# TAKE CONTROL RIGHT HERE, RIGHT NOW.

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CONVERT TO SUSTAINABLE TRAVEL



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29/1/18 8:44 am

Central Stasjon

SCANIA

## THE CHALLENGE

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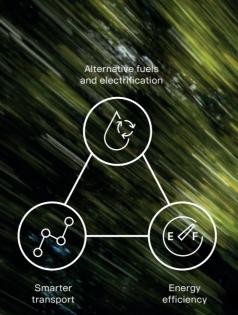
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# MUTE KEALL DAY

As the world's population grows, more people are flocking to cities to work and to live. Consequently, traffic congestion is stealing hours of productivity and reducing the quality of life for millions. Unless we act now, moving people in and between urban areas will be even harder tomorrow.

Our planet also struggles with serious health problems like pollution and climate change from local and global emissions. We need cleaner, sustainable ways to get around. The good news is the transition to alternative fuels and electrification can help clean up the air while contributing to local energy security and job creation. We know this because we are doing it today. With over 100 years of experience providing fuel-efficient, clean-running vehicles, we are proud to offer the industry's widest range of cost-effective, ready-to-go, alternative-fuel travel solutions today. But we bring more than attractive buses and coaches with reduced CO<sub>2</sub> and particulate emissions. We have all the expertise needed to help you create a sustainable urban, suburban and regional transport solution to be proud of already now. Please read on. No one likes to wait.

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THE CHALLENGE

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# TIME TO CLEAR THE AIR

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Today, the transport sector is a major source of global  $CO_2$ emissions as well as local particulate and NOx emissions. That means we can also be a major contributor towards reducing these emissions and improving air quality, today.

At Scania, we believe the best way to clear the air depends on active participation in three key areas: Smarter transport, Energy efficiency, Alternative fuels and electrification. This trio also presents the most practical, cost-effective and immediate way forward. All three are essential to your success.

It does not have to come with a big price tag either, since with Scania – being sustainable also means being profitable. For that, emission reductions must come with the best total operating economy. That's why a tailored Scania solution holistically promotes lowering fuel consumption from energy-efficient vehicle technologies, better logistics and more efficient driving. Using the most cost-efficient alternative fuel available is also essential. With our partners, Scania supplies turnkey solutions for both vehicles and fuels. We use locally produced sustainable biofuels, or even turn sewage and organic waste into biogas, bioethanol or biodiesel to power local fleets. Not only are local jobs created but this local source of cleaner energy also reduces dependence on oil imports. Shifting to alternative fuels also means that you could leapfrog to Euro 6 – the cleanest emission standard available. The idea is to make it so everyone can breathe a little easier. Right now.



#### ALTERNATIVE FUELS & ELECTRIFICATION

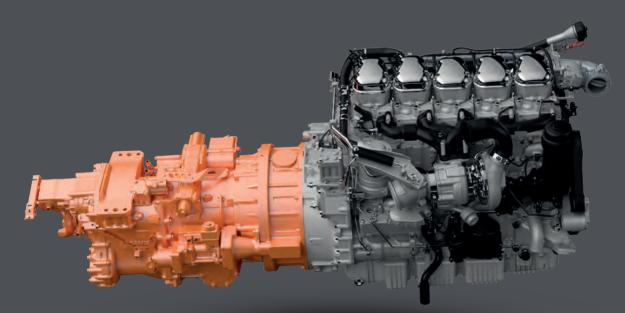
## DIESEL POWER WITHOUT DIESEL FUEL

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Today, renewable fuels cost-effectively deliver the driveline performance and reliability that demanding customers expect while also significantly reducing CO<sub>2</sub> emissions. That is sustainability on a daily basis.

To have a competitive, total operating economy extremely high uptime is required. That is where our durable and modular driveline design philosophy plus a well-established global supply chain of parts and service all help to keep your entire fleet running clean. Over three decades ago Scania began modifying diesel drivelines to efficiently run on lower-grade biodiesel blends and 100% bioethanol. Today, our robust drivelines and modular design technology give customers dependable, commercially viable options with five alternative fuels, some of which are available in electric hybrid combinations – or a fully electric drivetrain with multiple charging options.

With unmatched experience and expertise, Scania's full range of drivelines make a significant contribution to the reduction of  $CO_2$  emissions from well-to-wheel. Scania is also pro-active in supporting the development of an efficient infrastructure to support each alternative fuel type. The idea is to make the switch to sustainable passenger transport solutions as smooth a ride as possible.



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66%

Reduction in

CO<sub>2</sub>-emissions



Biodiesel (or FAME as in Fatty Acid Methyl Ester) can be made from various sources like rapeseed, plants, and waste cooking oil. Having the advantage of being fairly simple to produce, biodiesel is available in large quantities. The supply of biodiesel is primarily being used for blending in diesel, but is also available in its pure 100% form. Compared to standard diesel, an optimal CO<sub>2</sub> reduction can reach up to...



Reduction in CO<sub>2</sub>-emissions

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#### Biogas

Biogas can be produced from a number of sources, but the most cost efficient and sustainable source is local sewage or waste. Biogas consists of the same molecule as natural gas, but biogas is renewable and natural gas is fossil. The two can be used in parallel. It can be stored either in compressed form (CBG) or in a cooled down liquid form (LBG). Compared to standard diesel, an optimal  $CO_2$  reduction can reach up to...



CO<sub>2</sub>-emissions



Reduction in CO<sub>2</sub>-emissions

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Hydrogenated Vegetable Oil (HVO) is a modern way to produce high quality bio-based diesel fuels without compromising fuel logistics, drivelines, exhaust after-treatment devices, or exhaust emissions. HVO can be made from different sources e.g., waste oil, rapeseed oil and animal fat. Using these sources of energy has a great impact on the total greenhouse gas savings. Compared to standard diesel, an optimal CO<sub>2</sub> reduction can reach up to...

#### Natural gas

Natural gas is methane gas found in pockets in the Earth's crust. It is extracted from separate gas deposits, or in connection with oil extraction. Natural gas is a fossil fuel, but since the methane molecule contains only one carbon atom the emitted amount of CO<sub>2</sub> during combustion is smaller, compared to a standard diesel engine. Natural gas and biogas can be used in parallel. It can be stored either in compressed form (CNG) or in a cooled down liquid form (LNG). Compared to standard diesel, an optimal CO<sub>2</sub> reduction can reach up to...



Reduction in

CO<sub>2</sub>-emissions

#### **Bioethanol / ED95**

Bioethanol is the most widely used biofuel in transport today. It is also the fuel that is most likely to be able to supply both large and sustainable volumes in the future. A major advantage is that it is a liquid and available in large volumes globally. It can be produced from a variety of sources like sugar cane, wheat, cellulose and organic waste. In addition, bioethanol is comparatively easy to produce, even on a small scale. When bioethanol is used in the Scania diesel-type engine, the fuel is known as ED95. Compared to standard diesel, an optimal CO<sub>2</sub> reduction can reach up to...



Reduction in CO<sub>2</sub>-emissions

#### Hybrid

Both an electrical driveline and a traditional engine using a sustainable biofuel power the hybrid. This greatly reduces the fuel consumption that, in turn, leads to lower emissions. Also, noise levels are reduced. The biofuel hybrid delivers the highest fuel savings in suburban type traffic, where average speeds are higher. In a typical city, this is also where most of the fossil fuel use and  $CO_2$  emissions are found, which makes the biofuel hybrid the perfect choice for cost-efficient  $CO_2$  reduction in suburban areas. Compared to standard diesel, an optimal  $CO_2$  reduction can reach up to...

\*The estimate refers to a hybrid and HVO combination.



#### **Full electric**

A fully electric driveline provides a high torque low noise vehicle perfectly suited for shorter range city transports, where both conductive and inductive charging infrastructure can ensure continuous operation without local emissions. Compared to standard diesel, an optimal CO, reduction can reach up to... Renewable electricity 98%

Reduction in CO<sub>2</sub>-emissions

Reduction in

Global

grid-mix

37%

CO<sub>2</sub>-emissions

Reduction in CO<sub>2</sub>-emissions

Fossil

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# WEAREALLIN

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Every journey is different but the goals are the same: Finding the best way forward to sustainable travel.

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# HSTOGETHER

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**OPERATIONS & OPTIONS** 

## TAKE COMFORT WITH THE WIDEST RANGE OF POSSIBILITIES

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For flexible operations, cost-effective solutions, ultimate comfort and a lower carbon footprint, Scania provides the widest range of buses in the world.

Whether you operate city, suburban, BRT, intercity or coach routes, Scania's environmental approach is to help you do more with less fuel. In addition, we can always find a solution to power your fleet with a clean biofuel, produced locally. The world's broadest range of ready-to-go Euro 6 gas, hybrid, bioethanol, biodiesel and HVO buses and coaches is ready to serve. Let's work together to improve commutes and reduce  $CO_2$  and other emissions.

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## CITY/SUBURBAN

From stop-and-go city traffic to higher speed suburban routes, there is a Scania bus perfect for every route. Our city and suburban buses are built to operate 24/7/365-year after year-providing comfortable, reliable, public transportation services that are attracting more people to travel by bus.

	Available options
Ò	Biodiesel
Ò	Biogas
Ò	Bioethanol ED95
Ò	HVO
Ġ	Hybrid
Ò	Natural Gas
4	Hybrid/Electrified



## INTERCITY

From scheduled airport shuttles to long-distance routes, Scania intercity buses deliver cost-effective travel for more passengers every year. Whether for shorter routes where maximum passenger capacity is important or for longer journeys to-and-from cities where seated comfort and luggage space are priorities, our madeto-order attention to detail sets the standard. Ask anyone who drives one.

#### Available options 後 Biodiesel 👌 Biogas 🏈 Bioethanol ED95 🎸 нио Û Hybrid Ò Natural Gas Ø Hybrid/Electrified

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## **BUS RAPID TRANSIT (BRT)**

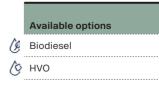
From custom-tailored buses to dedicated bus lanes, Bus Systems by Scania are the fastest way to reduce today's chaotic traffic congestion. Our integrated system is increasing ridership and improving passenger satisfaction by cutting commuting time significantly - in some cases saving travellers hours each way. When more people have a viable option to leave their cars behind and take the bus to work, people start to reclaim their cities from cars and parking lots.

	Available options
Ò	Biodiesel
Ò	Biogas
Ì	Bioethanol ED95
Ò	HVO
Ġ	Hybrid
Q	Natural Gas
6	Hybrid/Electrified

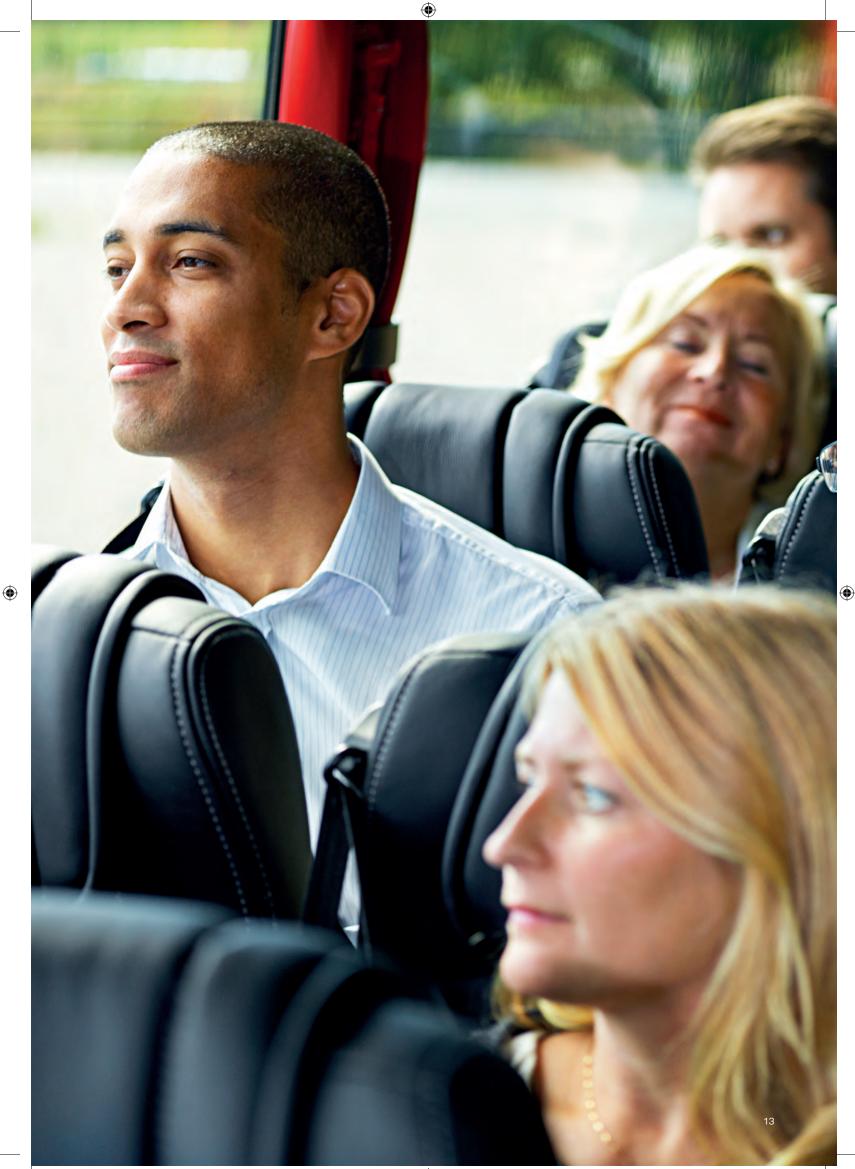


## OCCASIONAL SERVICE

From local sightseeing tourist trips to longer distance international adventures, Scania coaches are world-class examples of sustainable travel. The well-designed and ergonomic driver's area lets drivers enjoy their work with confidence so everyone can enjoy a safe, relaxing journey. With high comfort levels and many possibilities to customise the passenger experience, more travellers - who might otherwise fly or drive themselves - are discovering the benefits of travelling by coach.



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ENERGY EFFICIENCY

# **REDUCE CONSUMPTION**

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With a proud history of over 100 years as a leading manufacturer of reliable, fuel-efficient powertrains and with a unique understanding of today's specific passenger transport needs, Scania is miles ahead and still taking fuel efficiency further. We know the smartest way to reduce emissions is to burn less fuel. We can help you do that and lower your total cost of passenger transport here and now. Here's how:

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#### **Optimised specification**

The bus is specified to perform in a way that reduces fuel consumption without compromising engine power. The process covers areas such as choice of engine, gearing, support systems and possible usage of alternative fuels.

#### **Optimised driving**

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Education is usually a long-term investment but when it comes to driver training, the results will show right away. An optimised training typically reduces fuel consumption by up to 10% or more. Scania also offers innovative technical solutions that can help drivers drive more economically. For example, Scania's Cruise Control with Active Prediction uses known topological data of the road ahead to optimise a vehicle's speed, saving fuel.

#### **Optimised maintenance**

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Regular maintenance will keep the vehicle in the best possible condition. The programme can include checks of tyre pressure and tyre status, axle alignment and more. All these actions contribute to reduce fuel consumption further.

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SMARTER TRANSPORT

# A FASTER WAY TO WORK

The fastest way to relieve traffic congestion is to get people out of their cars and into buses.

#### **Reduce congestion**

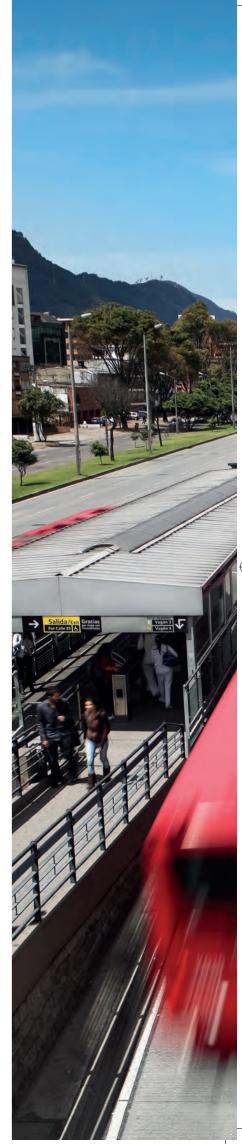
One bus can take 60 cars off your streets. Bus Systems by Scania can be implemented in stages, one step at a time. It's flexible, so creating a Bus Rapid Transit (BRT) system will not paralyse your city, nor break the bank – we can help with financing. Like a subway system, a BRT system has many advantages to speed travel, like faster fare collection and boarding, yet it won't take 30 years to build.

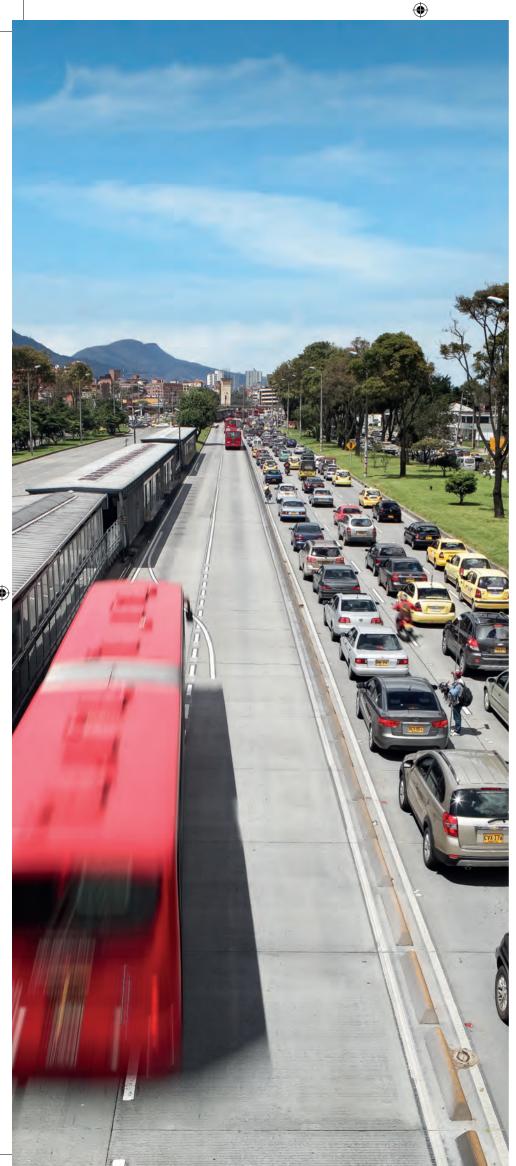
#### Improve commutes

A successful BRT project is bigger than a great bus. It requires expertise from traffic and infrastructure planning to system analysis and optimisation. And perhaps most importantly, it requires a seamless fare collection concept that speeds bus stops and encourages ridership while funding all the above. Scania can bring every competence you need right now to make your vision of a better commute a reality fast.

#### Get connected

Today, data drives change so all Scania vehicles are built to travel the internet, too. With Scania webconnected services, you can gather actionable business intelligence in real-time for immediate and long-term analysis. For example, with Scania's Fleet Management Services, you can monitor each vehicle in your fleet regardless of make. You'll get detailed monthly reports that make it easier to spot trends and find opportunities for continuous improvement. What's more, connected buses let waiting passengers know when the next bus will arrive, increasing rider satisfaction with your service.





### SUSTAINABLE TRAVEL TAKE CO₂NTROL. RIGHT HERE, RIGHT NOW

With Scania, switching to a sustainable passenger transport solution is easy. Just phone your local Scania representative. The process that follows has three simple steps

#### Step 1

**The meeting** Initially, the local Scania representative will arrange a meeting to hear about your passenger transport situation and to discuss what Scania can offer.

#### Step 2

#### The analysis

If you decide to proceed with Scania's offering, a Scania expert will take a closer look at your operation. We will discuss the necessary measures needed to tailor-make a solution to your operation's specific needs. This meeting can include all parts involved in today's passenger transport solution.

### Step 3

#### The switch

Finally, Scania implements the agreed solutions such as new buses running on alternative fuels, energy saving actions and ways to make your passenger transports smarter, cleaner and  $CO_2$ -efficient.

Now you're moving sustainably.

Contact your local Scania representative for more information.

ON THE ROAD

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## SUSTAINABILITY AROUND THE WORLD

Learn more about how Scania transport solutions are at work right here, right now, with these progressive partnerships from around the world. Their full stories can be found on scania.com



Jakarta, Indonesia – 10M pop. In a major city like Jakarta, gridlock is all too common – and convincing more people to commute by bus is crucial. Comfortable, reliable Scania buses are part of the attraction. During 2015, the first of more than 100 Scania gas buses were introduced on the downtown No. 1 bus system corridor. The shift from running old diesel engines, to the much cleaner Euro 6 gas buses has been a major step towards cleaner and healthier air for the city of Jakarta. And on top of that, the comfortable Scania buses immediately became so popular that passengers would rather let other buses go by to wait for a Scania bus. Through positive word of mouth from passengers, more people are moving from their own private vehicles to public transportation.







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#### Nagpur, India – 2.5M pop.

Of the world's 20 most polluted cities, 13 are found in India But through active co-op with local authorities and partners, Scania has supported the process of replacing fossil diesel with local sustainable biofuels

Through the planning of a large pilot facility for 100 bioethanol and biogas buses in the major city of Nagpur, Scania is taking a big step to help reduce India's enormous environmental problems. The dependence on imported oil and natural gas - by far the biggest burden on India's national budget - is also reduced by manufacturing biofuels from waste and residual products. Keeping the environment cleaner, and creating new jobs at the same time.





#### Accra, Ghana - 4M pop.

Like many major cities in developing nations, the traffic problems of Ghana's capital city Accra are growing faster than their budget to deal with them. But through a progressive partnership with Scania including long-term financing - a comprehensive BRT system was rolled out with 245 connected buses, cash-free ticketing system, service and maintenance as well as training for 600 bus drivers. All in just 2 years.

In addition to improving mobility and traffic flow - the climate and environmental aspects add up to good business.



Cartagena, Colombia - 1M pop. The search for the right provider of sustainable transport solutions begins with finding proven expertise. With existing successful low-emission solutions running in multiple cities around the world - Cartagena selected Scania as the exclusive provider for two trunk lines of the city's Bus Rapid Transport (BRT) system.

With 147 Scania Euro 6 gas buses, Cartagena is the first city in Colombia with a bus rapid transit (BRT) system running on gas. And combined with Scania Fleet Management system providing real-time data in areas such as fuel-consumption, routes taken, service needs, and driver behaviour, Cartagena is on pace to set a new benchmark for sustainable transport in Colombia.

Scania pursues an active policy of product development and improvement. For this reason the company reserves the right to change specifications without prior notice. Furthermore, due to national or EU legal requirements, some products and services may not be available in all local markets. For further information in these respects, please contact your local dealer or visit www.scania.com.au

#### Scania Locations

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