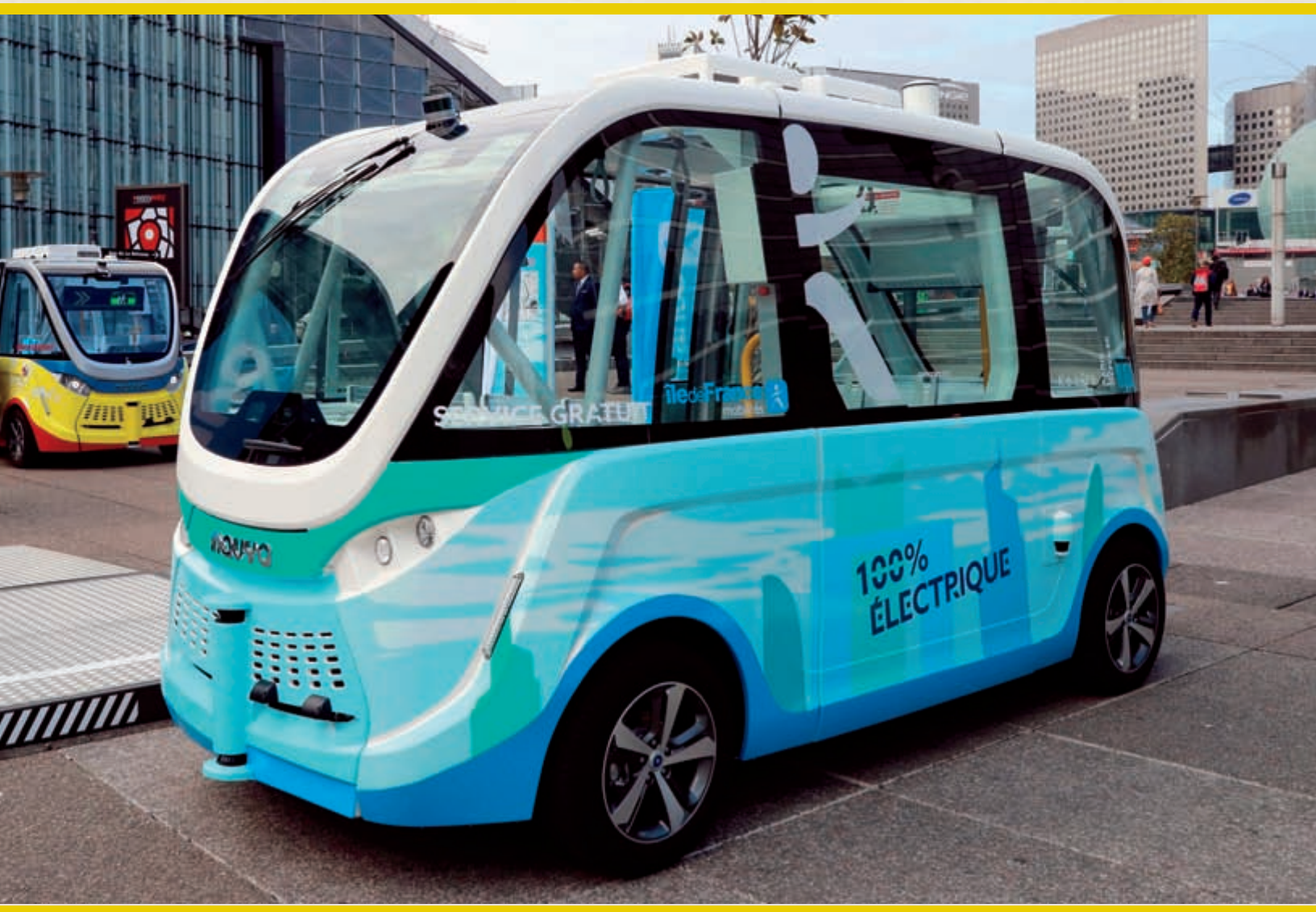
FUTURISTIC ELECTRIC Buses

Kerrily Sapet



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Words in **bold** throughout can be found in the Glossary.

Chapter One

A CARRIAGE FOR ALL

Cities have always been crowded and dirty. Ancient Romans complained about traffic and pollution 2,000 years ago. Horse-drawn carriages jammed streets long before cars and buses. Horse manure piled up. It stuck to people's shoes and attracted clouds of flies. Streets became busier and smellier as more people moved to cities.

In 1662 in France, Blaise Pascal invented the omnibus—a "carriage for all." While most carriages only held a few people, Pascal's omnibus could seat eight people. This new invention spread to other cities. By the 1800s, double-decker omnibuses, pulled by horses, carried 42 passengers. The word "omnibus" was shortened to "bus."

An invention by Carl Benz changed transportation forever. As Benz rode his bike to school over the muddy hills of his hometown in Germany, he dreamed of an easier way to travel—a "horseless carriage." Benz, like his father, was

good at building machines. Benz designed a gas engine and, in 1885, he used it to power the first car. That car looked like a large motorized tricycle. Few people could afford a car though. Gas was only sold at drugstores for cleaning.

Benz looked for other uses for his engine. "The love of inventing never dies," he said. Benz attached the engine to a carriage with seats for eight people and a driver. His invention became the world's first motorized bus. Soon Benz's company was building buses with stronger engines that could go faster and carry more people.

News of Carl Benz's inventions spread fast. Other inventors used the technology in their own designs for cars and buses. They built more powerful engines, better tires, and tougher and safer vehicles. By the 1930s, buses looked much like they do now. There are single buses, double-decker buses, trolley buses, and even buses that link together.

Passengers aboard a bus in Queensland, Australia, around 1930

CHAPTER ONE

London's famous double-decker bus

Billions of people around the world ride buses to work and school. They hop aboard buses to shop and to visit friends. Passengers may travel a few city blocks or thousands of miles. Buses are inexpensive to ride. They carry many people, which lessens traffic. But most buses run on gasoline or diesel fuel, which is made from **fossil fuels**.

Fossil fuels are formed from the remains of plants and animals that died millions of years ago. They are a **nonrenewable resource**. Once they're used up, they're gone. Fossil fuels must be burned to make energy. When fossil fuels burn, they release carbon dioxide. A diesel bus releases one pound of carbon dioxide into the air every mile. The carbon dioxide builds up in the Earth's atmosphere. It traps heat from the sun and causes **climate change**.

When engines burn fossil fuels, particulates, tiny pieces of leftover fuel, escape into the air. Particulates may be thinner than a hair, but they add up to billions of tons of air pollution. Breathing polluted air can cause asthma, lung diseases, and other serious health problems.

Air pollution contributes to millions of deaths each year. People around the world are working to stop the pollution caused by buses. Many believe electric buses are the answer.

Fun Facts

1. **About 2.4 million people ride the bus every day in New York City.**
2. **Schools close and people stay inside on days when pollution makes the air unsafe to breathe in some cities.**