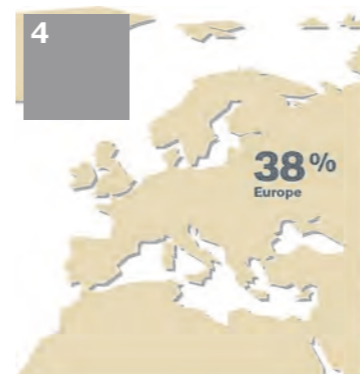




Volvo Construction Equipment

# WASTE AND RECYCLING SOLUTIONS





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# Serving customers for 180 years...

For over 180 years Volvo Construction Equipment has been at the forefront of the construction equipment industry. Founded in 1832 in Sweden, Volvo CE has a rich heritage and a pioneering spirit that has enabled it to prosper in this leading role.

In 1954, Volvo Construction Equipment invented one of the world's first wheeled loaders, the H10, and in 1966 another invention was released to the market: the articulated hauler, "Gravel Charlie". Since those early days there has been constant innovation of new products and services.

As well as leading the way in construction equipment, Volvo Group is also one of the world's leading manufacturers of trucks, buses and drive systems for marine and industrial applications. Volvo Trucks is Europe's largest and the world's second largest truck manufacturer and Volvo Bus is the world's second largest bus manufacturer.

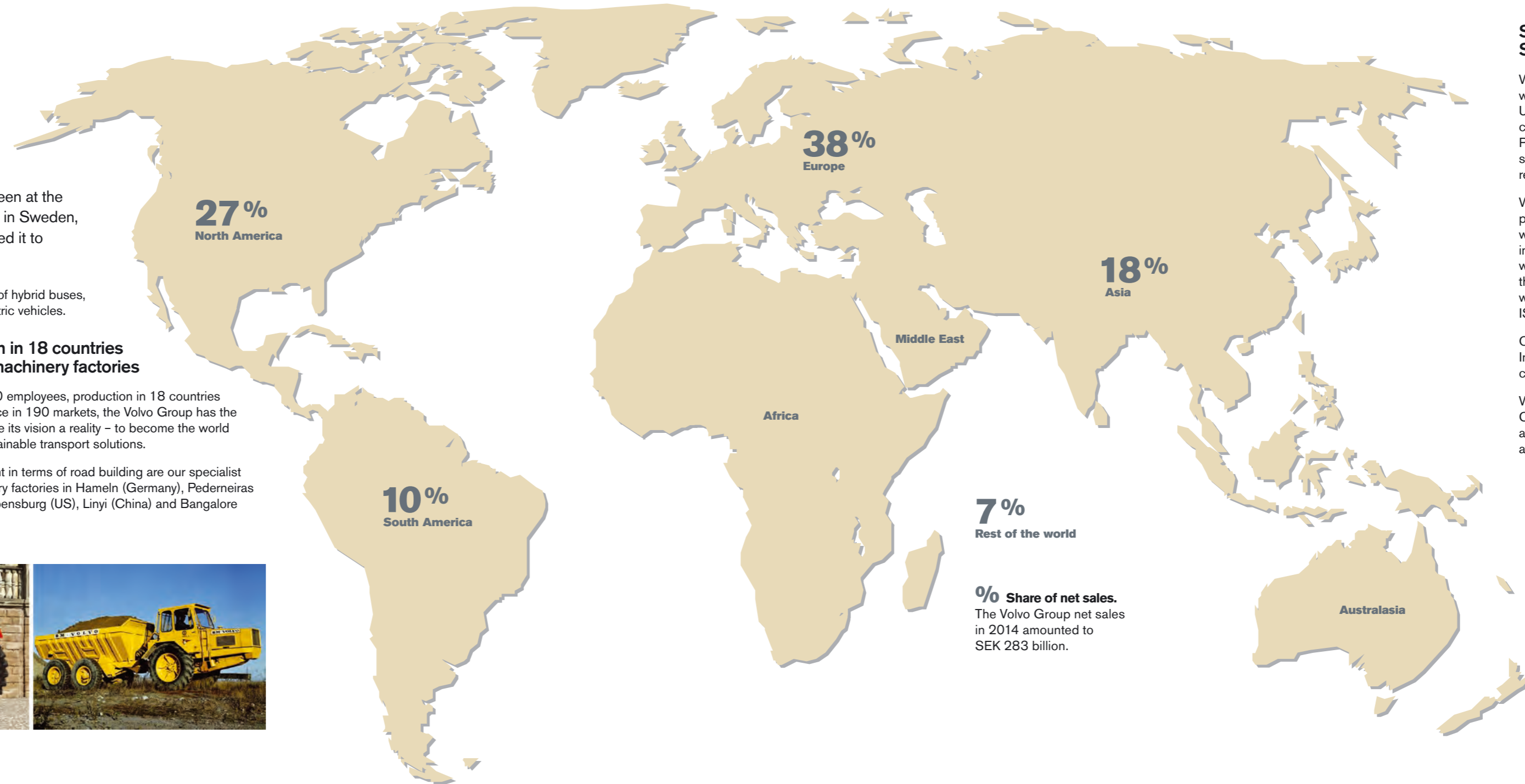
Volvo Group is also a leading manufacturer of 5-16 litre heavy-duty diesel engines. Our commercial trucks can operate on renewable fuels and we are pioneering the

development of hybrid buses, plus fully electric vehicles.

## Production in 18 countries – 5 road machinery factories

With 110,000 employees, production in 18 countries and a presence in 190 markets, the Volvo Group has the power to make its vision a reality – to become the world leader in sustainable transport solutions.

At the forefront in terms of road building are our specialist road machinery factories in Hameln (Germany), Pederneiras (Brazil), Shippensburg (US), Linyi (China) and Bangalore (India).



## Sustainability and Corporate Social Responsibility

We don't just claim to be sustainable at the Volvo Group; we set out to prove it. We were a founder signatory of the UN's Global Compact and the first construction equipment company to participate in the WWF's Climate Savers Programme. Furthermore Oxfam is a strategic partner for society engagement activities, including emergency and relief work.

We are also stringent with the standards we set in our production processes. We led the way by building the world's first CO<sub>2</sub> neutral automotive factory in 2007 and in 2013 we were the first construction equipment company with a factory to be certified carbon neutral. We also ensure that all our wholly owned plants are certified in accordance with ISO 9001 and nearly all our plants are certified to ISO14001 as well.

Our inclusion in the Dow Jones Sustainability World Index officially ranks us as one of the most sustainable companies in the world.

We are also a founding partner of the Construction Climate Challenge ([www.constructionclimatechallenge.com](http://www.constructionclimatechallenge.com)) – the aim of which is to ensure the construction industry works with a more sustainable approach going forwards.

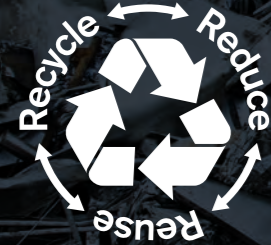


# We understand your challenges

An ever-changing industry with new and greater needs

The recycling and waste industry is a challenging one. Legislation and public expectations on the effective use and reuse of resources are an increasingly important focus for all involved in the industry.

Volvo is ready to work with you to meet the challenges of intensive recycling, resource recovery and disposal. We have long experience in providing waste handling solutions and offer the widest range of purpose-built machines, designed to meet the industry's demands for safety, reliability and cost efficiency.



# Our core values are your core needs

**Quality. Safety. Environmental Care.**

These are the three pillars of Volvo Group. They emerged from the philosophies of our founders who stressed that our business would always have the safety of people at its heart.

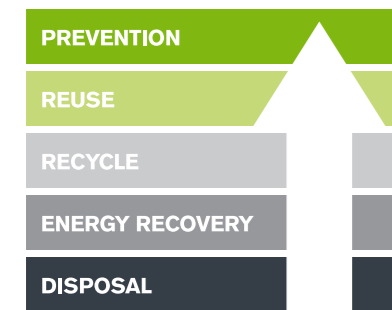
For this reason our core values are more relevant than ever in the modern world of recycling and waste management. The ISO certification shows we are audited and constantly work with operational development in the areas of quality, environmental care, safety and health.



# Meeting all your waste and recycling equipment needs

Waste has increasingly become regarded as a resource. As such, we provide robust solutions to help you meet regulations and social demands to recycle materials and recover energy from residual waste with disposal the last option under the Waste Hierarchy. Whatever your recycling or waste application, the wide range of Volvo machines is there to support your business needs.

## The Waste Hierarchy



FROM EU Waste Framework Directive 2008

### 1 Waste collection

Volvo offers innovative solutions for waste collection, from low entry cabs for safety, visibility and ease of access, to trucks running on alternative renewable fuels.

### 2 Waste transfer

In demanding environments, Volvo machines offer industry leading safety and productivity for both man and machine. All components are designed as one unit to protect you and move more material.

### 3 Materials recycling

Operator comfort, control and visibility are key requirements for efficient handling and sorting of materials, loading of conveyors and sorting machines at Material Recovery Facilities (MRF's). Our solutions deliver on all three.

### 4 Organics recycling

The recycling rates of green and organic waste are increasing sharply. Fortunately, our industry leading cab keeps operators alert, even in difficult atmospheric conditions at composting facilities.

### 5 Scrap handling

Volvo machines with specialist attachments to sort and recover ferrous and non-ferrous metals, handle all types of scrap metal with ease.

### 6 Construction and demolition waste

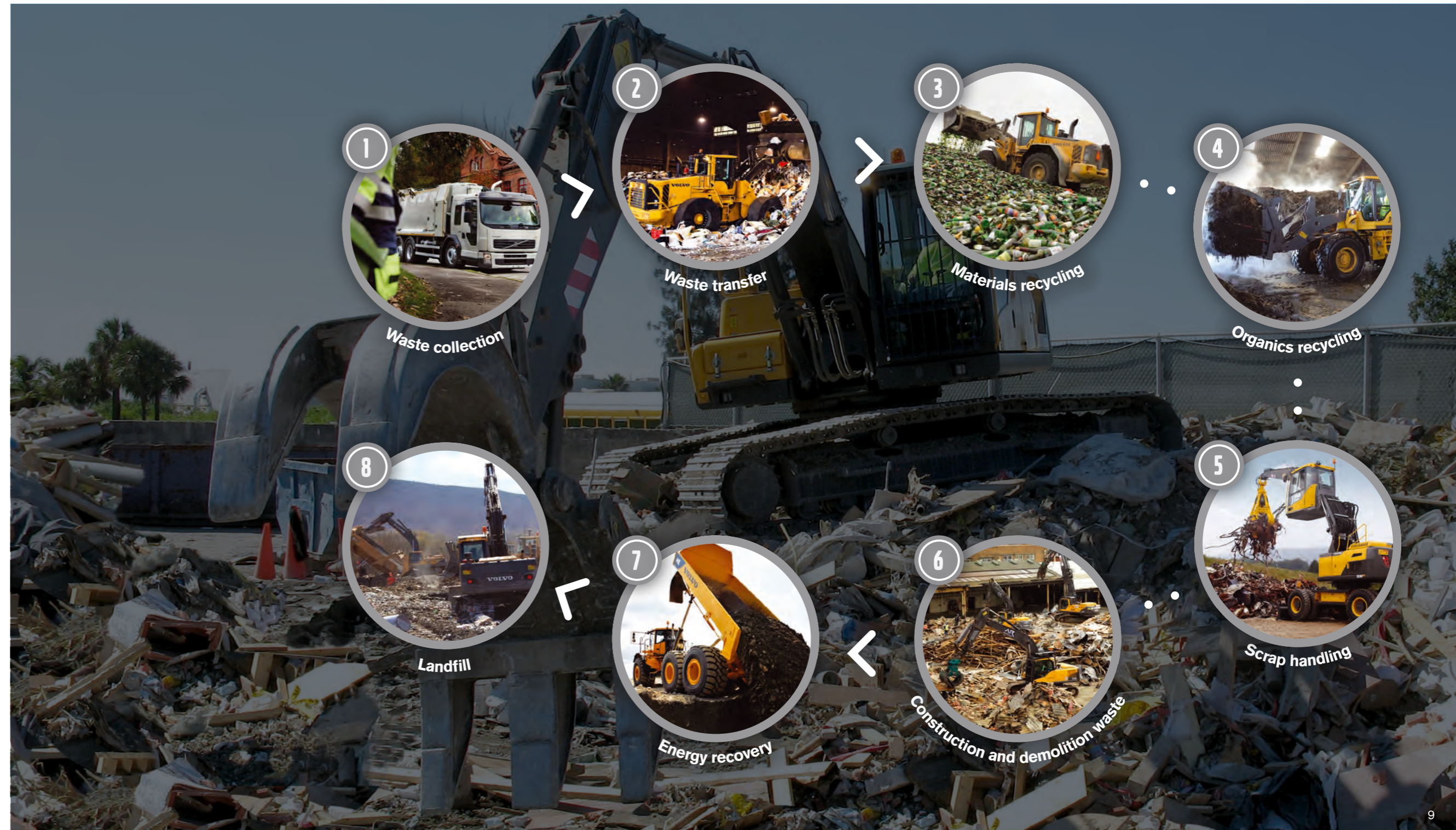
A wide offer of machines and attachments can recover valuable components of construction and demolition waste, reducing landfill costs and environmental impact.

### 7 Energy recovery

Durable Volvo machines handle both incoming resource and bottom ash end-product at Waste to Energy facilities, and optimise landfill sites for methane recovery.

### 8 Landfill

Our wide equipment range can be utilised or adapted to handle all operational requirements in construction, maintenance and eventual decommissioning of sanitary landfills.



1 Waste collection

# From doorstep to transfer station



2 Waste transfer



### Move, sort, load

The pace of work at a waste handling facility is relentless. But our fast, uncompromising wheeled loaders and excavators make a formidable combination. They bring together strength, intelligence, operator comfort and safety to make your job easier.

### Durable, reliable and more efficient

Robust build quality means that Volvo machines deliver maximum uptime and can cope with handling high volumes across multi-shift operations.

### Productivity for profitability

An ever growing mountain of solid waste is a profitable opportunity that needs to be handled quickly. Our smooth, powerful hydraulics allow Volvo excavators to complete fast work-cycles and compress loads. In turn this keeps the transport trucks or rail cars rolling and your operation productive and profitable.

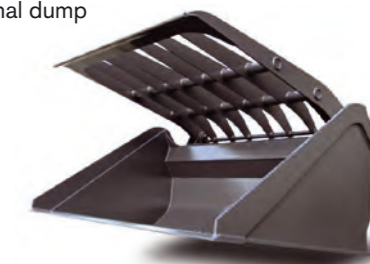
### Quicker load out

Volvo excavator waste handlers use high performance trash grapples to break down bulky and unwieldy material. With high flow attachment hydraulics, the excavator sinks the grapple deep into the pile to grab the fullest load. This allows for a quicker load out and more tonnes moved per day.

### Attachments for every need

The Volvo network offers a comprehensive range of attachments to facilitate unloading, sorting and loading for onward transportation.

Our refuse buckets are perfect for truck loading and push floor operations. Alternatively our high tip buckets are designed to offer exceptional dump clearance for high sided trucks, bins and rail cars. Whatever your need, your local Volvo dealer can help you meet your exact requirements.



# Supporting your recycling operations

Whether recycling materials such as paper, card, plastics, glass or handling organic material such as garden waste, Volvo machines can support all your recycling operations.

There are few operations harsher than recycling and waste management. So we designed our excavators and wheeled loaders with features and options to withstand this tough environment.

So, all you need to do is focus on the pick, sort and load of different types of materials.

And with the Volvo quick coupler system and a wide range of dedicated attachments to assist you, you can do this efficiently.



## Faster work cycles

There are no surprises with our wheeled loader's load-sensing hydraulics and patented torque parallel linkage.

They provide sensitive yet strong operations at every bucket position, giving you smooth and precise movements.

## Up and over

Crawler and wheeled excavators with a hydraulically elevating cab significantly increases operator visibility. For loading high sided vehicles, containers and rail cars, loads can be optimised and compacted with ease to ensure a well balanced load for safe onward transportation.

## Compact spaces call for compact solutions

Where space is restricted, the extensive range of Volvo compact machines, including excavators, wheeled loaders and skid steer loaders – wheeled and tracked – give you all the flexibility you need.



## Volvo Care Cab

Industry-tested and approved according to ROPS, safety is at the forefront of the Volvo Care Cab design, alongside excellent all-round visibility. Operator comfort is assured – with space, accessible controls, a highly efficient climate control system, and low noise and dampening to reduce whole body vibration – for a productive day.

Wheeled loader and soil compactor cabs are also FOPS certified.





## The right tool for the job

No one standard specification will suit all scrap handling operations and facilities.

From handling end of life vehicles (ELV's) to electrical scrap, the range of attachments available through the Volvo dealer network, including durable scrap handling grabs, buckets and shears enable you to tailor your machine for your business requirements.



## 6 Construction and demolition waste

When you're clearing a construction site, separating rebar from concrete and breaking other building materials down for truck loading or feeding crushers is heavy work.

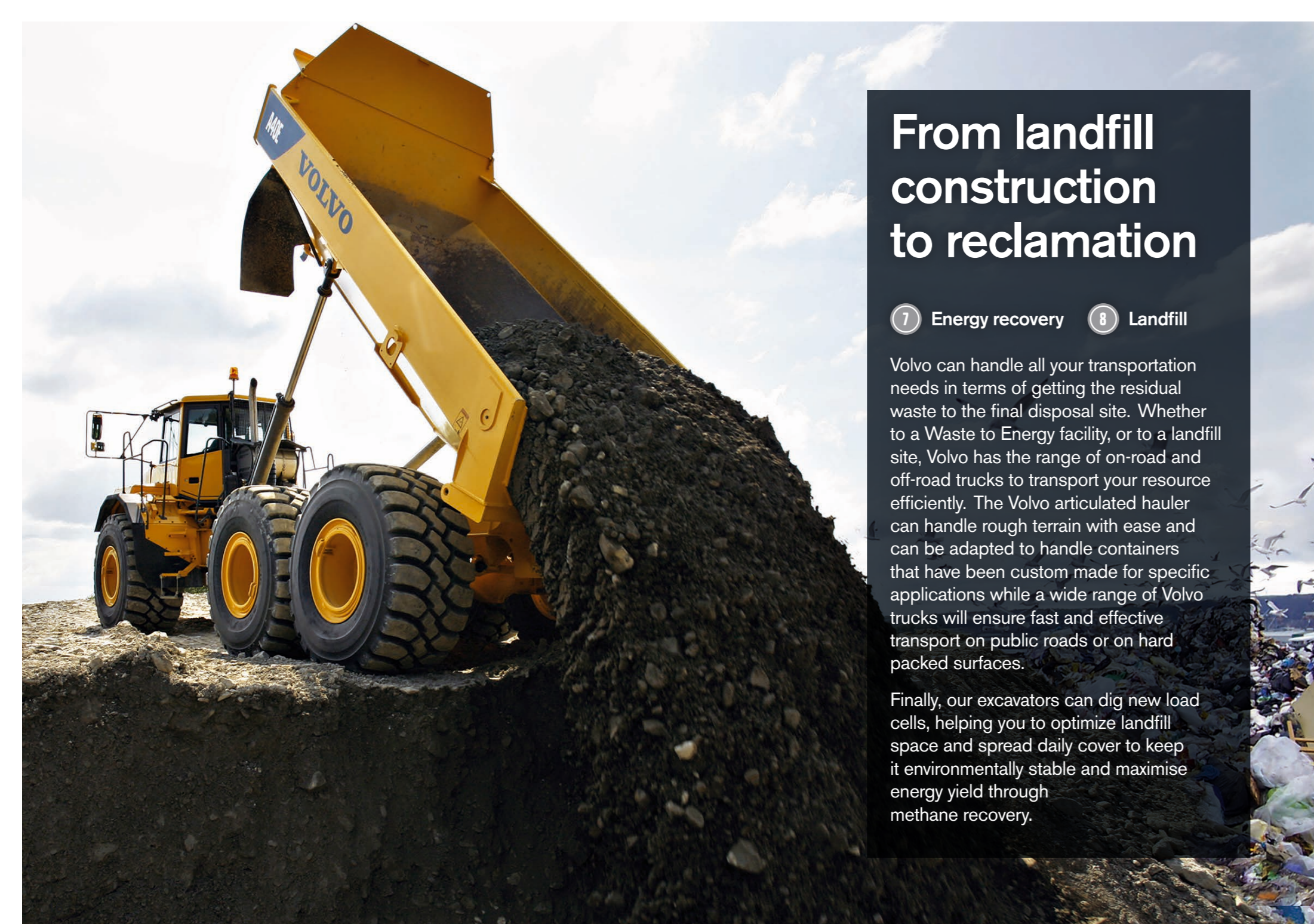
But the Volvo dealer network's range of buckets, grabs, hammers and shears can make light work of even the most demanding tasks.

## Road maintenance

Our machines can also be used for efficiently sorting, loading and stockpiling crushed stone or reclaiming asphalt pavement to maximise levels of asphalt recovery.







# From landfill construction to reclamation

- 7 Energy recovery
- 8 Landfill

Volvo can handle all your transportation needs in terms of getting the residual waste to the final disposal site. Whether to a Waste to Energy facility, or to a landfill site, Volvo has the range of on-road and off-road trucks to transport your resource efficiently. The Volvo articulated hauler can handle rough terrain with ease and can be adapted to handle containers that have been custom made for specific applications while a wide range of Volvo trucks will ensure fast and effective transport on public roads or on hard packed surfaces.

Finally, our excavators can dig new load cells, helping you to optimize landfill space and spread daily cover to keep it environmentally stable and maximise energy yield through methane recovery.



## A highly productive team

Building stockpiles and quickly moving cover to the active face of the landfill on soft and uneven ground calls for a productive team. Our articulated haulers and excavators work in harmony to make your work easier.

The Volvo articulated hauler is unmatched in its ability to traverse rough terrain and tackle tough grades and dumping angles required to construct a cell.

Pair this with the Volvo excavator's fuel efficiency and productivity and you have a team that gets the job done.

## Versatile solutions

We recognise that your tough operating conditions may require specialist solutions. This is why we have partnered with approved suppliers to adapt the articulated hauler chassis to meet the diverse needs of the industry.

As a modular system, the chassis forms a platform for super-structures such as containers and water tanks to transform the machine into a special purpose vehicle for your needs.



Volvo soil compactors, with their industry-leading traction with up to 75% gradeability are the ideal machines to cope with steep, slippery inclines in the construction of landfill cells.



# In the metal

The extensive equipment, attachment and options range from Volvo can cater for all your waste and recycling needs. As you would expect from Volvo, each and every machine and attachment has quality, safety and environmental care built in.

## Effective protection for man and machine

To protect both the operator and machine in dirty and dusty environments, Volvo offers more filters than any competitor. With a filter system in a class of its own, the air in the cab is always clean. Engines, transmissions, axles, fuel tanks and hydraulics are equally protected. Cooling fans that automatically reverse to blow out dust and debris for better machine performance can also extend service intervals, increasing uptime and productivity.

## Attachments

Different jobs require different attachments. Our wide range will give you maximum productivity and unmatched flexibility. Your Volvo dealer will ensure that you achieve the best machine and attachment combination.

## Volvo Care Cab

Industry-tested and ROPS certified, safety is at the forefront of the Volvo Care Cab design, alongside excellent all-round visibility.

## Safety



**Volvo Care Cab**, with space, accessible controls, a highly efficient climate control system and low noise.



**Easy accessible emergency stop button** cuts electrical power and stops engine in case of fire.



**Falling object guard (FOG) and Falling object protective structure (FOPS)** protect the operator and cab, enhancing safety and machine uptime.



**Windshield guard**, side and rear window guards protect both the cab glass and operator from debris.



Crawler excavators



Compact wheel loaders



Skid steer loaders

## Dust protection

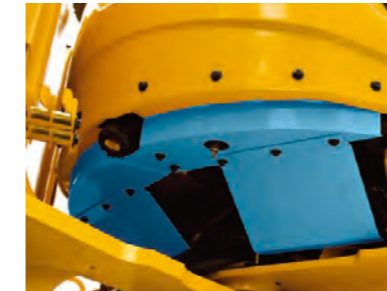


**Cab Air Pre-cleaner** keeps the air fresh and prevents the debris from clogging the main air filter or entering the cab, ensuring productivity and operator comfort.



**Automatically activated reversible cooling fan** removes debris from the cooling department without having to stop the machine for manual cleaning.

## Machine protection



**Under cab guard**, designed to protect the components located directly underneath the cab, including the steering valve, hydraulic connections, and electrical wiring.



**Belly guard**, protects driveshaft, universal joints, hydraulic lines (front), engine and transmission, but is hinged for easy maintenance.



**Radiator grille guard** protects grille, cooling fan, radiator and condenser cores from damage. It is hinged to facilitate easy cleaning and maintenance.



**Headlight guards and tail light guards** protect the headlights, work lights, tail lights and turn signals from debris that may break or damage the lenses.



Articulated haulers



Wheel loaders



Compact excavators



Compactors



Wheeled excavators

# Special application solutions



Over 180 years of designing construction equipment has made us experts in the field of product design and innovation. But even we understand that sometimes you may want to modify one of our machines to meet your exact needs. This is why we have the Special Application Solutions program. It's designed to help you get the machine you want for your precise application.



Our Volvo dealer network can work with a range of approved specialist partners to adapt our machines for you. From modifying the flexible and versatile articulated hauler chassis to be fitted with a container for landfill operations, simply fitting an elevated cab on an excavator or a customised materials handling configuration, we can modify your machine to meet your requirements.



## We are there for you

Volvo Construction Equipment has one of the world's strongest global dealer networks that can support you with everything from selecting the right machines for the job to fulfilling your needs throughout the entire machine lifecycle. The combination of our knowledge about the waste and recycling industry with our extensive portfolio of products and services makes us a strong partner in your business.



### Genuine Volvo Parts

The use of Genuine Volvo Parts optimizes the Volvo service program and ensures maximum service, improving the performance, safety and efficiency of your machine.



### Customer Support Agreements (CSA)

Volvo CSAs offer service and maintenance with maximum cost control and minimum downtime. The Gold, Silver Blue and White levels of agreements cater for a range of needs from total repair and maintenance, to an inspection program covering vital parts and functions.



### CareTrack

CareTrack, an advanced remote monitoring tool, gives you and your dealer insight into your machine's operating performance so that action can be taken when necessary to make sure your machine performs at its best.



### Volvo Financial Services

Volvo Financial Services provide integrated competitive financial solutions designed to meet the needs of our customers worldwide. As part of the Volvo Group, Volvo Financial Services know all about the machines you rely on and we understand the demands of the construction industry.



### Operator Training

We can train your operators to become more efficient at work. For example, with our sophisticated simulator training programs, we can ensure that they are more productive on the jobsite.



### Volvo Service Technicians

Certified Volvo technicians can ensure that your machines are serviced correctly and in the most efficient way. In order to secure uptime and performance, use the same parts and lubricants that the machines were equipped with from new.

### Productivity

Productivity and uptime is key in any process industry and to support your business Volvo Construction Equipment has equipped your Volvo machine with a fully integrated telematics system called CareTrack. Together with your Volvo Construction Equipment dealer this solution can be used as a tool to avoid unplanned stops. Maintenance work is planned for in advance and any stops in production due to machine failures can be brought down to a minimum by continuously staying on top of machine health and usage.

A close cooperation with your Volvo dealer will also ensure that you have access to the right Genuine Volvo Parts and service at the right time. Best in class parts availability will not only reduce downtime, but also secure productivity. It will also ensure that technicians working on your machines are fully trained and supported all the way back to the manufacturer.

### Control of Costs

Volvo offers a wide range of solutions to help you control the cost of your operations. With a tailored maintenance and repair agreement (Customer Support Agreement) your costs will be known upfront and can also be financed, alongside the cost of your machine, via your dealer.

It is also a fact that your operator and the site layout have a very high impact on the total running cost of your machines. Through operator training programs we can ensure that the operator run the machines in the most efficient way not only reducing fuel consumption and CO2 emissions, but also minimising the risk for potential machine damage.

Using the Volvo SiteSim tool, your Volvo Construction Equipment dealer can even help you optimise your site in order to increase efficiency of operations.

# Global reach, local delivery

Volvo CE dealers are present in every major market in Europe (including Russia), the Middle East and Africa. They are there to support you and your business. From supplying machines to maintaining your operations, they can be a one-stop-shop for your operational needs.

Hundreds of customers across the Europe (including Russia), the Middle East and Africa region use Volvo Construction Equipment to complete their job on time and on budget. But don't take our word for it. Take the word of our customers.



“ We're currently leasing the machine from Swecon and since they have a workshop here in Kiruna, the service is excellent. They can send out specialist service personnel fairly quickly which makes a huge difference.

**Johan Pettersson**  
NCC Roads Site Manager  
Sweden

“ The machine is well designed, with all the filters grouped together and easily accessible. The access walkways are also well done. It's a machine that inspires confidence.

**Stephane Ercoli, Chief Engineer**  
Spiecapag, France

“ Volvo Construction Equipment Morocco responds quickly to every call, which underlines the organization's customer focus.

**Zihni Akyol, Machinery & Equipment Manager for Tekfen Construction, Morocco**

“ Our machines perform like new thanks to the fact that we service them on schedule. All of the service and repair items used in the machines are Genuine Volvo Parts resulting in the equipment's efficiency and low fuel consumption. It's always reliable, with less down time and operators like the comfort and safety of the cabs.

**Joseph Titus Glover, CEO**  
Justmoh Group  
Ghana

“ The most important factor in choosing heavy equipment is fuel economy. This is as important as quality and speed when you're using machines of the size that we do. That's why my preference is Volvo – it ticks all the boxes for me, offering the quality, power and speed I need – but still giving me excellent fuel efficiency.

**Erol Yüce, president,**  
**Yüce Maden, Turkey.**

“ Our operators are happy with these machines. FAMCO provides all operators with training and general assistance, so our people feel confident working with Volvo equipment. We are also impressed with how CareTrack can improve performance on site – the telematics system allows us to assess and adjust operator and machine behaviour to help us maximise our working day.

**Saad Kamel Efat, General Manager**  
Bin Lahej Crushers, UAE





**VOLVO**

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