



## MISSION AND VISION STATEMENT

The vision of the European Partnership for Batteries (BATT4EU) is to establish by 2030 in Europe the best-in-the-world innovation ecosystem to boost a competitive, sustainable and circular European battery value chain and to drive the transformation towards a carbon-neutral society.

By pooling Europe's resources and knowledge, only a partnership – a long-lasting and coordinated effort involving industry, research and the public sector – can bring predictability to the EU battery value-chain stakeholders.

## KEY FACTS AND FIGURES

**Horizon Europe Pillar and Cluster:** Pillar II – Cluster 5: Climate, energy and mobility

**Type of partnership:** Co-programmed

**Coordinating entity:** Batteries European Partnership Association (BEPA)

**Total estimated budget:** EUR 1.85 bn

**EU commitments:** EUR 925 m

**Partners' commitments:** EUR 925 m

**Predecessor under Horizon 2020:** This is a new partnership

## FIND OUT MORE

[www.bepassociation.eu](http://www.bepassociation.eu)

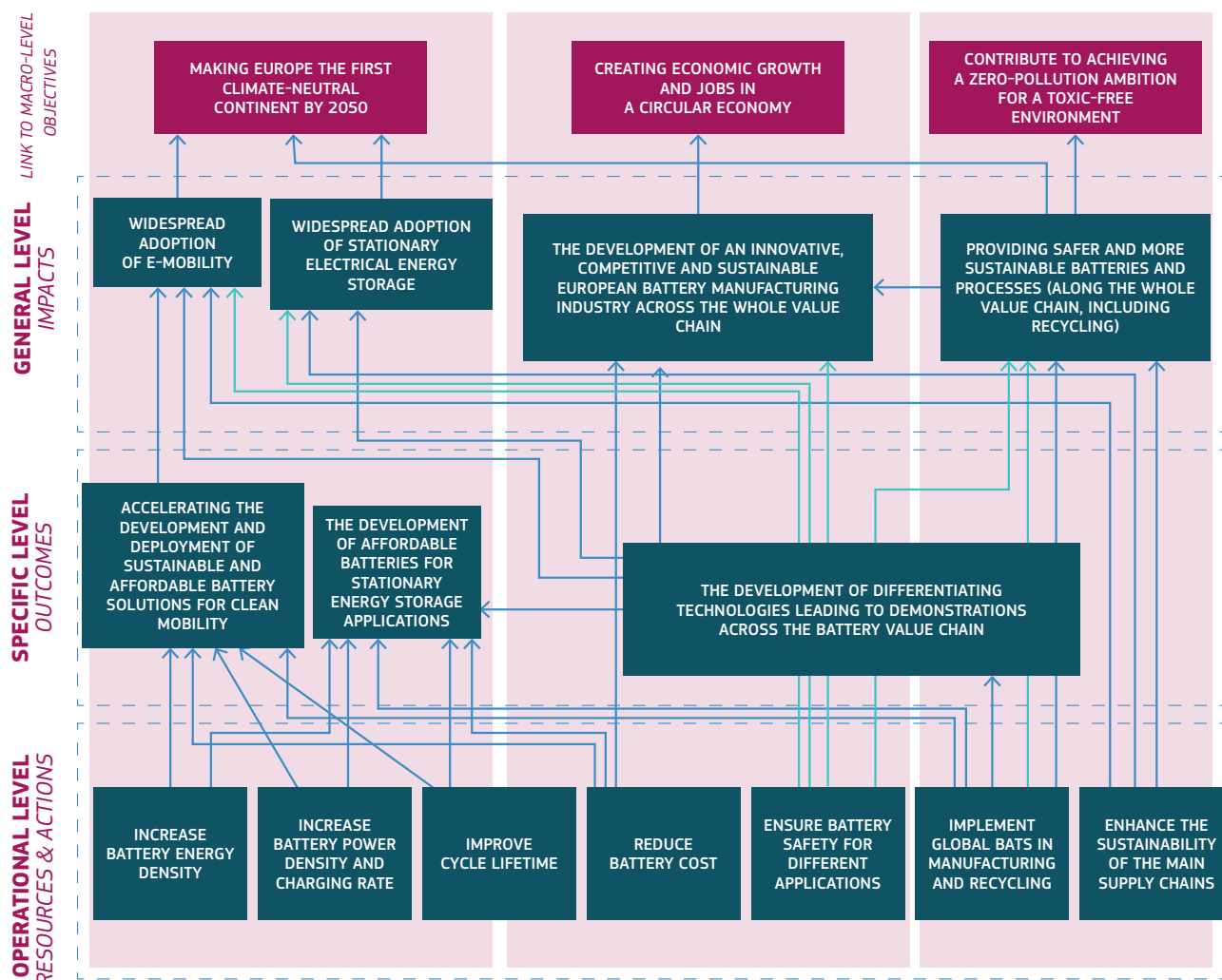
[in https://www.linkedin.com/company/bepa-batteries-european-partnership-association](https://www.linkedin.com/company/bepa-batteries-european-partnership-association)

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[✉ info@bepassociation.eu](mailto:info@bepassociation.eu)

## PARTNERSHIP SPECIFIC IMPACT PATHWAY (PSIP)

**BATT4EU'S VISION IS TO ESTABLISH BY 2030 IN EUROPE THE BEST IN THE WORLD INNOVATION ECOSYSTEM TO BOOST A COMPETITIVE, SUSTAINABLE AND CIRCULAR EUROPEAN BATTERY VALUE CHAIN AND TO DRIVE THE TRANSFORMATION TOWARDS A CARBON-NEUTRAL SOCIETY**



**PARTNERSHIP'S KEY PERFORMANCE INDICATORS**

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
<b>RESOURCES (INPUT), PROCESSES AND ACTIVITIES</b>						
Joint demonstration projects with other Partnerships	# of design to cost (dct) of design to energy (dte) of design to power (dtp)	0		2 dct 2 dte 1 dtp		5 dct 5 dte 3 dtp
Availability of updated/ new standard methodologies	#	TBD	N/A	N/A	N/A	TBD
Demonstration projects for stationary electricity storage	# of projects	0		3		8
New cell chemistries and archit	# of projects (TRL 4 or higher)	0		TBD		TBD
Development of innovative process technologies	# raw materials processing # recycling	0	N/A	3 3	N/A	6 6
<b>OUTCOMES</b>						
Battery performance	Gravimetric & volumetric energy densities at cell level	For BEV in 2019: 250 Wh/kg, 500 Wh/L	N/A	N/A	N/A	+60% compared to 2019 baseline
	Gravimetric & volumetric energy densities at cell level	Depends on application sector. For BEV in 2019: 750 W/kg, 1500 W/L	N/A	N/A	N/A	At least +30% compared to 2019 baseline
	Cycle life at cell level	Depends on application sector. For BEV in 2019: 1000 cycles at 80% DoD	N/A	N/A	N/A	At least x2 compared to 2019 baseline
	Cost at cell level (€/kWh)	Depends on application sector. For BEV in 2019: 125€/kWh	N/A	N/A	N/A	- 60% compared to 2019 baseline
Supply Chain Sustainability	CO <sub>2</sub> equivalent per manufactured kWh	TBD	N/A	N/A	N/A	TBD
Recycling efficiency	of Li-ion batteries in %	TBD	N/A	N/A	N/A	TBD

IMPACTS						
Widespread adoption of e-mobility	Numbers of registrations in EU of personal vehicles (PV) and commercial vehicles (CV), both electrically chargeable vehicles (ECV).	Baseline (2019 figures): ● PV 3,0 % ECV share ● CV 1,2 % ECV share	N/A	● PV 20 % ecv share ● CV 2 % ecv share (in total)	N/A	● PV: 50% ecv share ● CV: 20% ecv share
Widespread adoption of stationary electrical energy storage	Battery electricity stationary storage capacity Installed in Europe.	4GW/7GWh	N/A	15 GW / 30 GWh	N/A	40 GW / 100 GWh
EU Battery manufacturing capacity competitive with respect to the rest of the world	New battery cell manufacturing plants.	26 GWh		200 GWh/yr		400GWh (by 2028)
% of improvement of environmental impact in terms of CO <sub>2</sub> and toxic material	Reduction of CO <sub>2</sub> per kWh.	TBD		TBD		TBD

1) Measurement of the TRLs achieved at the end of EU-funded demonstration projects (for BtM and/or FtM applications), qualitative analysis of the work

2) Some objectives TBD in function of future regulations

3) Depends on application sector.

Batt4EU will monitor 19 KPIs in total over the course of Horizon Europe. In this table a selection is shown to show progress towards the general, specific and operational objectives. More information can be found in the [SRIA](#). Although the battery value chain supports many end-uses, the KPIs are generally focused on one type of application (road transport, for example). This is for ease of measurement and follows the argument that progress in one application is indicative of progress across the board.

KPIs for the uptake of battery use are of course contingent on investments on related infrastructure (grid updates, charging infrastructure), which are beyond the scope of the Batt4EU partnership.

Sustainability KPIs are generally still to be defined, as we don't want to anticipate similar KPIs which will be put forward in the update of the Battery Regulation.

## SYNERGIES WITH OTHER EUROPEAN AND NATIONAL INITIATIVES

### JOINT CALL WITH THE 2ZERO PARTNERSHIP

In the lead-up to the 2021-22 Work Programme, BEPA and EGVIafor2Zero, the private-sector association within the 2ZERO partnership, were both interested in a call to establish an LCA-methodology for their respective scopes. After consultation with the European Commission, experts from BEPA and EGVIafor2Zero worked together to define a call scope that is beneficial for both partnerships. The joint call now focuses on developing a commonly accepted LCA for zero-emission vehicles and their batteries, but the approach should also apply to other applications of the same types of battery cells (e.g. industrial and stationary). The joint call was taken up in the [2021-22 Work Programme as HORIZON-CL5-2021-D5-01-04](#).

### BATTERY INNOVATION DAYS

BEPA is tasked within the partnership with bringing together stakeholders and disseminating information about the state of play of battery research in Europe. For example, BEPA teamed up with ETIP Batteries Europe and the Battery2030+ initiative to jointly organise a two-and-a-half-day conference called the Battery Innovation Days. The two IPCEI consortia joined this initiative later.

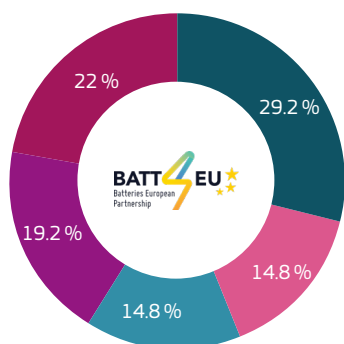
The first Battery Innovation Days took place 23-25 November 2021 and is set to be a yearly fixture.

### ALIGNING EFFORTS BETWEEN THE BATTERIES INDUSTRY AND ITS VALUE CHAIN

In order to streamline the process of priority-setting for the 2023-24 Work Programme for Batt4EU, BEPA has worked closely with the ETIP Batteries Europe and the Battery 2030+ initiative to use their expertise and efforts in developing technology roadmaps. Leaders of the working groups of these initiatives have presented their technology roadmaps to the members of the BEPA working groups and highlighted several areas of interest. These suggestions were then taken into account by BEPA in drafting the input to the Work Programme in order to align better with the latest technological developments and industry needs.

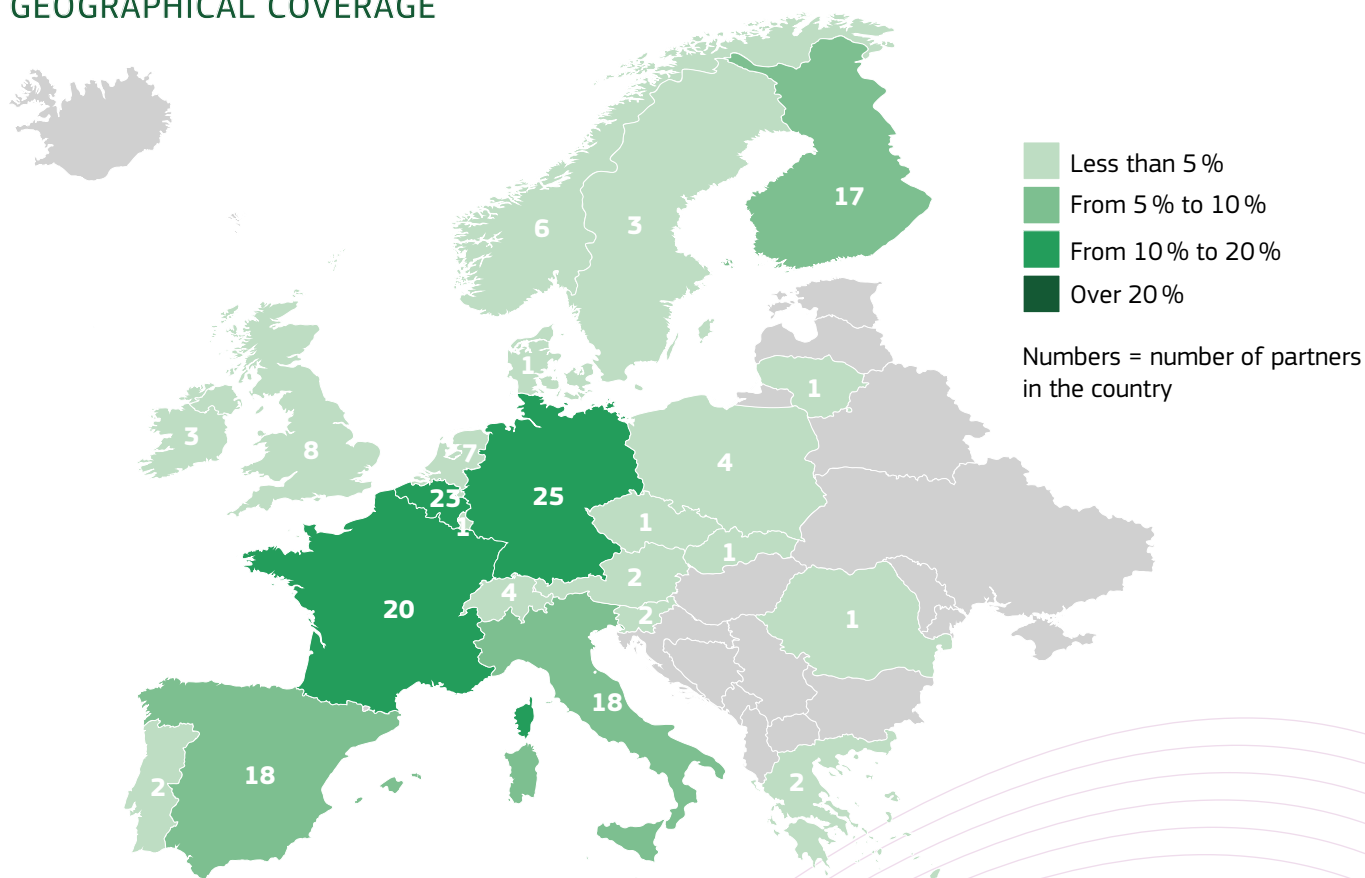
## OVERVIEW OF MEMBERS

### MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation  
(including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

### GEOGRAPHICAL COVERAGE



**Total number of partners: 182**

93.4 % of the partners are represented in the map  
Other partners that do not fit to the map are from Canada, China, Turkey and the United States.