Global Battery Alliance Vision 2030

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GLOBAL BATTERY ALLIANCE

BATTERIES POWERING SUSTAINABLE DEVELOPMENT

~60 organizations support this initiative

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Public & international organizations

African Development Bank
giz
iea International Energy Agency
Ministry of the Environment Government of Japan
NPL
OECD
UN environment
United Nations Economic Commission for Africa
unicef
Washington Governor Jay Inslee
World Bank Group

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NGOs, Foundations, Associations

CCCMC
Good Shepherd International Foundation ONLUS
Alianza por una Minería Responsable
ClimateWorks Foundation
FCH Fundación Chile
IJM
pact building local promise.
IMPACT
ila International Lead Association
PURE EARTH
RESOLVE
responsible battery coalition
wbcsd
Responsible Business Alliance
TRANSPORT & ENVIRONMENT

Knowledge Partners

Services

everledger
WHITE & CASE
OPTEL
SAP
RCS GLOBAL GROUP

Academia

iied
ETH zürich
Prof. Vanessa Wood
NYU STERN
Prof. Michael Posner
HARVARD Kennedy School
Jane Nelson
厦門大學 XIAMEN UNIVERSITY
Prof. Lin Boqiang

Industry

华友钴业 HUAYOU COBALT
TRAFIGURA
BASF We create chemistry
umicore
ERG
DSM
Mitsubishi Corporation
AMARA RAJA Gotta be a better way
Envision
saft
CLARIOS
VOLKSWAGEN AKTIENGESELLSCHAFT
VOLVO VOLVO GROUP
BMW GROUP
StanleyBlack&Decker
FAIRPHONE
NEC
enel
signify
Microsoft
Audi Vorsprung durch Technik
LeasePlan

Raw materials → Active materials → Battery manufact. (cell & pack) → Applications → Re-use and recycling → Raw materials

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Overview of objectives*

1 Shift the value chain to sustainable outcomes

Create demand for sustainable batteries

- Publicize a vision and roadmap backed by world-class analytics for what a sustainable battery market looks like and how it can be achieved
- Drive the wide-spread adoption of principles and KPI for a sustainable value chain through leadership endorsements

Build confidence that a sustainable market can be achieved in low-and middle-income countries

- Quantify opportunities for African and Latin American markets to link battery demand with sustainable development (establishment of sustainable mining, recycling industries, etc.)
- Establish a network of governments committing to pilots and other interventions in support of such goals

2 Develop transparent, sustainable raw material supply chains

Drive investment, standard-setting and transparency for a sustainable cobalt supply

- Drive the development of a standard to scale up responsible artisanal small-scale mining based on best practice
- Drive investment and commitments to address child labour in the cobalt supply chain

Develop a strategies and launch public-private interventions in support of sustainable supply chains for other key battery materials (e.g. nickel, lithium).

3 Develop a circular, low-carbon value chain in support of the Paris Agreement

Create the market conditions for large-scale EV battery recycling

- Identify the largest drivers of transaction costs associated with the transboundary flow of EV batteries for recycling
- Direct the adoption of policy frameworks to lower these costs

Scope the establishment of a data platform („Battery Passport“) to capture essential information for a sustainable battery market

- Develop an open-source platform with lifecycle data of batteries („Battery Passport“) to enable an efficient and sustainable market and value chain

4 Unlock **innovation** along the value chain to accelerate battery deployment

Direct capital and incentivize innovation towards battery applications in low-and middle-income countries

- Steer investment and expertise towards a faster deployment of battery storage for clean, affordable energy access in low-and middle-income countries
- Steer capital and pilot initiatives towards an accelerated, sustainable deployment of electric mobility in low-and middle-income countries

**This and additional work will be guided by the Value Chain Roadmap recommendations.*

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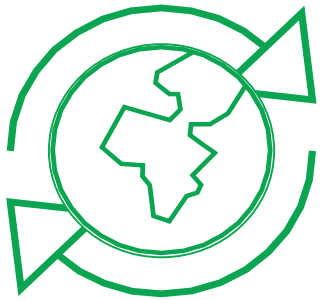
A Vision for a Sustainable Battery Value Chain in 2030

Sustainable Development Impact Summit
September 23, 2019

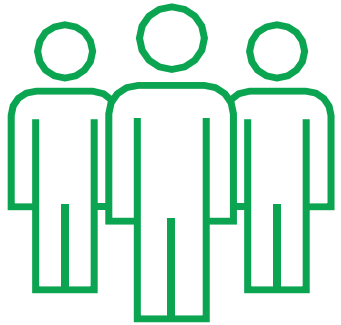
A vision for a sustainable battery value chain in 2030

Establishing a circular battery value chain as a major driver to achieve the Paris Agreement



30% emission reduction in transport and power sector

Transforming the economy in the value chain creating new jobs and additional value



10m additional jobs and

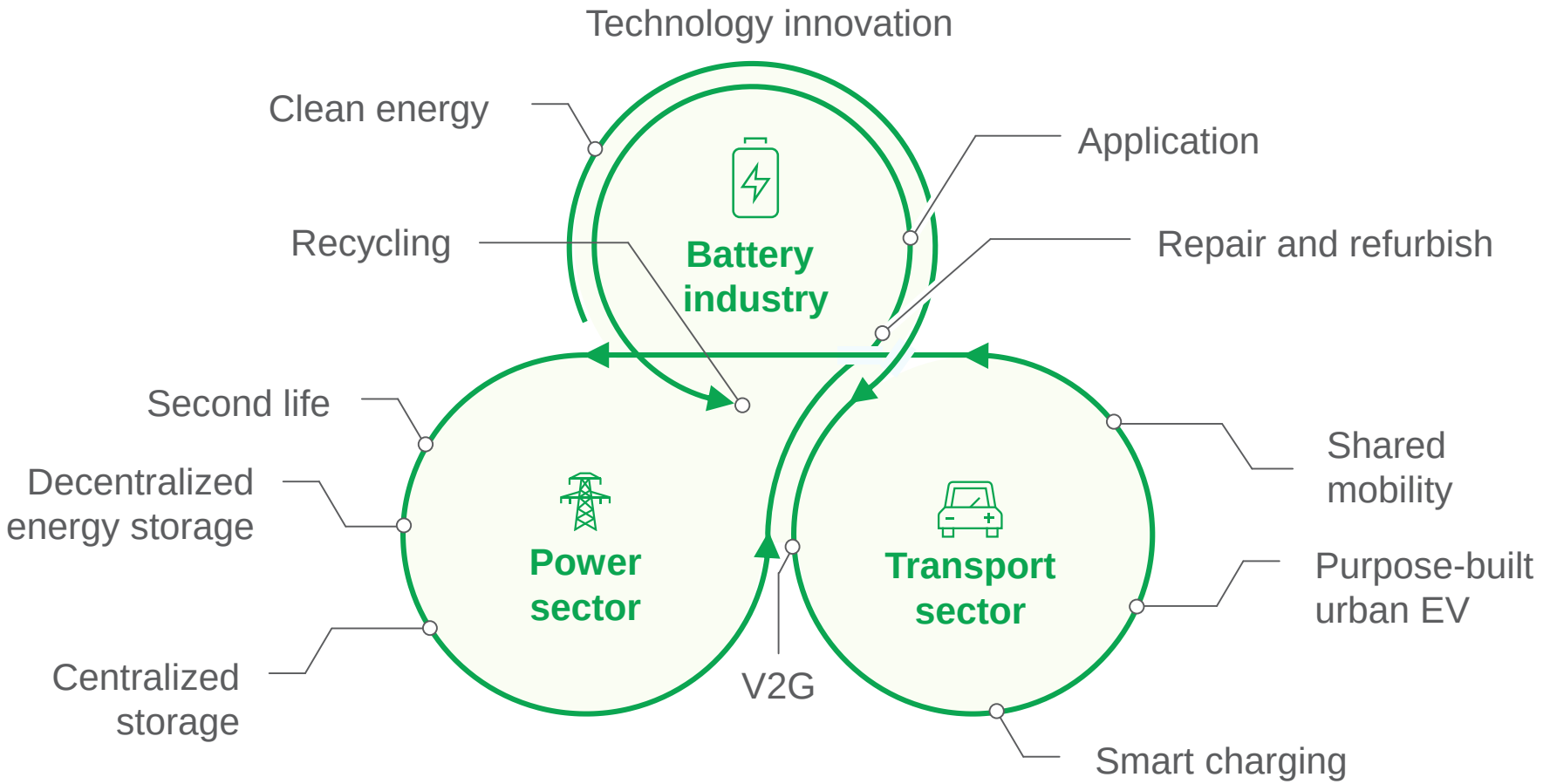
150b of economic value in a responsible and just value chain

Safeguarding human rights and economic development in line with the UN SDGs

600m add. people with access to electricity, reducing the gap of people without electricity by 70%

SOURCE: World Economic Forum, Global Battery Alliance, McKinsey Analysis

Batteries reduce emissions in transport & power with positive economic value



SOURCE: World Economic Forum, Global Battery Alliance, McKinsey & Systemiq Analysis

10 recommendations to scale up the battery value chain sustainably

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Circular value chain and connected business cases

1 Implement design and systems for **life extension and end-of-life treatment**

2 Implement **smart-charging and vehicle-to-grid**

3 Scale up **electric shared and pooled mobility**

Sustainable economy & technology

4 Increase the **share of renewable energies and energy efficiency measures** in the value chain

5 Accelerate the **roll-out of charging infrastructure that allows for smart-charging and V2G** services

6 Adjust **regulation for battery-enabled renewables as a dispatchable source of electricity** for the grid

7 Finance **sustainable expansion, support value creation & economic diversification** in local communities

Responsible and just value chain

8 Ensure consistent **transparency based on established sustainability norms and principles**

9 Establish integrated **GHG disclosure and emission regulations**

10 Support the **deployment of batteries for energy access**

SOURCE: World Economic Forum, Global Battery Alliance

Potential Actions to Advance Recommendations

How can we work together to advance near-term action to implement the recommendations?

Potential Examples

- **Principles** to foster product design and technical development to facilitate disassembly for repurposing, repair and recovery of materials
- A **Public-Private Action Coalition and Roadmap** towards eradicating child labor from the cobalt supply chain and improving working conditions in artisanal small-scale cobalt mining
- A **Funding Platform** to implement projects for sustainable impact in local communities
- A **Utility Grid Public Policy Framework** for integrating batteries, smart charging and vehicle to grid to foster renewables as a dispatchable source of electricity for the grid
- A **Circular Economy Policy Framework** to accelerate battery life extension and recycling; and electric shared and pooled mobility
- A **Blended Financing Plan** for scaling battery enabled renewable energy micro-grids in emerging markets