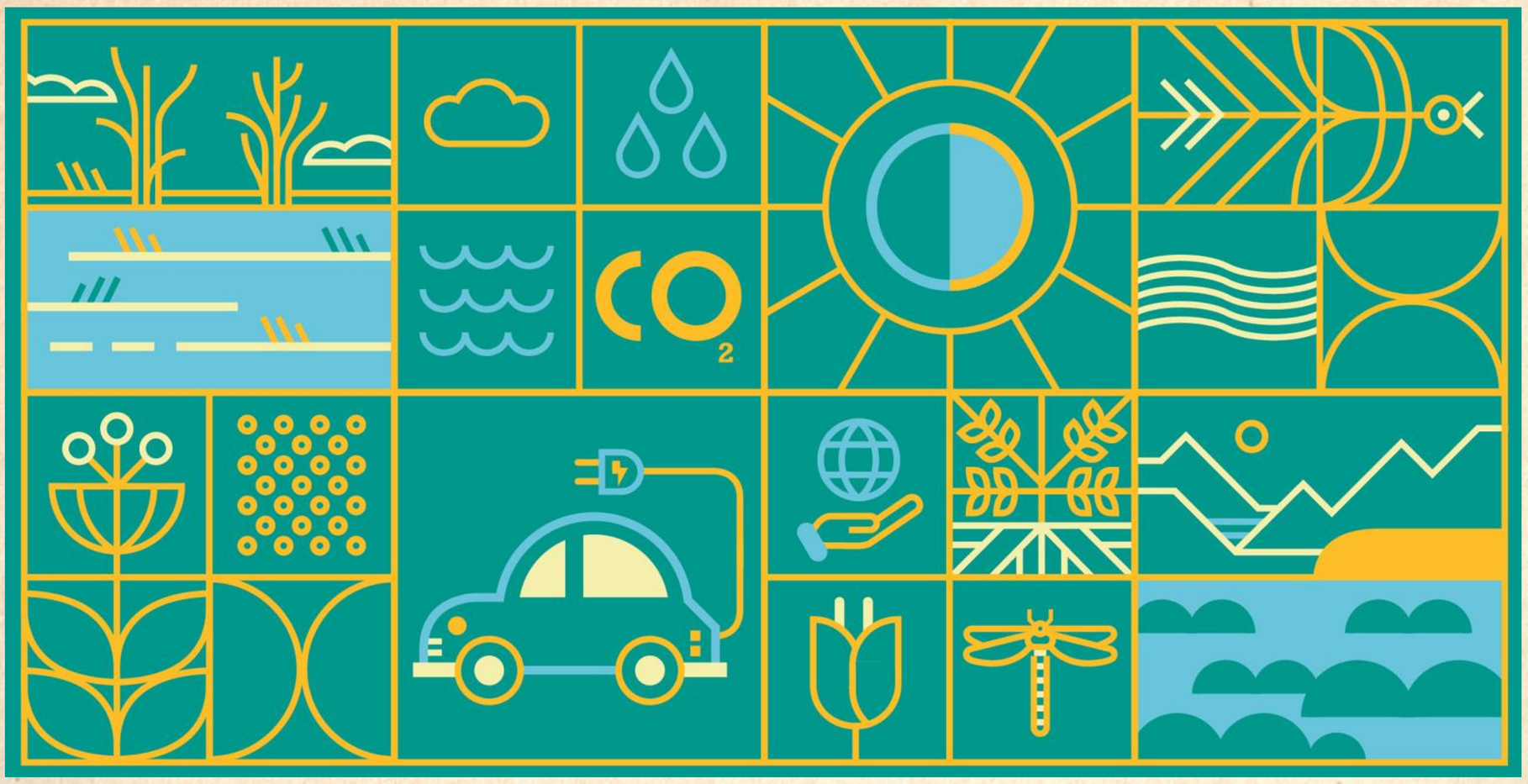
unesco
Man and the Biosphere Programme

# Sustainable Mobility in UNESCO Biosphere Reserves




Supported by
VOLKSWAGEN
AKTIENGESELLSCHAFT

# What is the Man and Biosphere Programme ?

**An intergovernmental programme with the objective of establishing a scientific foundation to improve the relationship between human beings and the environment**



Supported by
VOLKSWAGEN
AKTIENGESELLSCHAFT

# What are biosphere reserves ?

## Biosphere Reserves are learning sites for sustainable development

**Territories of innovation:** Research to better understand and manage the **changes and interactions** between social and ecological systems, including for the **prevention of conflicts** and **biodiversity management**.

**Idea incubators:** Solutions in biosphere reserves demonstrating the link between **sustainable developement, resilience to climate change** and **biodiversity conservation**.



Supported by
VOLKSWAGEN
AKTIENGESELLSCHAFT

# The World Network of Biosphere Reserves | 2022-2023

**738**

## Biosphere reserves

**Present in 134 countries**

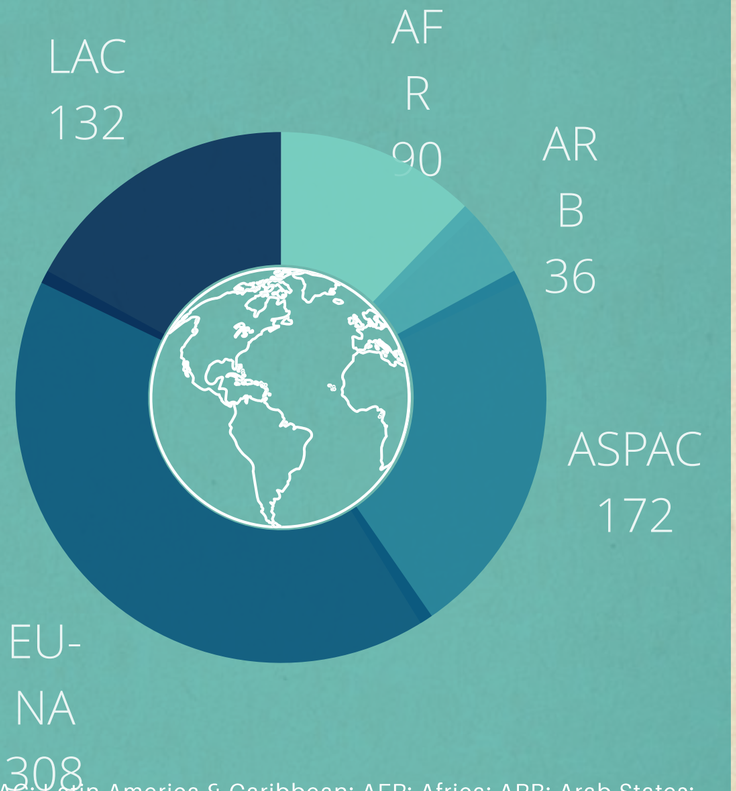
**22 Transboundary** Biosphere Reserves

3 in Africa, 12 in Europe & North America, 3 in Latin America & the Caribbean

**2 Transcontinental** Biosphere Reserves

Intercontinental del Mediterraneo (Europe/Arab States) and Great Altay (Europe/Asia & Pacific)

## Distriution




LAC: Latin America & Caribbean; AFR: Africa; ARB: Arab States; EU-NA: Europe & North America; ASPAC: Asia & Pacific

## Home to 276 million people

**5%**

of the world's land surface

Strictly protected core areas amount to **1,333,710 km2**, a surface area larger than Peru

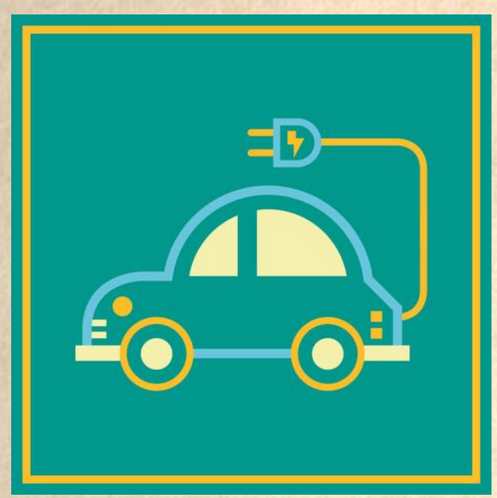



Supported by VOLKSWAGEN AKTIENGESELLSCHAFT

# Electric mobility: a global issue

- **Paris Agreement:** limit the global temperature increase in this century to 2 degrees Celsius while pursuing efforts to limit the increase even further to 1.5 degrees
- Transport sector contributes to almost a quarter (23%) of current GHG emissions related to energy
- **Need for change**, which includes the development of an integrated system of electric mobility
- Need to reach **electrification of at least 20% of all road vehicles globally** by 2030 (IEA, 2021)
- The use of electric vehicles can **reduce between 17 to 30% of GHG emissions** compared with combustion engine vehicles

# Electric mobility around the world

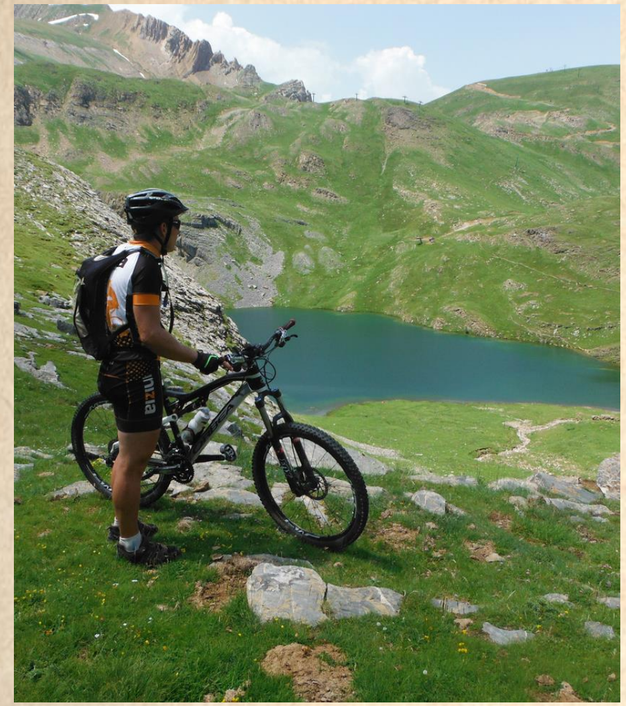


- In 2022, **7.8 million** electric vehicles were sold around the world, representing a **68% increase from 2021** and 10% of all car sales worldwide
- Each week, more electric cars are sold than in 2012
- The number of electric cars on the road worldwide reached **16.5 million** at the end of 2021, tripling the amount for 2018
- The electric vehicle market in Spain **reached 8%** of national car sales

Sources: World perspectives for electric vehicles in 2022, International Energy Agency
ANFAC, Electric Mobility Barometer, 2022
(Wall Street Journal, 2023)

# Electric mobility in the WNBR

## In 2022, a Swiss study on improving the quality of life in biosphere reserves and natural parks gave the following results:



- Electric mobility (e-scooters, e-bicycles y e-cars) can support and promote rural mobility
- Does not affect quality of air
- Reduces drastically acoustic nuisances
- Proposal that management bodies of biosphere reserves and natural parks survey municipalities about introducing mobility alternatives that are sustainable and digital, and seek cooperation with electric vehicle providers

Fuente: Wiesli, T.; Hammer, T. Knaus, F. (2022) Improving quality of life for residents of biosphere reserves and nature parks: management recommendations from Switzerland.

# Facing the impact of climate change


**In 2021, UNESCO, in partnership with Volkswagen, introduced a project to support biosphere reserves in Europe with biodiversity recovery and climate change mitigation**

***Promote the exchange of knowledge and good practices***

Five biosphere reserves in **Germany, Poland and Spain** received **funding and technical support** to implement activities to **restore biodiversity**, promote **environmental education** and encourage a **transition towards electric mobility**.

# Transition to electric mobility in Spain

In Spain, project activities are focused on sustainable mobility to **reduce pollution and mitigate the impact of climate change** in the following biosphere reserves:

- Bardenas Reales
- Valles de Jubera, Leza, Cidacos y Alhama
- Ordesa-Viñamala

Activities began in Spain with the first technical webinar, supported by OAPN, on 14 April 2021:

"Electric mobility in Spanish Biosphere Reserves"



Supported by
VOLKSWAGEN
AKTIENGESELLSCHAFT

# Facing the impact of climate change

© Shutterstock

## Valles de Jubera, Leza, Cidacos y Alhama

- Strategy to promote sustainble mobility within the territory
- Preparation of materials to **raise awareness on sustainable mobility** and training workshops
- Design **4 interpretative trails**

© Valles de Jubera, Leza, Cidacos y Alhama Biosphere Reserve

## Bardenas Reales

- **Feasibility study** on the installation of electric chargers within the territory
- Replace at least **one official vehicle** by an electric car

© Esteban Anía-PNOMP

## Ordesa-Viñamala

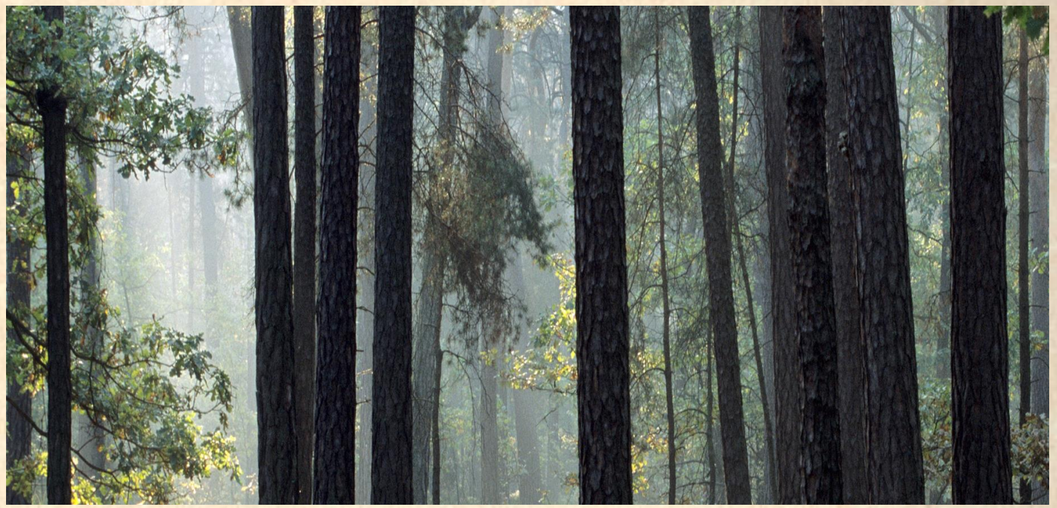
- Launch an **education and awareness-raising programme** on climate change
- **Participative process** for a comprehensive plan for sustainable mobility within the territory
- Purchase of an electric vehicle

# Facing the impact of climate change

© Schaalsee Biosphere Reserve, Wet grassland near Hakendorf

## Schaalsee, Germany

- Improve the **water supply** for the raised bog by closing trenches and pushing back the forest
- The measure will benefit approximately **131 ha** (43 ha high bog; 88 ha low bog)
- Healthy peatland acts as a carbon sink for 250 to 350 kg of carbon per hectare per year



© G Okolow, Kampinos NP fresh pine forest

## Puszcza Kampinos, Poland

- **Re-vegetation of the drainage system** contributing to the protection and restoration of wetlands and restore biodiversity
- Reintroduction of **plant species**, either extinct or in danger of extinction in the area
- Conduct a **comprehensive review** of the equipment and studies necessary to a nature inventory

# Challenges & Lessons Learnt

- Inhabitants not living in urban areas have lower interest in purchasing electric vehicles, due to limited autonomy and low number of charging stations in rural areas
- Long distances: Total time used o lost for recharging during a journey
- Infrastructure for recharging is a critical factor for electric mobility
- Future increase will rely on efforts to diversify battery manufacturing and supply of critical materials
- A just energetic transition should leave no one behind
- Visibility and communication

unesco

Man and the Biosphere Programme

# Thank you !

## Website



Supported by

VOLKSWAGEN
AKTIENGESELLSCHAFT