001. Ordinary profit after taxes equalled NOK 16 million in 2001 compared to NOK 76 million in 2000. This corresponds to earnings per share of NOK -0.08 after minority interest, compared to NOK 0.36 in 2000.

TOMRA's balance sheet as of 31 December was NOK 3,493 million, an increase of seven percent from the beginning of the year. The cash flow developed very positively toward the end of the year and ended at NOK 560 million for 2001. Liquidity is good and the equity ratio stood at 75 percent at year-end. Other equity in the balance sheet consists entirely of distributable reserves.

## MARKETS

### Europe

The year 2001 was a year characterized by delays in a number of political decision-making processes, something which significantly impacted TOMRA's activities. This resulted not only in that the expected positive effects of these decisions did not materialize, but also in that the industry put investment decisions relative to reverse vending technology on hold until a final clarification was reached concerning proposed changes to the recycling framework in those particular markets. Operating revenues in Europe rose somewhat in the fourth quarter and reached a total of NOK 910 million in 2001 compared to NOK 893 million in 2000—a growth of two percent.

On 23 January 2002 government authorities in Denmark approved with immediate effect the opening up the Danish market to non-refillable containers holding carbonated beverages. The start-date of the automated deposit system was set for 1 June 2002, and the bidding process for the delivery of equipment to retailers has already begun. TOMRA expects as a result of this process to experience considerable growth in the Danish market.

The authorities in The Netherlands reached an agreement with the Dutch industry in November 2001 to delay the introduction of a deposit system for non-refillable containers on the condition that industry can reduce the amount of litter by a minimum of 66 percent. If not, deposit could first be introduced from 1 January 2004.

In Germany the process surrounding the introduction of deposit on non-refillable containers became considerably more complicated than first anticipated. The court case brought against the 1991 law is still not concluded, and TOMRA has decided as a result of this uncertain situation to completely write-off its investments related to the start-up of a new deposit system. Total write-offs consisted of NOK 45 million of which the large majority is related to parts for the production of specially adapted machines for the German market. The operational readiness for a potential start-up in Germany will be maintained until final clarification on the proposed new deposit system is provided.

Israeli authorities approved the earlier announced deposit system for beverage containers, effective 1 October 2001. The work of mapping out and defining the structure of the system is still going on, while testing of reverse vending machines is already well underway. Volume deliveries are expected beginning in the second quarter 2002, with a potential to reach approximately 500 machines in the first year.

TOMRA signed an agreement in March 2001 for the purchase of its Belgian distributor, Tomra Systems NV, with effect from 1 January 2001. The purchase price was NOK 36 million and included goodwill of NOK 27 million. Tomra Systems NV had operating revenues of NOK 42 million in 2001 and 800 reverse vending machine

installations in Belgium.

The revision to the EU Directive on Packaging and Packaging Waste was also postponed several times in 2001 and is expected to be concluded in the first half of 2002. The Directive will apply to the period 2001 to 2006 and is expected to have a large impact on the expansion of collection systems for beverage container packaging in Europe.

In September the EU Commission completed an investigation of TOMRA in Norway, Germany and The Netherlands. The investigation is based on a complaint from the German competitor, Prokent, regarding business practices which may have an impact on competition. According to TOMRA's lawyers, the subsequent process will take some time, and it is not possible to assess the outcome at this time.

### North America

TOMRA's activities in North America underwent several major changes in 2001. As a result of a weak financial development the decision was made to discontinue operations connected to the collection of aluminium in non-deposit states, as well as reduce capacity within processing of returned containers in California. These changes were completed by the end of the year at a total cost of USD 6 million. With the exception of continuing operations on Hawaii, in which we are waiting for a decision on the start-up of a new deposit system as of 1 January 2003, all activities within non-deposit states have been closed or sold. The processing capacity in California was reduced through the closing of two plants in San Francisco and Fairfield.

At the end of the year it became clear that a need for additional cost reductions and adjustments in the organization in California were necessary in order to avoid large losses in 2002. Based on the development in 2001 and the outlook for 2002 the Board decided in January 2002 to undertake additional write-downs of goodwill and other assets. Total write-downs and costs in the accounts in 2001, in addition to organizational changes completed in January 2002, are expected to secure an economic break-even in California as of the second quarter of 2002.

Operations in the other parts of North America developed more in line with the initial plans for the year. Minor organizational changes were also completed in this part of the business, primarily in order to secure increased focus and streamlining of areas of responsibilities. The new president of North America started on January 14, 2002. As a result of the completed changes in activities and organization, it is expected that North America will generate growth in both revenues and profits in 2002.

### South America

On 7 March 2001 TOMRA signed an agreement for the purchase of 70 percent ownership in the company

Tomra Latasa SA. The seller was the Brazilian public company LATAS DE ALUMINO S/A – LATASA, which is South America's largest producer of aluminium cans.

The new company, Tomra Latasa, has its primary activity in the collection and recycling of used aluminium packaging. Activity within collection and recycling of aluminium generated revenue of NOK 324 million in 2001.

A process connected to the introduction of a new law, which will regulate the recycling of packaging, is on-going in Brazil. The draft bill includes proposals on producer responsibility and incentive-based bring systems.

Additional opportunities for TOMRA to develop the current cooperations with industrial partners will materialize as soon as the distribution of responsibility is clarified.

#### Market outlook

The Board expects moderate growth for TOMRA in 2002 and a gradual improved economic development in all markets. The annual accounts are rendered based on the assumption of continuing operations.

#### TECHNOLOGY AND BUSINESS DEVELOPMENT

Innovation is one of the core values in TOMRA and the company today focuses much of its technology resources on forward-thinking solutions within material identification, compaction and communication. TOMRA's strong technological position will be maintained through cost effective utilization of technology for recognition of shape, material and possibly markings on packaging.

TOMRA introduced five new machines in 2001; Duo, Tempo and Bravo in the Minima series for stores with low return volumes and T-403 and T-83 HCP in the Ultima family. The Logistima product line, which comprises back-room and accumulation systems, was also complemented. With respect to products, TOMRA is better equipped than ever before to meet new challenges in the international market.

Within business development the majority of resources have been concentrated on the preparation for the expansion of the deposit system in Germany, and on the development of concepts for the Brazilian market. In addition, TOMRA has focused on the Japanese market with the establishment of strategic alliances and the positioning of the company for future market opportunities.

#### SHAREHOLDERS AND CAPITAL

TOMRA completed several smaller share offerings towards its employees related to the company's bonus and option programs. The total number of shares at the end of the year equalled 178.2 million with face value of NOK 1.

The number of TOMRA shareholders increased in 2001 and equalled 9,137 at the end of the year, up from 4,468 at the beginning of the year. The portion of shares owned by foreigners equalled 76.9% at the beginning of

the year and 66.7% as of December 31, 2001. The liquidity in the share has been good, with a total of 336 million shares traded in 2001, compared to 230 million the previous year.

#### ORGANIZATION, HEALTH, ENVIRONMENT AND SAFETY

The TOMRA group had 1,537 employees at the end of 2001, 260 of which worked in Norway, compared to 1,886 and 223 respectively the previous year. Employee absence due to sickness in Tomra Systems ASA was 2.2% in 2001 against 3.4% in 2000.

Through regular customer surveys, TOMRA measures customer satisfaction with its products and organization. The survey results have been positive the past years and applied as the basis for a continuous improvement of products, services and organization.

An annual value survey conducted among all employees measures TOMRA's adherence to company core values. The results are used to further develop the company's human resources strategy. TOMRA also uses a management system, which incorporates goal and management orientation for the entire organization.

As a manufacturer and operator of automated systems for the return and recycling of beverage containers, TOMRA makes an effective contribution toward closing the material cycle, thereby contributing to the reduction of the negative effect on the environment in those countries where TOMRA operates. TOMRA also focuses its environment work on reducing the direct environmental impact of TOMRA's operations. TOMRA measures and publishes the most important effects, and has implemented a formal environmental control system in accordance with ISO 14001 standard. A more comprehensive presentation of TOMRA's environment work can be found as part of the Corporate Social Responsibility report.

#### APPLICATION OF PROFIT

Tomra Systems ASA showed a NOK 138.2 million net profit for 2000. The Board recommends the following application of the net profit for 2001, hereunder a dividend of NOK 0.20 per share, unchanged from last year:

Dividend	NOK 35.6 million
Distributable reserves	NOK 102.6 million
<b>Total amount applied</b>	<b>NOK 138.2 million</b>

ASKER, 14. FEBRUARY 2002

JAN CHR. OPSAHL  
*Chairman of the Board*  
Sign.

SVEIN S. JACOBSEN  
Sign.

THARALD BRØVIG  
Sign.

JØRGEN RANDERS  
Sign.

KLAUS NÆRØ  
Sign.

HELGE KROGHRUD  
Sign.

ERIK THORSEN, CEO  
Sign.

# Profit and loss statement

TOMRA SYSTEMS ASA					GROUP		
2001	2000	1999	Figures in NOK million	Note	2001	2000	1999
406.9	485.1	469.4	<b>Operating revenues</b>	1,2	2 924.4	2 718.0	2 169.4
-	-	5.0	Other income		-	-	5.0
<b>OPERATING EXPENSES</b>							
285.8	310.1	350.3	Cost of goods sold	1,3	1 373.2	1 247.3	951.7
66.3	84.7	34.2	Labor cost and social expenses	1,4	778.8	614.3	501.1
6.7	5.5	4.9	Ordinary depreciation	9	240.0	180.7	141.4
-	-	-	Write-down of fixed assets	1,9	286.8	-	-
30.6	18.7	17.3	Other operating expenses	1,8,9	286.0	210.1	199.4
<b>389.4</b>	<b>419.0</b>	<b>406.7</b>	<b>Total operating expenses</b>		<b>2 964.8</b>	<b>2 252.4</b>	<b>1 793.6</b>
17.5	66.1	67.7	<b>Operating profit</b>		<b>(40.4)</b>	<b>465.6</b>	<b>380.8</b>
<b>FINANCIAL ITEMS</b>							
-	-	-	Profit from affiliated companies	13	(2.4)	0.6	13.2
-	54.7	23.5	Dividend from subsidiaries		-	-	-
184.7	291.6	71.1	Financial income		112.0	30.3	26.6
4.4	4.3	5.7	Financial expenses		6.7	4.0	14.6
<b>180.3</b>	<b>342.0</b>	<b>88.9</b>	<b>Net financial items</b>	5	<b>102.9</b>	<b>26.9</b>	<b>25.2</b>
<b>197.8</b>	<b>408.1</b>	<b>156.6</b>	<b>Ordinary profit before taxes</b>		<b>62.5</b>	<b>492.5</b>	<b>406.0</b>
-	-	-	Other items	1,6	(12.1)	(383.4)	-
59.6	59.1	37.2	Taxes ordinary profit	10	38.9	154.0	122.7
-	-	-	Taxes exceptional items	10	(4.9)	(121.0)	-
<b>138.2</b>	<b>349.0</b>	<b>119.4</b>	<b>Net profit</b>		<b>16.4</b>	<b>76.1</b>	<b>283.3</b>
-	-	-	Minority interest		(31.1)	(15.5)	(6.0)
-	102.0	-	Group contribution				
<b>ALLOCATED AS FOLLOWS</b>							
35.6	35.2	33.3	Dividends				
102.6	415.8	86.1	Other equity				
<b>138.2</b>	<b>451.0</b>	<b>119.4</b>	<b>Total allocated</b>				
			Earnings per share	17	(0.08)	0.36	1.67
			Earnings per share, ex. other items	17	(0.04)	1.90	1.67
			Earnings per share, fully diluted	17	(0.08)	0.35	1.66

Asker, 14 February 2002

Jan Chr. Opsahl  
Chairman of the board  
Sign.

Svein S. Jacobsen  
Sign.

Tharald Brøvig  
Sign.

Jørgen Randers  
Sign.

Klaus Nærø  
Sign.

Helge Kroghrud  
Sign.

Erik Thorsen  
CEO  
Sign.

# Balance sheet as of 31 December

TOMRA SYSTEMS ASA					GROUP	
2001	2000	Figures in NOK million	Note	2001	2000	
		<b>ASSETS</b>				
		<b>FIXED ASSETS</b>				
-	-	Deferred tax assets	10	211.1	38.5	
-	-	Other intangible assets	9,18	579.4	405.3	
-	-	<b>Total intangible fixed assets</b>		<b>790.5</b>	<b>443.8</b>	
23.0	13.6	Real property, fixed assets	9	558.8	545.7	
-	-	Leasing equipment	9	263.4	253.3	
<b>23.0</b>	<b>13.6</b>	<b>Total tangible fixed assets</b>		<b>822.2</b>	<b>799.0</b>	
1 045.2	66.9	Investments in subsidiaries	13,18	-	-	
1 394.5	1 766.7	Intra Group loans		-	-	
-	-	Investments in affiliated companies	13	55.2	50.5	
-	-	Investments in shares		3.3	3.8	
25.3	27.7	Pension funds	14	25.3	27.7	
-	-	Long-term receivables	2	128.2	118.0	
<b>2 465.0</b>	<b>1 861.3</b>	<b>Total financial fixed assets</b>		<b>212.0</b>	<b>200.0</b>	
<b>2 488.0</b>	<b>1 874.9</b>	<b>Total fixed assets</b>		<b>1 824.7</b>	<b>1 442.8</b>	
		<b>CURRENT ASSETS</b>				
2.6	0.9	<b>Inventory</b>	3	<b>298.7</b>	<b>311.8</b>	
-	-	Accounts receivable		569.5	610.0	
118.4	331.7	Intra Group receivables		-	-	
20.0	94.0	Other short-term receivables		102.5	195.6	
<b>138.4</b>	<b>425.7</b>	<b>Total receivables</b>	8	<b>672.0</b>	<b>805.6</b>	
<b>431.1</b>	<b>489.7</b>	<b>Bank deposits, cash etc.</b>		<b>697.6</b>	<b>712.0</b>	
<b>572.1</b>	<b>916.3</b>	<b>Total current assets</b>		<b>1 668.3</b>	<b>1 829.4</b>	
<b>3 060.1</b>	<b>2 791.2</b>	<b>Total assets</b>		<b>3 493.0</b>	<b>3 272.2</b>	
		<b>LIABILITIES AND EQUITY</b>				
		<b>EQUITY</b>				
178.2	176.0	Share capital		178.2	176.0	
1 404.4	1 284.3	Share premium reserve		1 404.4	1 284.3	
<b>1 582.6</b>	<b>1 460.3</b>	<b>Paid-in capital</b>		<b>1 582.6</b>	<b>1 460.3</b>	
1 244.1	1 142.0	Retained earnings		1 047.9	1 176.2	
-	-	Minority interest		160.5	72.9	
<b>2 826.7</b>	<b>2 602.3</b>	<b>Total equity</b>	17	<b>2 791.0</b>	<b>2 709.4</b>	
		<b>LONG-TERM LIABILITIES</b>				
44.8	61.5	Deferred tax liabilities	10	86.5	77.0	
22.5	27.5	Liabilities to financial institutions	7	37.8	39.0	
<b>67.3</b>	<b>89.0</b>	<b>Total long-term liabilities</b>		<b>124.3</b>	<b>116.0</b>	
		<b>CURRENT LIABILITIES</b>				
-	-	Liabilities to financial institutions	7	18.4	-	
10.9	7.3	Accounts payable, trade		240.3	184.2	
-	9.9	Intra Group short-term debt		-	-	
72.1	0.1	Taxes payable	10	96.4	12.0	
83.1	82.6	Other current liabilities	11	222.6	250.6	
<b>166.1</b>	<b>99.9</b>	<b>Total current liabilities</b>		<b>577.7</b>	<b>446.8</b>	
<b>233.4</b>	<b>188.9</b>	<b>Total liabilities</b>		<b>702.0</b>	<b>562.8</b>	
<b>3 060.1</b>	<b>2 791.2</b>	<b>Total liabilities and equity</b>		<b>3 493.0</b>	<b>3 272.2</b>	
-	-	Warranty liabilities	15	27.0	-	

# Cashflow analysis

TOMRA SYSTEMS ASA							GROUP
2001	2000	1999	Figures in NOK million	2001	2000	1999	
<b>CASHFLOW FROM OPERATING ACTIVITIES</b>							
197.8	408.1	156.6	Ordinary profit before taxes	62.5	492.5	406.0	
(4.4)	(29.2)	(29.7)	Taxes paid	(119.2)	(133.5)	(69.1)	
-	(157.0)	(5.0)	(Gains)/losses from sales of fixed assets	13.1	(0.3)	(5.1)	
6.7	5.5	4.9	Ordinary depreciation	240.0	180.7	141.4	
-	(36.2)	(9.2)	Write-down fixed assets	286.8	-	-	
(1.8)	(0.2)	42.1	Net change in inventory	7.0	(57.3)	(21.5)	
74.0	(88.0)	(3.0)	Net change in receivables	121.5	(425.1)	(155.1)	
3.7	4.5	(14.5)	Net change in payables	51.5	7.6	43.6	
2.4	0.9	(3.3)	Net change in pension funds	2.4	0.9	(3.3)	
-	-	-	Effect of changes in exchange rates	(49.4)	(69.4)	(6.5)	
-	-	-	Profit before taxes from affiliated companies	2.4	(0.6)	(13.2)	
-	-	-	Dividend from affiliated companies	-	-	3.5	
0.3	14.4	12.3	Change in other balance sheet items	(59.0)	25.4	(15.8)	
<b>278.7</b>	<b>122.8</b>	<b>151.2</b>	<b>Net cashflow from operating activities</b>	<b>559.6</b>	<b>20.9</b>	<b>304.9</b>	
<b>CASHFLOW FROM INVESTING ACTIVITIES</b>							
-	0.1	11.2	Proceeds from sales of fixed assets	33.5	68.4	10.9	
(16.1)	(8.7)	(5.0)	Investments in fixed assets <sup>1)</sup>	(680.2)	(464.0)	(173.9)	
-	56.1	-	Proceeds from sales of shares	0.3	-	1.8	
(269.0)	(12.1)	(46.5)	Investments in shares	(6.2)	(0.7)	(41.3)	
<b>(285.1)</b>	<b>35.4</b>	<b>(40.3)</b>	<b>Net cashflow from investing activities</b>	<b>(652.6)</b>	<b>(396.3)</b>	<b>(202.5)</b>	
<b>CASHFLOW FROM FINANCING ACTIVITIES</b>							
-	-	55.5	Payments from loan from subsidiaries	-	-	-	
(5.0)	(5.0)	(5.0)	Repayments of long-term debt	(1.2)	(2.3)	(8.5)	
(133.5)	(803.7)	(114.6)	Payments of loans	(20.2)	-	-	
-	-	-	Net change of bank overdraft	18.4	(209.8)	105.0	
121.9	1 085.7	52.6	New equity, share issues	121.9	1 085.7	52.6	
(35.6)	(33.3)	(20.5)	Dividend paid	(35.6)	(33.3)	(20.5)	
<b>(52.2)</b>	<b>243.7</b>	<b>(32.0)</b>	<b>Net cashflow from financing activities</b>	<b>83.3</b>	<b>840.3</b>	<b>128.6</b>	
-	-	-	Exchange rate effect on cash	(4.7)	(23.0)	(16.9)	
(58.6)	401.9	78.9	Net change in cash/cash equivalents	(9.7)	464.9	231.0	
489.7	87.8	8.9	Cash and cash equivalents January 1	712.0	270.1	56.0	
431.1	489.7	87.8	Cash and cash equivalents December 31 <sup>2)</sup>	697.6	712.0	270.1	

1) "Investments in fixed assets" includes the opening balance of subsidiaries purchased and consolidated for the first time in the fiscal year.

2) Includes restricted bank deposits totaling NOK 2.7 million for the Parent company and NOK 5.3 million for the Group.

# Consolidation and accounting principles

## GENERAL

### Business concept and customers

TOMRA designs and operates cost-effective systems for recovering packaging for reuse and recycling. Added value is created for each customer through excellence in service and innovation.

TOMRA's customers, retailers and beverage producers, are located in Europe, North- and South America.

### Basic principles

The financial statements, which have been presented in compliance with the Norwegian Companies Act, the Norwegian Accounting Act and Norwegian generally accepted accounting principles, consist of the profit and loss statement, balance sheet, cash flow statement and notes to the accounts

The financial statements have been prepared based on the fundamental principles governing historical cost accounting, comparability, continued operations and congruence. Transactions are recorded at their value at the time of the transaction. Income is recognized at the time of delivery of goods or services sold. Costs are expensed in the same period as the income to which they relate is recognized.

Estimates and assumptions that may affect the reported amounts of assets and liabilities and the reported amounts of revenues and expenses during the period, are prepared by management based upon their best knowledge at reporting date. Actual results may differ from those estimates.

## Reporting structure

Revenues from the companies in the TOMRA Group is reported as follows:

### Tomra Systems ASA

#### BU Europe

Tomra Europe AS (N)  
Tomra Butikksystemer AS (N)  
Tomra Systems AB (S)  
OY Tomra AB (FIN)  
Tomra System AS (DK)  
Tomra Systems BV (NL)  
Tomra Systems GmbH (D)  
Tomra Leergutsysteme GmbH (A)  
Tomra Systems SA (F)  
Tomra AG (SWI) (50.5 %)  
Tomra Systems NV (BEL)  
Tomsys NV (BEL)  
B-burken AB (S)  
Halton System GmbH (D)

#### BU North America

Tomra North America Inc.(CT)  
Tomra Systems Inc. (CAN)  
Tomra Metro LLC (CT, NY)  
Mobile Redemp. Inc. (CT,MA)  
BICS LLC (72%) (NY)  
TNYR LLC (70%) (NY)  
Upstate Tomra LLC (55%)  
Tomra Mass. (55%) (MA)  
Halton System Inc. (ME)  
Les Systems Inc. (CAN)  
Camco Recycling Inc. (50.5%) (CAN)  
Tomra Pacific Inc. (CA)  
UBCR (51%) (MI)  
UltrePET LLC (49%)

#### BU South America

Tomra South America SA (BRA)  
Tomra Latasa Reciclagem SA (70%) (BRA)  
Tomra Brazil SA (BRA)

#### Production Units

Tomra Production AS (N)  
Tomra Systems OY (FIN)

#### Other

Tomra Japan Asia Pacific KK (JAP)

## **CONSOLIDATION PRINCIPLES**

### **Consolidated companies**

The consolidated accounts include the parent company Tomra Systems ASA and companies in which the parent company has a controlling influence. Subsidiaries acquired or sold during the course of the year are included in the profit and loss statement as of the date of purchase, or up to and including the date of sale.

### **Elimination of shares in subsidiaries**

Shares in subsidiaries are eliminated on the basis of the past equity method. The difference between the book value of shares in subsidiaries and book value of the subsidiaries' equity at the time such shares were acquired is analyzed and posted to the balance sheet items to which the excess amounts relate. Goodwill represents the excess of the purchase price paid for acquisitions above net assets acquired and is amortized on a straight-line basis, based on expected earnings (See Note 9).

### **Currency translation for foreign subsidiaries**

The profit and loss statements for foreign subsidiaries prepared in foreign currencies are translated on the basis of average exchange rates for the year. The balance sheet is converted on the basis of the exchange rates on December 31. Translation differences are shown as a separate item and charged directly to the Group's equity.

### **Minority interests**

The minority interests part of the net profit and equity, is classified as separate items in the profit and loss statement and balance sheet.

### **Changed ownership in subsidiaries**

By successive acquisitions in subsidiaries, fair value of assets and liabilities are established the first time consolidation take place. Fair value of assets and liabilities are not adjusted on subsequent acquisitions, with the exception of goodwill, which is analyzed at the time of each purchase.

At the time of a decrease of ownership in subsidiaries, the minority's costprice and excess value are analyzed and amortized based on the expected earnings as a correction to the minority's part of the year's net profit.

### **Internal transactions/intracompany items**

All purchases and sales between Group companies, intra Group expenses, as well as receivables and liabilities have been eliminated in the consolidated statements.

### **Affiliated companies**

Affiliated companies, in which TOMRA has an ownership interest of 20-50% and significant influence over operation and financial decisions, are included in the consolidated accounts based on the equity method. The Group's share of the profit before taxes from affiliated companies,

adjusted for depreciation of goodwill, is reported under financial items in the profit and loss statement.

## **VALUATION AND CLASSIFICATION PRINCIPLES**

### **Revenue recognition**

Revenue on product sales and sales-type leases of the company's products is generally recognized at the time of installation. Revenue on service contracts and operating leases of the company's products is recognized over the terms of the related agreements. Other service revenue is recognized when services are provided.

### **Cost recognition**

Costs are expensed in the same period as the income to which they relate is recognized. Costs that can not be directly related to income are expensed as incurred.

### **Start-up and development costs**

Start-up and research and development costs are expensed as they are incurred.

### **Intangibles**

Intangibles consist of goodwill, entitlement to trademarks and non-competition agreements. The amortization rates for goodwill are based on the expected future earnings of the companies acquired at the date of acquisition and are re-evaluated periodically. Other intangibles are amortized over the term of the contract.

### **Tangible fixed assets**

Fixed assets are entered in the accounts at original cost, with deductions for accumulated depreciation and write-down. If the fair value of a fixed asset is lower than book value, and the decline in value is not temporary, the fixed asset will be written down to fair value.

Based on the acquisition cost, straight-line depreciation is applied over the economic life of the fixed assets.

### **Shares**

Shares intended for long-term ownership are recorded in the balance sheet under long-term investments. These are valued at acquisition cost, unless circumstances, which cannot be regarded as of a temporary nature, exist which necessitate a lower valuation.

### **Inventory valuation**

Inventories of raw materials are valued at the lower of the cost of acquisition and the actual value. Work in progress and finished products are valued at the lower of the cost to manufacture or net realizable value. Spare parts and parts held by service agents are valued at cost. A deduction is made for obsolescence when necessary.

**Receivables and liabilities in foreign currencies**

Receivables and liabilities are booked at the exchange rate at the date of the balance sheet.

**Cash and cash equivalents**

Cash and cash equivalents include cash on hand, bank deposits, money market funds, and other short-term investments with original maturity of three months or less.

**Pension obligations**

Pension obligations related to insured pension, as well as the pension premium reserve, are included in the balance sheet using the net principle. See Note 14 for further details concerning pension obligations.

**Warranty allocations**

A general provision has been made for future warranty costs based on the previous year's turnover in all Group companies.

**Taxes**

The tax charge in the profit and loss accounts includes both taxes payable for the period and the change in deferred taxes. The change in deferred taxes reflects future taxes payable resulting from the year's activities. Deferred taxes are determined based on the accumulated result, which falls due for payment in future periods. Deferred taxes are calculated on net positive timing differences between accounting and tax balance sheet values, after setting off negative timing differences and losses carried forward under the liability method in accordance with the rules set out in the Norwegian Accounting Standard. See Note 10 "Taxes".

**Earnings per share**

Earnings per share have been computed based upon the weighted average number of common shares and share equivalents outstanding during each period. Common share equivalent recognizes the potential dilutive effects of future exercises of common share warrants and employee incentive programs payable in company shares.

**Cash flow statement**

The cash flow statement is compiled using the indirect method. Cash and cash substitutes include cash, bank deposits and other short-term investments with terms not exceeding 3 months that immediately, and with no material exchange rate exposure, can be exchanged for cash.

# Notes

## 1 CONTINUING OPERATIONS

Figures in NOK million	2001			2000		
	Continued operations	Discontinued operations	Total	Continued operations	Discontinued operations	Total
Operating revenues	2 591.5	332.9	2 924.4	2 324.5	393.5	2 718.0
Cost of goods sold	1 489.4	340.9	1 830.3	1 158.7	362.9	1 521.6
Leasing depreciation	89.1	0.0	89.1	80.2	0.0	80.2
Gross contribution	1 013.0	(8.0)	1 005.0	1 085.6	30.6	1 116.2
Operating expenses	597.7	10.0	607.7	539.5	10.6	550.1
Depreciation & write-downs	432.1	5.6	437.7	94.7	5.8	100.5
Operating profit	(16.8)	(23.6)	(40.4)	451.4	14.2	465.6
Associated companies	(2.4)	0.0	(2.4)	0.6	0.0	0.6
Net financial items	119.7	(14.4)	105.3	40.6	(14.3)	26.3
Ordinary profit before tax	100.5	(38.0)	62.5	492.6	(0.1)	492.5
Losses related to Wise	(42.1)	0.0	(42.1)	383.4	0.0	383.4
Losses related to Pacific	0.0	54.2	54.2	0.0	0.0	0.0
Taxes	70.8	(36.8)	34.0	33.0	0.0	33.0
Net profit	71.8	(55.4)	16.4	76.2	(0.1)	76.1

TOMRA decided by end of third quarter 2001 to close material parts of the operations in California and non-deposit states, and expensed NOK 54.2 million (USD 6 million) of restructuring costs. The above statement specifies revenues and costs distributed on continuing and discontinued operations.

By the end of the year it became clear that to avoid material losses in 2002, additional cost cutting initiatives and adjustments in the Pacific organization was imperative. Based on the development in 2001 and the outlook

for 2002, the Board decided to make an additional write-off of goodwill and other assets. Total write-off in 2001 regarding continuing operations in Pacific amounts to NOK 345 million (USD 38 million). Further to this, TOMRA wrote off NOK 45 million in 4th quarter 2001 tied to investments related to the potential deposit start-up in Germany. Both amounts are written off as operating costs.

## 2 SEGMENT INFORMATION

Figures in NOK million

Revenues by market	2001	2000	1999	2001 %	2000 %	1999 %
<b>BU EUROPE</b>						
Germany	225	258	220	7.6 %	9.5 %	10.1 %
The Netherlands	180	136	123	6.2 %	5.0 %	5.7 %
Sweden	122	125	117	4.2 %	4.6 %	5.4 %
Finland	105	81	94	3.6 %	3.0 %	4.3 %
Norway	77	80	233	2.6 %	2.9 %	10.7 %
Austria	52	72	66	1.8 %	2.6 %	3.0 %
Denmark	58	71	69	2.0 %	2.6 %	3.2 %
Belgium	42	8	9	1.4 %	0.3 %	0.4 %
Switzerland	37	54	16	1.3 %	2.0 %	0.7 %
Others	12	8	3	0.4 %	0.3 %	0.1 %
<b>BU Europe total</b>	<b>910</b>	<b>893</b>	<b>950</b>	<b>31.1%</b>	<b>32.9%</b>	<b>43.8%</b>
<b>BU NORTH AMERICA</b>						
California	597	736	396	20.5 %	27.1 %	18.3 %
New York	473	465	358	16.2 %	17.1 %	16.5 %
Michigan	236	228	171	8.1 %	8.4 %	7.9 %
Non deposit states	86	137	125	2.9 %	5.0 %	5.8 %
Massachusetts	108	98	60	3.7 %	3.6 %	2.8 %
Connecticut	85	84	82	2.9 %	3.1 %	3.8 %
Canada	97	71	13	3.3 %	2.6 %	0.6 %
Others	4	4	12	0.1 %	0.1 %	0.6 %
<b>BU North America total</b>	<b>1 686</b>	<b>1 823</b>	<b>1 217</b>	<b>57.7%</b>	<b>67.1%</b>	<b>56.1%</b>
<b>BU SOUTH AMERICA</b>						
Brazil	324	-	-	11.1 %	0.0 %	0.0 %
Others	4	2	2	0.1 %	0.1 %	0.1 %
<b>BU South America total</b>	<b>328</b>	<b>2</b>	<b>2</b>	<b>11.2%</b>	<b>0.1%</b>	<b>0.1%</b>
<b>Total operating revenues</b>	<b>2 924</b>	<b>2 718</b>	<b>2 169</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
Revenues by activity	2001	2000	1999	2001 %	2000 %	1999 %
<b>BU EUROPE</b>						
Sales, leasing	597	628	695	20.4 %	23.1 %	32.0 %
Service	295	250	240	10.1 %	9.2 %	11.1 %
Administration, promotion	18	15	15	0.6 %	0.6 %	0.7 %
<b>BU Europe total</b>	<b>910</b>	<b>893</b>	<b>950</b>	<b>31.1%</b>	<b>32.9%</b>	<b>43.8%</b>
<b>BU NORTH AMERICA</b>						
Sales, leasing	166	154	142	5.7 %	5.7 %	6.5 %
Service	132	134	129	4.5 %	4.9 %	5.9 %
Materials Handling	1 050	1 196	674	35.9 %	44.0 %	31.1 %
Recycling Centers	242	240	175	8.3 %	8.8 %	8.1 %
Administration, promotion	96	99	97	3.3 %	3.6 %	4.5 %
<b>BU North America total</b>	<b>1 686</b>	<b>1 823</b>	<b>1 217</b>	<b>57.7%</b>	<b>67.0%</b>	<b>56.1%</b>
<b>BU SOUTH AMERICA</b>						
Sales, leasing	4	2	2	0.1 %	0.1 %	0.1 %
Materials Handling	142	-	-	4.9 %	0.0 %	0.0 %
Recycling Centers	182	-	-	6.2 %	0.0 %	0.0 %
<b>BU South America total</b>	<b>328</b>	<b>2</b>	<b>2</b>	<b>11.2%</b>	<b>0.1%</b>	<b>0.1%</b>

4

## 4

TOMRA Group	2001	2000	1999	2001 %	2000 %	1999 %
Sales, leasing	767	784	839	26.2 %	28.9 %	38.6 %
Service	427	384	369	14.6 %	14.1 %	17.0 %
Materials Handling	1 192	1 196	674	40.8 %	44.0 %	31.1 %
Recycling Centers	424	240	175	14.5 %	8.8 %	8.1 %
Administration, promotion	114	114	112	3.9 %	4.2 %	5.2 %
<b>Total operating revenues</b>	<b>2 924</b>	<b>2 718</b>	<b>2 169</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0</b>

The majority of TOMRA's activities are based around the reverse vending machine concept, and most contracts are priced as full service packages. The allocation of revenues is therefore based on estimates.

Balances by market	2001					2000				
	Europe	North America	South America	Others	Total	Europe	North America	South America	Others	Total
Intangible assets	111.9	403.6	274.2	0.8	790.5	72.2	371.1	0.0	0.5	443.8
Real property, fixed assets	37.3	642.3	61.5	81.1	822.2	22.3	743.2	0.0	33.5	799.0
Interest bearing fixed assets	0.0	64.5	0.0	0.0	64.5	0.0	65.2	0.0	0.0	65.2
Other financial fixed assets	19.8	102.2	0.0	25.5	147.5	10.5	106.2	0.0	18.1	134.8
<b>Total fixed assets</b>	<b>169.0</b>	<b>1 212.6</b>	<b>335.7</b>	<b>107.4</b>	<b>1 824.7</b>	<b>105.0</b>	<b>1 285.7</b>	<b>0.0</b>	<b>52.1</b>	<b>1 442.8</b>
Inventory	82.3	132.6	1.5	82.3	298.7	79.4	166.0	0.0	66.4	311.8
Receivables	166.7	459.0	12.3	34.0	672.0	149.8	572.2	0.0	83.6	805.6
Bank deposits, cash etc.	163.1	73.9	59.8	400.8	697.6	194.6	31.6	0.0	485.8	712.0
<b>Total current assets</b>	<b>412.1</b>	<b>665.5</b>	<b>73.6</b>	<b>517.1</b>	<b>1 668.3</b>	<b>423.8</b>	<b>769.8</b>	<b>0.0</b>	<b>635.8</b>	<b>1 829.4</b>
<b>Total assets</b>	<b>581.1</b>	<b>1 878.1</b>	<b>409.3</b>	<b>624.5</b>	<b>3 493.0</b>	<b>528.8</b>	<b>2 055.5</b>	<b>0.0</b>	<b>687.9</b>	<b>3 272.2</b>
Equity	243.3	413.7	376.7	1 757.3	2 791.0	35.6	56.9	0.0	2 616.9	2 709.4
Interest bearing liabilities	174.0	1 115.0	0.0	(1 232.8)	56.2	274.0	1 696.7	0.0	(1 931.7)	39.0
Non-interest bearing liabilities	163.8	349.4	32.6	100.0	645.8	219.2	301.9	0.0	2.7	523.8
<b>Total liabilities and equity</b>	<b>581.1</b>	<b>1 878.1</b>	<b>409.3</b>	<b>624.5</b>	<b>3 493.0</b>	<b>528.8</b>	<b>2 055.5</b>	<b>0.0</b>	<b>687.9</b>	<b>3 272.2</b>

The balance sheet items are distributed according to their geographic belonging. The Group's production- and development units as well as the headquarters are reported as "others".

## 3

## COST OF GOODS SOLD / INVENTORY

Parent company			Group		
2001	2000	1999	Figures in NOK million		
2001	2000	1999	2001	2000	1999
<b>COST OF GOODS SOLD</b>					
285.8	310.1	350.3	1 384.0	1 187.0	944.6
-	-	-	(10.8)	60.3	7.1
285.8	310.1	350.3	1 373.2	1 247.3	951.7
<b>INVENTORY</b>					
-	-	-	68.7	71.0	-
-	-	-	10.9	17.1	-
2.6	0.9	-	106.3	107.0	-
-	-	-	112.8	116.7	-
<b>2.6</b>	<b>0.9</b>	-	<b>298.7</b>	<b>311.8</b>	-

## 4 LABOR COST

Parent company					Group		
2001	2000	1999	Figures in NOK million		2001	2000	1999
43.8	34.6	24.1	Salary		637.9	495.3	404.8
17.1	45.2	6.7	Social security tax/pension cost		100.3	87.6	70.6
5.4	4.9	3.4	Other social expenses		40.6	31.4	25.7
<b>66.3</b>	<b>84.7</b>	<b>34.2</b>	<b>Total labor cost</b>		<b>778.8</b>	<b>614.3</b>	<b>501.1</b>
113	93	88	Average number of employees		1 912	1 829	1 724

## 5 FINANCIAL ITEMS

Parent company					Group		
2001	2000	1999	Figures in NOK million		2001	2000	1999
-	-	-	<b>Profit from affiliated companies</b>		<b>(2.4)</b>	<b>0.6</b>	<b>13.2</b>
<b>0.0</b>	<b>54.7</b>	<b>23.5</b>	<b>Dividend from subsidiaries</b>		-	-	-
146.0	85.2	46.3	Interest income <sup>1)</sup>		37.2	17.1	11.0
38.7	13.2	15.6	Foreign exchange gain		74.8	13.2	15.6
-	157.0	-	Gain on sales of shares <sup>2)</sup>		-	-	-
-	36.2	9.2	Reversed write-down on fixed assets <sup>2)</sup>		-	-	-
<b>184.7</b>	<b>291.6</b>	<b>71.1</b>	<b>Total financial income</b>		<b>112.0</b>	<b>30.3</b>	<b>26.6</b>
4.4	4.3	5.7	Interest expenses <sup>1)</sup>		6.7	4.0	14.6
<b>4.4</b>	<b>4.3</b>	<b>5.7</b>	<b>Total financial expenses</b>		<b>6.7</b>	<b>4.0</b>	<b>14.6</b>
<b>180.3</b>	<b>342.0</b>	<b>88.9</b>	<b>Net financial income and expenses</b>		<b>102.9</b>	<b>26.9</b>	<b>25.2</b>

1) Interest income and expenses for the parent company, includes interest income and expenses from subsidiaries of respectively NOK 117.8 million and NOK 0.3 million.

2) The parent company sold in 2000 its shares in the European sales and service companies to Tomra Europe AS for a price of NOK 274.0 million. Previous write-down of the shares in Tomra Systems BV has simultaneously been reversed. The transactions affect only the reporting of Tomra Systems ASA and have no effect on the Group figures.

## 6 OTHER ITEMS

Parent company					Group		
2001	2000	1999	Figures in NOK million		2001	2000	1999
-	-	-	Loss related to Wise Metals Group		(42.1)	383.4	-
-	-	-	Loss related to Pacific		54.2	-	-
-	-	-	<b>Total other items</b>		<b>12.1</b>	<b>383.4</b>	<b>-</b>

### LOSS RELATED TO WISE METALS GROUP

TOMRA had as of December 31 2000, an exposure of NOK 383.4 million (USD 43.5 million) towards Wise Recycling LLC and Wise Metals Group LLC related to accounts receivables, investments, and guarantee liabilities. The total exposure was written down, as there was a material uncertainty regarding both the receivables and the investment. Due to reduced exposure on the guarantee liability, NOK 42.1 million of the accrual has been reversed in 2001.

### LOSS RELATED TO PACIFIC

See note 1.

## 7 INTEREST-BEARING LIABILITIES

Annual installments on long-term loans are NOK 5.0 million. The loan has been submitted with negative pledge agreements. No part of the total debt is due more than five year after the balance day. Unused, committed drawing rights per December 31, 2001 is NOK 50.0 million for the Group.

## 8 RECEIVABLES

Parent company			Group	
2001	2000	Figures in NOK million	2001	2000
-	-	Accounts receivables, gross	582.8	620.9
118.4	331.7	Intra group short-term debt	-	-
20.0	94.0	Other short-term receivables, gross	102.5	195.6
-	-	Provision for bad debt	(13.3)	(10.9)
<b>138.4</b>	<b>425.7</b>	<b>Total receivables</b>	<b>672.0</b>	<b>805.6</b>

Total bad debt written off in 2001 amounted NOK 6.4 million for the Group, whereof the whole amount is related to activities in North-America. Bad debt written off is reported as other operating expenses. Receivables with due dates more than one year after the balance day, are reported as fixed assets.

## 9 FIXED ASSETS

Figures in NOK million	Buildings & Land	Machinery & Fixtures	Vehicles	Total	Intangibles <sup>4)</sup>	Leasing equipment
<b>GROUP <sup>1)</sup></b>						
Historical cost January 1, 2001	271.7	428.7	95.4	795.8	599.3	567.3
Additions this year	102.3	159.1	41.6	303.0	359.7	91.8
Disposals this year	64.5	30.6	36.0	131.1	26.7	36.9
Accumulated depreciation/write-down <sup>3)</sup>	28.8	203.7	40.6	273.1	201.9	358.8
Write-off this year <sup>6)</sup>	-	128.8	7.0	135.8	151.0	-
<b>Book value December 31, 2001 <sup>2)</sup></b>	<b>280.7</b>	<b>224.7</b>	<b>53.4</b>	<b>558.8</b>	<b>579.4</b>	<b>263.4</b>
<b>Ordinary depreciation this year</b>	<b>8.2</b>	<b>80.1</b>	<b>15.1</b>	<b>103.4</b>	<b>47.5</b>	<b>89.1</b>
Depreciation rates <sup>5)</sup>	2-4 %	10-33 %	15-33 %		5-20 %	14 %
Economic life, until	50 yrs.	10 yrs.	7 yrs.		20 yrs.	8 yrs.
<b>PARENT COMPANY</b>						
Historical cost January 1, 2001		51.0	0.8	51.8		
Additions this year		15.8	0.3	16.1		
Accumulated depreciation <sup>3)</sup>		44.5	0.4	44.9		
<b>Book value December 31, 2001</b>		<b>22.3</b>	<b>0.7</b>	<b>23.0</b>		
<b>Ordinary depreciation this year</b>		<b>6.5</b>	<b>0.2</b>	<b>6.7</b>		
Depreciation rates <sup>5)</sup>		15-25 %	20 %			
Economic life, until		7 yrs.	5 yrs.			

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## 4

- 1) Exchange rates as of December 31, 2001 are used in calculating fixed assets of foreign subsidiaries.
- 2) Including land of NOK 51.1 million.
- 3) Accumulated before this year's write-down. Total accumulated depreciation as of December 31, 2000 was NOK 732.4 million for the Group and NOK 38.3 million for the parent company. Accumulated write-down on intangible assets per December 31, 2001 was NOK 176.2 million.
- 4) Booked value of intangible assets per 31 December, 2001 consists of goodwill amounted to NOK 569.3 million and other intangible assets amounted to NOK 10.1 million. Goodwill is depreciated over a maximum of 20 years, which is estimated to be economic life.
- 5) All depreciation plans are linear.
- 6) Write off fixed assets California, see note 1.

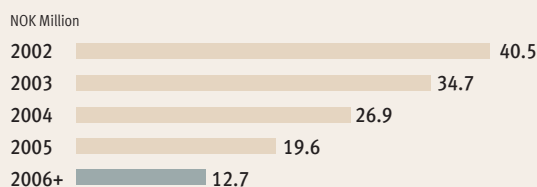
The Group has in 2001 used NOK 147.2 million on research, development and other future-oriented projects. The amount is expensed.

Tomra Systems ASA rents its offices in Asker for an annual lease of NOK 9.7 million with a fixed annual adjustment of 1.9%. The lease period is 7 years, with the right to renew for additional 10 years. Tomra previously owned the property, and the company has the right to purchase the property back at the end of the initial lease period. The lease contract is not booked in the balance, as it is not seen, according to Norwegian GAAP, as financial leasing.

#### LEASING EQUIPMENT

The companies within the TOMRA Group had 6650 reverse vending machines for leasing to customers by the end of 2001. The table shows the minimum leasing income from today's lease portfolio. In addition to this income, TOMRA will receive income from materials handling, service contracts etc.

Minimum lease income from the lease portfolio :



## 10 TAXES

Parent company			Group			
2001	2000	1999	Figures in NOK million	2001	2000	1999
<b>TAX BASIS</b>						
197.8	408.1	156.6	Profit before taxes			
-	(54.7)	(23.5)	Dividend from subsidiaries			
(0.1)	(167.8)	0.1	Permanent differences			
59.8	(185.2)	(28.1)	Change in temporary differences			
<b>257.5</b>	<b>0.4</b>	<b>105.1</b>	<b>Basis for taxes payable</b>			
<b>TAX EXPENSE</b>						
76.3	0.1	29.3	Taxes payable	180.8	67.3	67.0
-	7.2	-	Taxes share issue costs, charged against equity	-	7.2	-
(16.7)	51.8	7.9	Net change in deferred taxes	(141.9)	79.5	55.7
<b>59.6</b>	<b>59.1</b>	<b>37.2</b>	<b>Tax expense</b>	<b>38.9</b>	<b>154.0</b>	<b>122.7</b>
			Net change in deferred taxes other items	(4.9)	(121.0)	-
			<b>Tax expenses other items</b>	<b>(4.9)</b>	<b>(121.0)</b>	<b>0.0</b>
			Tax rate	62.3 %	31.3 %	30.2 %

Deferred tax represents the net change in deferred tax assets and liabilities through changes in timing differences and loss carried forward. Deferred tax assets and liabilities are presented net of their respective tax effect using the tax rate of the applicable jurisdiction applied to amounts which represent future tax deductions or taxes payable and consist of the following as of December 31:

## 4

Parent company			Group	
2001	2000	Figures in NOK million	2001	2000
		<b>DEFERRED TAX ASSETS</b>		
-	-	Current assets	77.5	24.2
-	-	Fixed assets	-	14.3
-	-	Current liabilities	0.7	-
-	-	Loss carried forward	132.9	-
<b>0.0</b>	<b>0.0</b>	<b>Total tax advantage</b>	<b>211.1</b>	<b>38.5</b>
		<b>DEFERRED TAX LIABILITIES</b>		
4.9	24.6	Current assets	5.9	(84.5)
42.5	38.4	Fixed assets	67.3	147.5
(9.7)	(9.3)	Current liabilities	6.2	6.2
7.1	7.8	Pension reserves	7.1	7.8
<b>44.8</b>	<b>61.5</b>	<b>Total deferred tax liabilities</b>	<b>86.5</b>	<b>77.0</b>

Negative and positive timing differences, which reverse or may reverse in the same period, are set off. Deferred taxes are calculated on the basis of timing differences and losses carried forward which are set off. Timing differences bet-

ween different subsidiaries have not been set off. During the period that these differences reverse, the companies will have a taxable net income that is sufficient to realize the deferred tax allowance.

## 11 OTHER CURRENT LIABILITIES

Parent company			Group	
2001	2000	Figures in NOK million	2001	2000
13.2	46.1	Tax deductions, social security tax, holiday pay	124.1	104.4
-	-	Advances from customers	1.0	13.8
34.3	1.3	Non interest-bearing debt	61.9	97.2
35.6	35.2	Accrued dividend	35.6	35.2
<b>83.1</b>	<b>82.6</b>	<b>Total current liabilities</b>	<b>222.6</b>	<b>250.6</b>

## 12 SHARES, LOAN, AND SEVERANCE PAY TO OFFICERS

	Share- holding <sup>1)</sup>	Loan <sup>3)</sup>	Board member fee	Warrants granted <sup>4)</sup>
Jan Chr. Opsahl (Chairman)	168 096		340 000	32 000
Jørgen Randers (Board member)	32 100		170 000	21 000
Svein S. Jacobsen (Board member)	87 692		170 000	21 000
Tharald Brøvig (Board member)	152 000		170 000	21 000
Klaus Nærø (Employee repr.)	3 112		120 000	12 000
Helge Kroghrud (Employee repr.)	60		120 000	12 000
Gregory S. Garvey (director GBD)	1 898 000	901 160		560 000
Erik Thorsen (CEO) <sup>2)</sup>	161 176	1 000 000		410 668
Helge Nerland (CFO)	300 824	1 200 000		266 668
Morthen Johannessen (president BU Europe)	121 068			361 200
Terje Hanserud (VP Technology)	44 868	500 000		167 334
Svánaug Bergland (director of HR development)	-	182 000		40 000
Espen Gundersen (VP Finance)	-	1 000 000		20 000
Fredrik Witte (Chief Analyst & IR)	100			25 000

#### 4 1) Shareholding

The column shows number of shares owned by the Board members, officers and companies controlled by them and their families.

#### 2) Remuneration CEO

The CEO received in 2001 NOK 1 995 561 in salary, and had in addition a taxable benefit of NOK 1 903 800 related to execution of warrants. The CEO participates in the ordinary pension plan for employees in Norway, where this years pension premium is NOK 53 706. For the year 2002 the CEO will be able to earn variably salary up to NOK 850 000 linked to profit development if goal mentioned is fulfilled. In the event that the President/CEO is dismissed from his position, he is entitled to receive full compensation for twelve months.

#### 3) Loans to management

The loans are secured by mortgage in real estate and are installment and interest free.

#### 4) Warrants and other compensations to management

The Board and Group Management's granted options as of year end 2001.

#### LOAN TO EMPLOYEES

Loan to employees as of December 31, amounts to NOK 4.8 million for the parent company and NOK 10.3 million for the Group.

#### WARRANTS

At the annual General Meeting in 2000, TOMRA established a share bonus program for all employees in fully owned TOMRA companies. Under the plan, all employees in entities meeting their budget were granted up to 1 200 warrants with a strike price of NOK 68.00, equal to the market price at the beginning of 2000. 557 employees granted warrants of 560 000 shares in according to this plan. By end 2001 there are 232 589 warrants not executed.

A similar plan was established at the General Meeting in 2001, with a strike price of NOK 171.00. In total there are 282 employees who have been granted 210 000 warrants according to this plan.

TOMRA has also share warrant plans for management and board members tied to specific performance targets (variable plans). The vesting period for these plans is normally three years and granted at market price. The outstanding warrants are:

Figures in NOK	Shares	Price range per share		
		Low	High	Average
Total plans 1999	4 400 000			
Granted	4 393 904	51.75	68.00	53.51
- of this vested and exercised	1 213 975	51.75	68.00	54.07
- of this vested not exercised	1 503 389	51.75	68.00	53.07
Total plans 2000	1 600 000			
Granted	466 668	76.50	166.50	112.82
- of this vested and exercised	9 800	113.00	113.00	113.00
- of this vested not exercised	74 534	76.50	166.50	113.85
Total plans 2001	1 911 000			
Granted	1 616 750	90.00	162.00	127.25
- of this vested and exercised	0	-	-	-
- of this vested not exercised	413 499	90.00	162.00	128.76

#### AUDITORS' FEES

NOK 0.3 million has been paid out in auditors' fees to KPMG AS for auditing Tomra Systems ASA. In addition NOK 0.4 million has been paid for consulting services. Total auditors' fees for the Group amounted to NOK 4.2 million, and NOK 4.0 million for consulting fees.

## 13 SHARES AND INVESTMENTS

Figures in NOK million

Group Companies	Country	Year of acquisition	Vote and owner share	Book value
Tomra Systems Inc	Canada	1988	100.0 %	8.1
Tomra North America Inc	USA	1992	100.0 %	709.2
Tomra Systems OY	Finland	1997	100.0 %	21.7
Tomra Europe AS	Norway	1998	100.0 %	10.0
Tomra Production AS	Norway	1998	100.0 %	15.0
Camco Recycling Inc	Canada	2000	50.5 %	10.9
Tomra Japan Asia Pacific KK	Japan	2000	100.0 %	1.2
Tomra South America SA	Brazil	2001	100.0 %	269.1
<b>Total shares in subsidiaries</b>				<b>1 045.2</b>

### Shares in affiliated companies

Figures in NOK million	UltrePET
<b>Book value 31.12.00</b>	<b>50.5</b>
Share issues in 2001	6.3
Profit before taxes 2001	(2.4)
Currency calculation difference	0.8
<b>Book value 31.12.01</b>	<b>55.2</b>
Equity at date of acquisition	41.0
<b>Country</b>	<b>USA</b>
<b>Year of acquisition</b>	<b>1999</b>
<b>Vote and share ownership</b>	<b>49.0%</b>

## 14 PENSION AND PENSION OBLIGATIONS

Insured pension plans cover all employees in Norway in permanent positions with at least 50% of full time employment. The retirement age is 67 years for all employees. The pension plan is structured as a retirement net agreement in that it guaranties a supplement to the State benefits of 20% of that part of the pension base which exceeds 1.5 times the base amount (currently NOK 51 360) and 30% of the pension base which exceeds 8 times the base amount. There are no other compensation agreements for reductions in State benefits. The premium calculation structure remained unchanged in the years 1998-01. Except for this plan, no other pension liabilities exist.

The pension plans have been treated for accounting purposes in accordance with the NAS on pension costs. Only the Norwegian companies have pension plans based on benefit principles. The parent company's plan, which also covers employees in Tomra Butikksystemer AS, Tomra Europe AS and Tomra Production AS includes 266 employees and 7 retirees by year-end 2001. The plan gives rights, to defined future benefits. This benefit is mainly dependent upon years within the plan, salary at date of retirement and compensations from the State. The obligations are covered through Gjensidige Liv insurance company. For demographic and resignation factors normal insurance assumptions have been used. There were not made any payments to the pension premium fund in 2001.

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## 4

Figures in NOK million	2001	2000	1999
<b>Net present value of this year's pension earnings</b>	<b>4.2</b>	<b>3.2</b>	<b>2.7</b>
Interest cost of pension obligations	2.2	1.8	1.5
Yield on pension fund	(4.2)	(4.1)	(3.2)
Amortization of deferred deviations	0.2	-	0.2
<b>Net pension costs</b>	<b>2.4</b>	<b>0.9</b>	<b>1.2</b>
<b>FINANCIAL STATUS AS OF 31.12</b>			
Pension obligations	(37.8)	(30.9)	
Pension funds at market value	56.7	55.8	
Deferred liability to be amortized	4.6	1.0	
Advanced payment of social security tax	1.8	1.8	
<b>Pension funds</b>	<b>25.3</b>	<b>27.7</b>	
<b>BASIS FOR CALCULATION</b>			
Discount rate	7.0 %	7.0 %	
Expected wage increases	3.3 %	3.3 %	
Expected increase of base amount	3.3 %	3.3 %	
Expected yield of funds	8.0 %	8.0 %	

## 15 WARRANTY LIABILITIES

Parent company		Figures in NOK million		Group	
2001	2000			2001	2000
-	-			27.0	-
<b>0.0</b>	<b>0.0</b>		<b>Total warranty liability</b>	<b>27.0</b>	<b>0.0</b>

The minority shareholder, LATASA SA, has an option to sell their 30% share in Tomra Latasa Reciclagem SA to Tomra South America SA. The option can first time be executed after December 2003. The strike price is dependant upon Tomra Latasas performance in the period until the execution.

## 16 OFF BALANCE SHEET ITEMS

Tomra Systems ASA is in principle the only company within the Group with currency exposure, due to all transactions between Tomra in Norway and its foreign subsidiaries are done in local currency. Tomra Systems ASA use forward exchange contracts to hedge foreign currency exposure. Forward contracts are recorded at the year-end rate.

## Outstanding forward foreign exchange contracts, as of December 31, 2001:

Amount forward sold (million)	Currency	Book exch. rate	Due date
USD/NOK	140.0	9.0116	2002
EURO/NOK	25.8	7.9735	2002
REAL/USD	9.0	2.3168	2002

## 17 EQUITY

### Tomra Systems ASA

Figures in NOK 1000	Share capital	Share premium	Paid-in capital	Retained Earnings	Total equity	Number of shares
<b>Balance per December 31, 1996</b>	<b>150 596</b>	<b>150 278</b>	<b>300 874</b>	<b>74 494</b>	<b>375 368</b>	<b>37 649 068</b>
Net profit 1997				95 936	95 936	
Employee placement, April 1997	1 280		1 280	17 792	19 072	37 969 068
Employee placement, April 1997	150		150		150	38 006 500
Employee placement, April 1997	2		2		2	38 007 000
Private placement, May 1997	1 860		1 860	63 240	65 100	38 472 000
Execution of warrants, May 1997	52		52	679	731	38 485 000
Private placement, September 1997	7 200		7 200	284 130	291 330	40 285 000
Execution of warrants, December 1997	1 400		1 400		1 400	40 635 000
Dividend accruals 1997				(16 254)	(16 254)	
<b>Balance per December 31, 1997</b>	<b>162 540</b>	<b>150 278</b>	<b>312 818</b>	<b>520 017</b>	<b>832 835</b>	<b>40 635 000</b>
Net profit 1998				83 485	83 485	
Employee placement, March 1998	321		321	5 654	5 975	40 715 200
Execution of warrants, May 1998	618		618	8 590	9 208	40 869 700
Execution of warrants, August 1998	80		80	1 112	1 192	40 889 700
Private placement, December 1998	800		800	41 968	42 768	41 089 700
Dividend accruals 1998				(20 577)	(20 577)	
<b>Balance per December 31, 1998</b>	<b>164 359</b>	<b>150 278</b>	<b>314 636</b>	<b>640 250</b>	<b>954 886</b>	<b>41 089 700</b>
Net profit 1999				119 378	119 378	
Employee placement, April 1999	589	20 033	20 622		20 622	41 237 000
Employee placement, April 1999	1 726	29 198	30 924		30 924	41 668 500
Execution of warrants, May 1999	21	1 317	1 339		1 339	41 673 833
Share issue costs		(239)	(239)		(239)	
Stock split 1:1 December 1999						83 347 666
Dividend accruals 1999				(33 339)	(33 339)	
<b>Balance per December 31, 1999</b>	<b>166 695</b>	<b>200 587</b>	<b>367 282</b>	<b>726 289</b>	<b>1 093 571</b>	<b>83 347 666</b>
Net profit 2000				349 021	349 021	
Group contribution 2000				102 000	102 000	
Employee placement, March 2000	307	16 943	17 250		17 250	83 501 000
Execution of warrants, April 2000	366	18 064	18 430		18 430	83 683 832
Execution of warrants, May 2000	250	13 874	14 124		14 124	83 808 832
Private placement, September 2000	8 000	1 032 000	1 040 000		1 040 000	87 808 832
Execution of warrants, September 2000	50	3 422	3 472		3 472	87 833 832
Execution of warrants, November 2000	359	18 199	18 558		18 558	88 013 332
Share issue costs		(18 836)	(18 836)	(61)	(18 897)	
Stock split 1:1 November 2000						176 026 664
Dividend accruals 2000				(35 205)	(35 205)	
<b>Balance per December 31, 2000</b>	<b>176 027</b>	<b>1 284 253</b>	<b>1 460 280</b>	<b>1 142 044</b>	<b>2 602 324</b>	<b>176 026 664</b>

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## 4

## Tomra Systems ASA

Figures in NOK 1000	Share capital	Share premium	Paid-in capital	Retained Earnings	Total equity	Number of shares
Net profit 2001			0	138 162	138 162	
Execution of warrants, March 2001	2 056	111 775	113 831		113 831	178 083 285
Execution of warrants, April 2001	62	4 148	4 210		4 210	178 145 198
Execution of warrants, June 2001	26	1 773	1 799		1 799	178 171 659
Execution of warrants, November 2001	52	2 706	2 758		2 758	178 223 225
Share issue costs		(269)	(269)	(424)	(693)	
Dividend accruals 2001 <sup>1)</sup>			0	(35 645)	(35 645)	
<b>Balance per December 31, 2001</b>	<b>178 223</b>	<b>1 404 386</b>	<b>1 582 609</b>	<b>1 244 137</b>	<b>2 826 746</b>	<b>178 223 225</b>

All retained earnings are free equity

## GROUP

Figures in NOK 1000	Paid-in capital	Currency Translation difference	Retained earnings	Total Majority Equity	Minority Interest	Total Equity
<b>Balance per December, 1998</b>	<b>314 636</b>	<b>52 360</b>	<b>895 598</b>	<b>1 262 594</b>	<b>21 303</b>	<b>1 283 897</b>
Net profit			277 363	277 363	5 956	283 319
Equity issue 1999	52 645			52 645		52 645
Changes in translation difference		6 263		6 263	1 374	7 637
New consolidated subsidiaries				0	389	389
Sales TNYR			(6 160)	(6 160)	16 003	9 843
Dividend accruals 1999			(33 339)	(33 339)		(33 339)
<b>Balance per December, 1999</b>	<b>367 281</b>	<b>58 623</b>	<b>1 133 462</b>	<b>1 559 366</b>	<b>45 025</b>	<b>1 604 391</b>
Net profit			60 557	60 557	15 526	76 083
Equity issue 2000	1 092 999			1 092 999		1 092 999
Changes in translation difference		(36 704)		(36 704)	2 945	(33 759)
New consolidated subsidiaries/dividend minorities			(4 487)	(4 487)	9 404	4 917
Dividend accruals 2000			(35 205)	(35 205)		(35 205)
<b>Balance per December, 2000</b>	<b>1 460 280</b>	<b>21 919</b>	<b>1 154 327</b>	<b>2 636 526</b>	<b>72 900</b>	<b>2 709 426</b>
Net profit			(14 666)	(14 666)	31 095	16 429
Equity issue 2001	122 329			122 329		122 329
Changes in translation difference		(77 572)		(77 572)	(12 671)	(90 243)
New consolidated subsidiaries/dividend minorities			(424)	(424)	69 082	68 658
Dividend accruals 2001 <sup>1)</sup>			(35 645)	(35 645)		(35 645)
<b>Balance per December, 2001</b>	<b>1 582 609</b>	<b>(55 653)</b>	<b>1 103 592</b>	<b>2 630 548</b>	<b>160 406</b>	<b>2 790 954</b>

1) Accrued dividend is NOK 0.20 per share in 2001

	2001	2000	1999 1)
Number of shares 31.12	178 223 225	176 026 664	166 695 332
Average number of shares	177 714 765	169 968 687	165 978 926
Average number of shares, fully diluted	179 632 077	173 485 329	167 219 250
Majority equity 31.12	2 630 548	2 636 526	1 559 366
Equity per share	14.76	14.98	9.35
Net profit after minority interest	(14 666)	60 557	277 363
Earnings per share	(0.08)	0.36	1.67
Earnings per share, fully diluted	(0.08)	0.35	1.66

1) Adjusted for stock split in 2000

#### THE COMPANY'S LARGEST SHAREHOLDERS

Registered at December 28, 2001	Shares	Ownership			
1. State Street Bank & Clients	11 072 509	6.21%	11. Danske Bank A/S 3887 Operations Sec.	2 823 915	1.58%
2. JPMorgan Chase Bank Clients	7 584 988	4.26%	12. Euroclear Bank S.A. / Clients	2 801 111	1.57%
3. Folketrygdfondet	6 800 000	3.82%	13. Storebrand Livsforsikring P980, Aksjef.	2 769 900	1.55%
4. CDC Ixis c/o Sparebanken NOR	5 440 000	3.05%	14. HSBC Bank PLC Clients' Account	2 733 798	1.53%
5. ABN Amro Bank – Danish Clients	3 527 700	1.98%	15. Deutsche Bank AG Kundendepot	2 678 517	1.50%
6. Vital Forsikring Asa v/DnB Kap.forvalt.	3 225 940	1.81%	16. KLP Forsikring Aksje	2 632 550	1.48%
7. Danske Bank A/S 0% Client Account	3 184 773	1.79%	17. Gjensidige Nor Spare	2 627 583	1.47%
8. Clearstream Banking Ope – Custody ad.	3 137 844	1.76%	18. Danske Bank A/S	2 540 000	1.43%
9. J.P. Morgan Lux S/A Carnegie FCP's	3 032 200	1.70%	19. Skandinaviska Enskilda A/C Clients	2 529 987	1.42%
10. J.P. Morgan Lux S/A Luxembourg mut.	2 944 300	1.65%	20. Boston Safe dep & Tr c/o Spareb.NOR	2 368 255	1.33%

## 18 ACQUISITIONS IN 2000/2001

### Tomra AG

With effect from January 1, 2000 Tomra Europe AS acquired 50.5% of its Swiss distributor TOMRA AG. The purchase price was NOK 26.0 million, and included goodwill of NOK 12.2 million.

### Camco Recycling Inc

Effective April 8, 2000 TOMRA acquired 50.5% of the Canadian materials handling company CAMCO Recycling Inc. The purchase price was USD 1.2 million (NOK 10.9 million) and included goodwill of NOK 9.9 million.

### Polar Beverages

TOMRA Massachusetts signed May 31, 2000 a Joint Venture agreement with Polar Beverages. TOMRA North America owns 55% of the new established company. The transaction involved a goodwill of USD 0.7 million (NOK 6.3 million).

### Tomra NV

Tomra Europe AS acquired the Belgian distributor TOMRA NV with effect from January 1, 2001. The purchase price of NOK 36.0 million included goodwill of NOK 27.6 million.

### USIPack

TOMRA acquired in January 2001 the Canadian machine producer USIPack. The transaction included goodwill of CAD 2.3 million (NOK 13.2 million).

### Tomra Latasa Reciclagem SA

On March 7, 2001, TOMRA acquired 70 % of the aluminum recycling company Tomra Latasa Reciclagem SA through the Brazilian subsidiary Tomra South America SA. The purchase price of USD 28.0 included goodwill of NOK 288.4 million.

### Eleiko

Tomra Systems AB acquired in May 2001 the service agreements and technology of their former competitor Eleiko Sanera AB. The acquisition included goodwill of NOK 8.4 million.

### Other minor acquisitions

TOMRA has additionally done some minor acquisitions in America in 2001. Total purchases included goodwill of USD 2.5 million (NOK 22.1 million).

# Auditor's report 2001

## TO THE ANNUAL SHAREHOLDERS' MEETING OF TOMRA SYSTEMS ASA

### Respective Responsibilities of Directors and Auditors

We have audited the annual financial statements of Tomra Systems ASA as of 31 December 2001, showing a profit of NOK 138.2 million for the parent company and a profit of NOK 16.4 million for the Group. We have also audited the information in the Board of Directors' report concerning the financial statements, the going concern assumption, and the proposal for the allocation of the profit. The financial statements comprise the balance sheet, the statements of income and cash flows, the accompanying notes and the group accounts. These financial statements are the responsibility of the Company's Board of Directors and Managing Director. Our responsibility is to express an opinion on these financial statements and on the other information according to the requirements of the Norwegian Act on Auditing and Auditors.

### Basis of Opinion

We conducted our audit in accordance with the Norwegian Act on Auditing and Auditors and good auditing practice in Norway. Good auditing practice require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. To the extent required by law and good auditing practice an audit also comprises a review of the management of the Company's financial affairs and its accounting and internal control systems. We believe that our audit provides a reasonable basis for our opinion.

### Opinion

#### *In our opinion,*

- the financial statements are prepared in accordance with the law and regulations and present the financial position of the Company and of the Group as of December 31, 2001, and the results of its operations and its cash flows for the year then ended, in accordance with good accounting practice in Norway
- the Company's management has fulfilled its duty to produce a proper and clearly set out registration and documentation of accounting information in accordance with the law and good accounting practice
- the information in the Board of Directors' report concerning the financial statements, the going concern assumption, and the proposal for the allocation of the profit are consistent with the financial statements and comply with the law and regulations.

Oslo, 14 February 2002

KPMG AS

Henning Aass

*State Authorized Public Accountant*

Note: This translation from Norwegian has been prepared for information purposes only.

# Key figures 1997-2001

Figures in NOK million	2001	2000	1999	1998	1997
<b>PROFIT AND LOSS STATEMENT</b>					
<b>Operating revenues</b>	<b>2 924</b>	<b>2 718</b>	<b>2 169</b>	<b>1 456</b>	<b>996</b>
Other income	-	-	5	43	-
Cost of goods sold	1 727	1 522	1 192	740	436
Depreciation and write-down	192	80	66	60	53
<b>Gross contribution</b>	<b>1 005</b>	<b>1 116</b>	<b>916</b>	<b>699</b>	<b>507</b>
Operating expenses	608	550	458	329	261
Depreciation and write-down	437	100	77	99	40
<b>Operating profit</b>	<b>(40)</b>	<b>466</b>	<b>381</b>	<b>271</b>	<b>206</b>
Profit from affiliated companies	(3)	1	13	8	2
Net financial items	105	26	12	(25)	(10)
<b>Ordinary profit before taxes</b>	<b>62</b>	<b>493</b>	<b>406</b>	<b>254</b>	<b>198</b>
Other items	(12)	(384)	-	-	-
Taxes related to other items	(5)	(121)	-	-	-
Taxes related to ordinary profit	39	154	123	81	63
<b>Net profit</b>	<b>16</b>	<b>76</b>	<b>283</b>	<b>173</b>	<b>135</b>
Minority interest	(31)	(15)	(6)	(6)	(4)
<b>ASSETS</b>					
Intangibles	791	444	364	361	305
Real property, fixed assets	559	546	343	286	200
Leasing equipment	263	253	251	263	266
Financial fixed assets	212	200	271	145	65
<b>Total fixed assets</b>	<b>1 825</b>	<b>1 443</b>	<b>1 229</b>	<b>1 055</b>	<b>836</b>
Inventory	299	312	233	212	177
Receivables	672	805	616	495	267
Bank deposits, cash etc.	697	712	270	56	129
<b>Total current assets</b>	<b>1 668</b>	<b>1 829</b>	<b>1 119</b>	<b>763</b>	<b>573</b>
<b>Total assets</b>	<b>3 493</b>	<b>3 272</b>	<b>2 348</b>	<b>1 818</b>	<b>1 409</b>
<b>LIABILITIES AND EQUITY</b>					
Paid-in capital	1 463	1 460	367	315	313
Retained earnings	1 168	1 176	1 192	948	714
Minority interest	160	73	45	21	15
<b>Total equity</b>	<b>2 791</b>	<b>2 709</b>	<b>1 604</b>	<b>1 284</b>	<b>1 042</b>
Deferred taxes	86	77	124	77	50
Other long-term liabilities	38	39	41	49	73
<b>Total long-term liabilities</b>	<b>124</b>	<b>116</b>	<b>165</b>	<b>126</b>	<b>123</b>
Liabilities to financial institutions	18	-	210	105	-
Accounts payable	240	184	151	107	75
Other current liabilities	320	263	218	196	169
<b>Total current liabilities</b>	<b>578</b>	<b>447</b>	<b>579</b>	<b>408</b>	<b>244</b>
<b>Total liabilities and equity</b>	<b>3 493</b>	<b>3 272</b>	<b>2 348</b>	<b>1 818</b>	<b>1 409</b>

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## 4

Figures in NOK million	2001	2000	1999	1998	1997
<b>PROFITABILITY</b>					
Operating margin <sup>1)</sup>	(1.4) %	17.1 %	17.6 %	18.6 %	20.7 %
Profit ratio, ordinary profit <sup>2)</sup>	2.1 %	18.1 %	18.7 %	17.5 %	19.9 %
Return on equity ex. other items <sup>3)</sup>	(0.3) %	15.4 %	19.7 %	14.6 %	17.2 %
Return on total assets, ordinary profit <sup>4)</sup>	2.0 %	17.7 %	20.2 %	18.1 %	18.9 %
EBITDA (NOK million) <sup>5)</sup>	589	646	524	430	299
<b>CAPITAL DECEMBER 31</b>					
Majority equity (NOK million) <sup>6)</sup>	2 631	2 636	1 559	1 263	1 027
Equity ratio <sup>7)</sup>	75.3 %	80.6 %	66.4 %	69.5 %	72.9 %
Bankers ratio <sup>8)</sup>	2.9	4.1	1.9	1.9	2.3
Acid test <sup>9)</sup>	2.4	3.4	1.5	1.4	1.6
Working capital (NOK million) <sup>10)</sup>	966.3	1 417.8	539.7	354.8	328.5
<b>SHARES</b>					
Share capital December 31. (NOK million)	178.2	176.0	166.7	164.4	162.5
Earnings per share (EPS) <sup>11)</sup>	(0.08)	0.36	1.67	1.02	0.84
Earning per share, ex. other items	(0.04)	1.90	1.67	1.02	0.84
EPS, fully diluted <sup>12)</sup>	(0.08)	0.35	1.66	1.01	0.83
Dividend per share, adjusted (NOK)	0.20	0.20	0.20	0.13	0.10
Share price 31, adjusted (NOK) <sup>13)</sup>	86.0	171.00	68.00	62.50	41.25
Market capitalization (NOK million)	15 327	30 101	11 335	10 272	6 705
Price/earnings ratio (P/E) <sup>14)</sup>	neg	90.0	40.7	61.3	48.8
<b>EMPLOYEES</b>					
Total employees (average)	1 912	1 829	1 724	1 318	788
Sales per employee (1000 NOK)	1 529	1 486	1 258	1 105	1 264

**Definition of key figures**

- 1) Operating profit as a percentage of operating revenues
- 2) Ordinary profit before taxes as a percentage of operating revenues
- 3) Net profit exclusive other items after minority interests as a percentage of average equity (as defined in footnote 6)
- 4) Ordinary profit before taxes and interest expenses as a percentage of average total assets
- 5) Operating profit exclusive depreciations and write-downs
- 6) Equity exclusive minority interest
- 7) Equity as defined in footnote 6 as a percentage of total assets
- 8) Current assets divided by short-term liabilities
- 9) Current assets excluding inventories divided by short-term liabilities
- 10) Current assets less short-term liabilities
- 11) Net profit after tax divided by average number of shares
- 12) Net profit after tax divided by average number of shares incl. vested warrants
- 13) Adjusted for split in 1999 and 2000
- 14) Stock price as of December 31, divided by earnings per share exclusive other items