**EUROBAT** 

The Association of European Automotive and Industrial Battery Manufacturers

Promoting European manufacturing of batteries for a competitive and sustainable Europe

www.eurobat.org

eurobat@eurobat.org @eurobat\_org tel: +32 7611653

EUROBAT REPRESENTS
THE MANUFACTURERS OF ALL BATTERY TECHNOLOGIES

NICKEL BASED LEAD BASED LITHIUM BASED SODIUM BASED **ADVANTAGES** ADVANTAGES

Low production cost, proven technology, sustainability

**ADVANTAGES** High energy density, low weight Long life, reliability **APPLICATIONS** 

**ADVANTAGES** High energy density, low weight









EUROBAT - |-Promoting European manufacturing of batteries for a competitive and sustainable Europe







AUTOMOTIVE AND INDUSTRIAL BATTERY MARKET



IN EUROPE

MPLOYEES





in Europe, with materials used to manufacture new batteries and other applications

90% average recycling efficiency for lead-based batteries treated

> 5% of lead in European lead-based

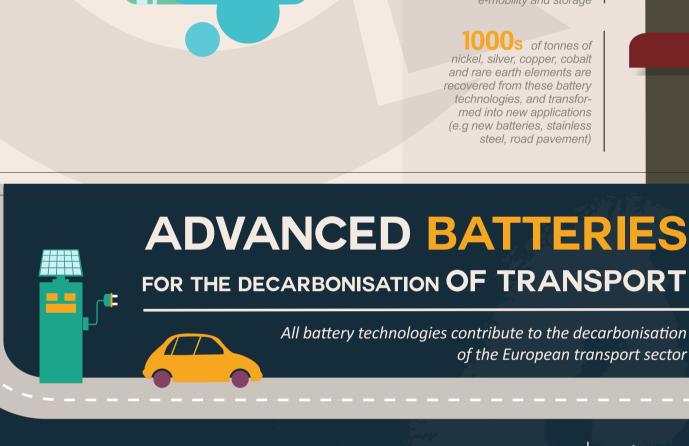
batteries is now produced from secondary sources High recycling efficiency for nickel and sodium-based batteries, with recycling process for lithium-ion batteries developing strongly in line with growing markets for

e-mobility and storage

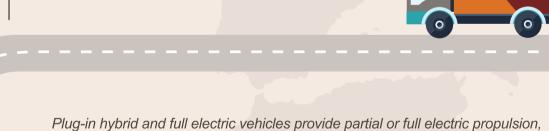
000s of tonnes of nickel, silver, copper, cobalt and rare earth elements are recovered from these battery technologies, and transformed into new applications

(e.g new batteries, stainless steel, road pavement)

of the European transport sector



Lead-based batteries are the only viable mass market for starting lighting and ignition functions, as well as start-stop systems. Micro hybrid start-stop systems IMPROVE FUEL EFFICIENCY BY 5-10%, contributing to 700-1600 KG OF CO2 SAVINGS across the vehicle lifecycle.



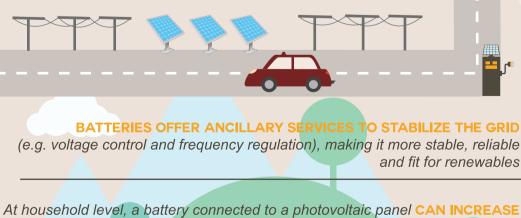
ALLOWING ZERO TAILPIPE EMISSIONS IN ELECTRIC MODE

HYBRID VEHICLES use batteries of various technologies to provide regenerative braking and electric propulsion



BATTERIES CAN STORE ENERGY PRODUCED BY SOLAR AND WIND FARMS

and release it into the grid when it is needed



ENERGY

Emission and noise reduction

An innovative sector with a potential to become even bigger

Lead,
lithium,
sodium and
nickel-based
batteries with
their own
specific
features that
are fit for
specific
types of
applications

..... AND DIGITALISATION

TLC/UPS

Europe leading these markets providing constant

Telecommunications - Uninterruptible power supply Providing additional

services to the owners such as autonomy and electricity quality control

technological innovation

200 kVA providing back-up for 5 minutes to several hours or days

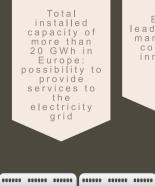


MOTIVE POWER





THE PERCENTAGE OF SELF-CONSUMED ELECTRICITY FROM 30 TO 70%.







Europe leading these markets and constantly innovating

including for instance conventional power plants and hospitals

**BATTERY FOR EMERGENCY BACK UP** 

with reaction times below 20 micro seconds, can be sized from 1,5kVA to

AC stand-by, line interactive A major market is the and double conversion UPS emergency back-up power batteries in a variety of applications with reaction time below 20 ms,