

GBA BATTERY PASSPORT

GRPE Workshop

Carbon LCA of vehicles

May 31, 2022





GBA Battery Passport supports along the **10 Guiding Principles** to build a **sustainable, responsible and circular** battery ecosystem



Embedding circular economy approaches to become a major driver to achieve the Paris Agreement by:

- 1 Maximizing the productivity of batteries in their first life;
- 2 Enabling a productive and safe second life use; and
- 3 Ensuring the circular recovery of battery materials



Creating new jobs, additional economic value & contribute to establishing a low-carbon economy by :

- 4 Ensuring transparency of greenhouse gas emissions and their progressive reduction;
- 5 Prioritizing energy efficiency measures and substantially increase the use of Renewable energy as a source of power and heat when available;
- 6 Fostering battery-enabled renewable energy integration and access with a focus on developing countries; and
- 7 Supporting high quality job creation and skills development



Safeguarding human rights & economic development consistent with the UN Sustainable Development Goals by:

- 8 Immediately eliminating child & forced labor, strengthening communities & respecting the human rights of those affected by the value chain
- 9 Fostering protection of public health and the environment, minimizing and remediating adverse impacts in the value chain; and
- 10 Supporting responsible trade and anti-corruption practices, local value creation and economic diversification





Today 100+ organizations already convene in the GBA

Public + international organizations



In collaboration with



Supported by



NGOs, foundations, associations



Technology Partners



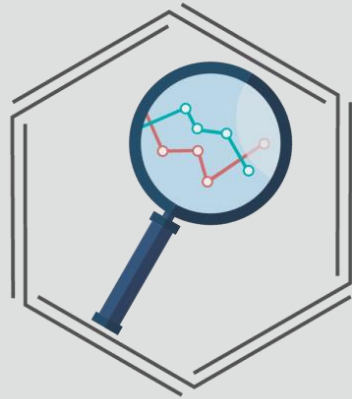
Knowledge partners



Industry and business



The Battery Passport will have 3 functions to support sustainable development



Transparency

Provide transparency of practices and impact of the battery along the value chain to all relevant stakeholders in the battery value chain



Benchmarking & Standard Setting

Create framework for benchmarking of single batteries along ESG criteria by identifying best and worst in class as well as providing minimum acceptable standard for a "sustainable", "circular", and "responsible" battery

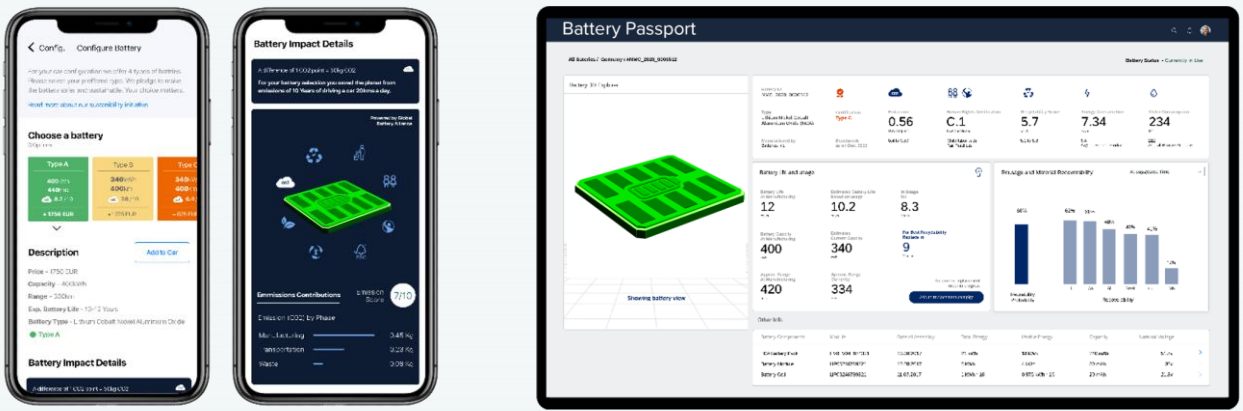


Progress Tracking & Validation

Validate and track progress towards achieving pathway towards a "sustainable", "circular", and "responsible" battery

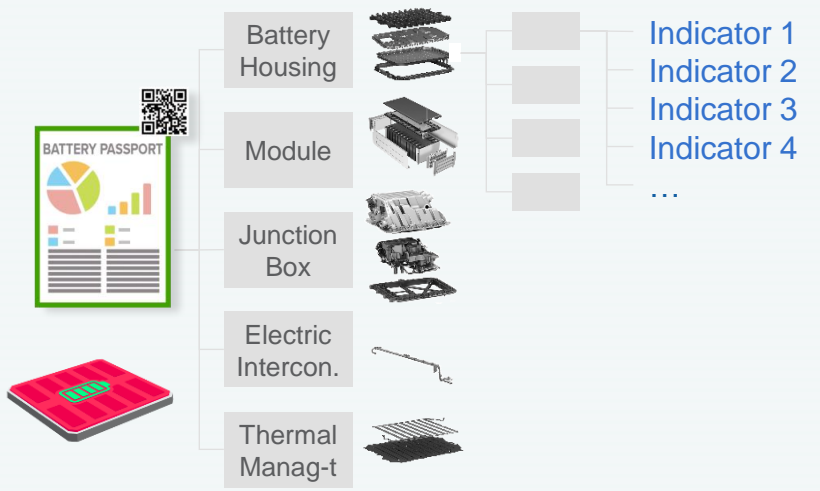


The GBA Battery Passport is the key instrument to inform stakeholders to act

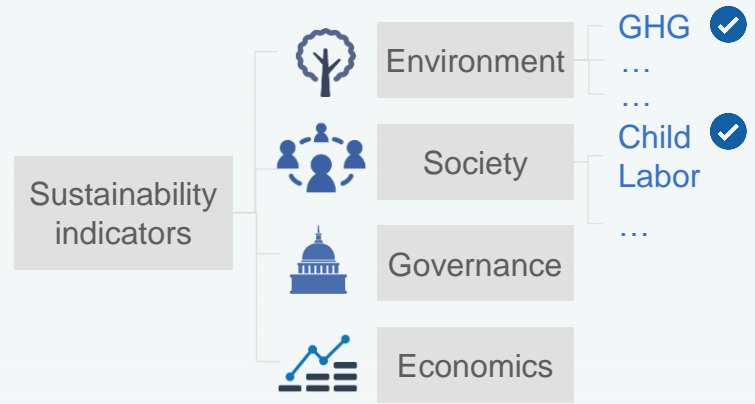


The Battery Passport is the key instrument to enable developing a sustainable, circular and just battery value chain delivering on GBA's 10 principles by **monitoring the sustainability performance** based on data **Understandable, Standardized, Accurate, Differentiating, Auditable, Comprehensive** and providing the insights to **trigger improvement action**

Indicators follow Physical Structure



GBA Community develops indicators



29 indicators identified, **focus on 2** of them now

GBA negotiates Access to Data

GBA BP is to assure proper data aggregation and representation mechanisms, e.g.:

- **OEM** inspect specific model/product types produced and explore its end-to-end value-chain view to discover bottlenecks in emissions and data compliance of suppliers;
- **NGOs and Civil Society** access the aggregated information on GBA Battery Passport KPIs and allow drill down maintaining the privacy of participating partners intact





Standardized Battery ID links real with data world naming the “container” of battery master data, ESG, and technical attributes

Practical Pilots will probe viability of developed methodology



Materials Identification throughout value chain

Attributes' and Indicator's Data structure and formats



Content Battery Pass									
Category	Date (MM)	Data	Document	Type	Level	Count of the	Why this Data Point?		
Admin	Document	1	Passport ID	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Document	2	Brand ID	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	3	Battery ID	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	4	Producer	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	5	Manufacturing Date	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	6	Country of origin	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	7	Model type	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	8	Part numbers for components and contact details of	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	9	Serial no. for replacement systems	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	10	Weight	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Admin	Identify	11	Individual cell mass	Static	All	No Restrictions	Requirement of proposed EU Regulation		
Attributes	Identify	12	Due Diligence - OECD conformant	Y/N	Static	All	No Restrictions	Information from CL-index	
Attributes	Identify	13	Due Diligence - UNGPs conformant	Y/N	Static	All	No Restrictions	Information from CL-index	
Composition	Raw Materials	14	Cathode	Static	Cell Level	Information from Recycler/Reprocessor	Requirement of proposed EU Regulation		
Composition	Raw Materials	15	Chemical elements used in Cathode/Anode/Pos	%	Static	0.1 All	Information from Recycler/Reprocessor		
Composition	Raw Materials	16	Total share of critical minerals in Cathode/Pos	%	Static	0.1 Cell Level	No Restrictions	Information from Recycler/Reprocessor	
Composition	Raw Materials	17	Anode	Static	Cell Level	Information from Recycler/Reprocessor	Requirement of proposed EU Regulation		
Composition	Raw Materials	18	Electrolyte approximation	Static	Cell Level	Information from Recycler/Reprocessor	Requirement of proposed EU Regulation		
Attributes	Circularity	19	Recycled material percentage in cathode/anode	%	Static	1 All	No Restrictions	Requirement of proposed EU Regulation	
Attributes	Circularity	20	Share of recycled material in raw material	%	Static	0.1 Cell Level	No Restrictions	Requirement of proposed EU Regulation	

Process to use GS1 identifiers in battery value chain

- **Draft Guideline** “Identification and labelling of batteries enabling digital product passport”

Agreed and accepted Battery master and dynamic data to identify and describe a battery



in kind contribution by VDI/VDE-IT sponsored by BMWK



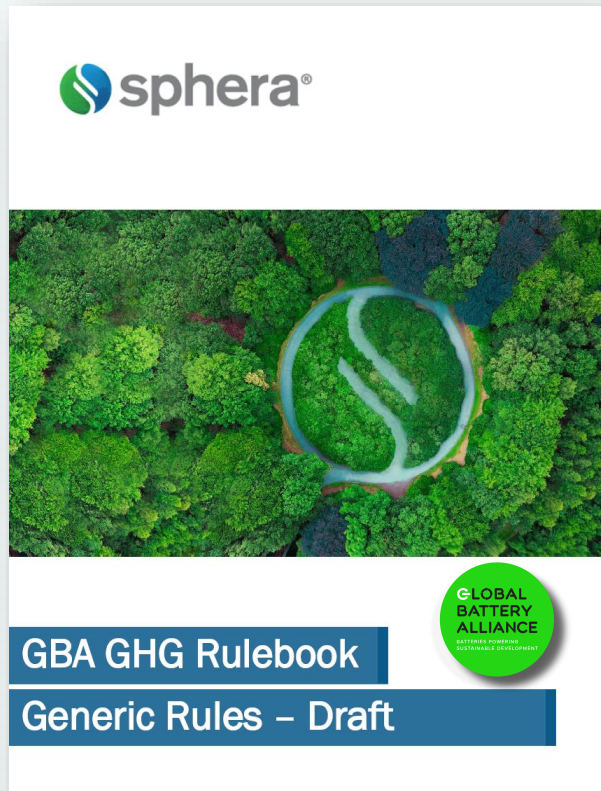
The GHG WG develops rules for consistent GHG reporting assuring stakeholder buy-in

Process

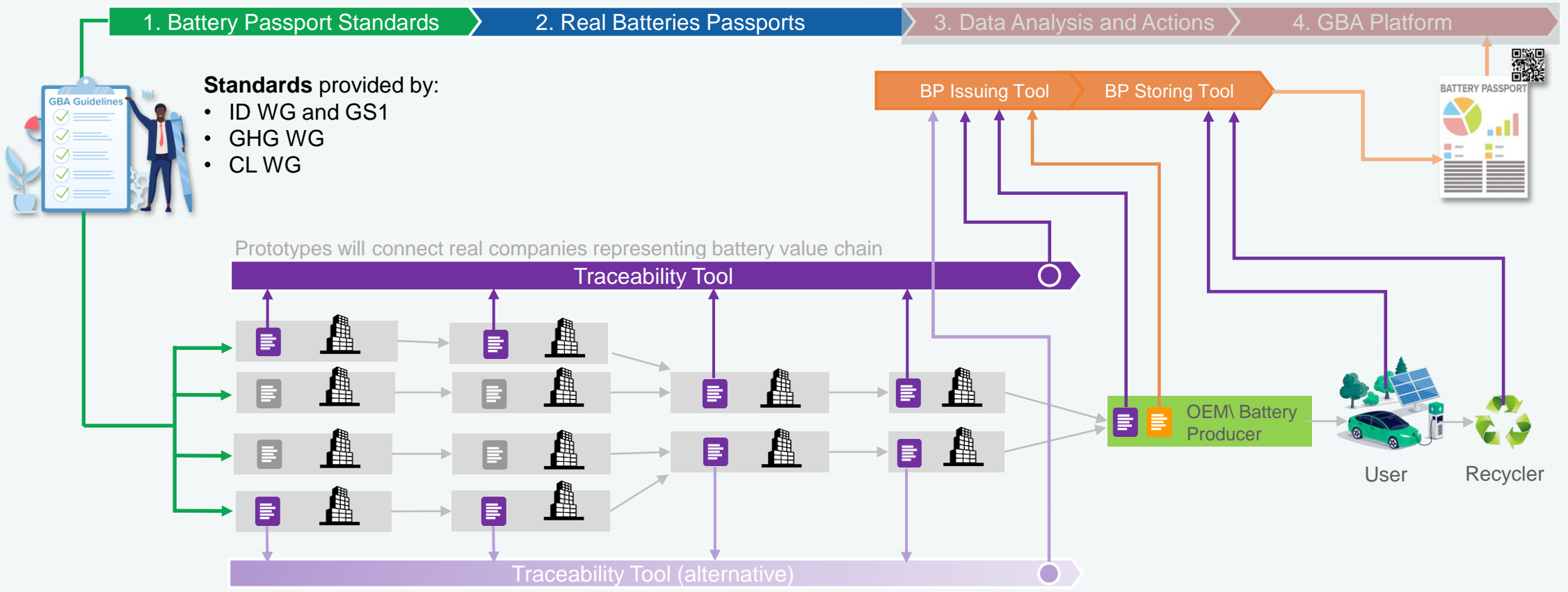
- GHG WG takes stakeholder views properly account
- Transparent documentation of scope and data acquisition methodology
- Consultation with external stakeholders during 2022

Deliverable

- A Rulebook 1.0 that:
 - aligns with global standards, (e.g., ISO,....)
 - can be applied to various battery types
 - sufficiently reflects variation in the entire value-chain
 - is sensitive enough to enable verification of comparative assertions
 - is clearly value-adding compared to pre-existing “rulebooks”
 - has been validated through internal peer-review
 - enables standardized data collection

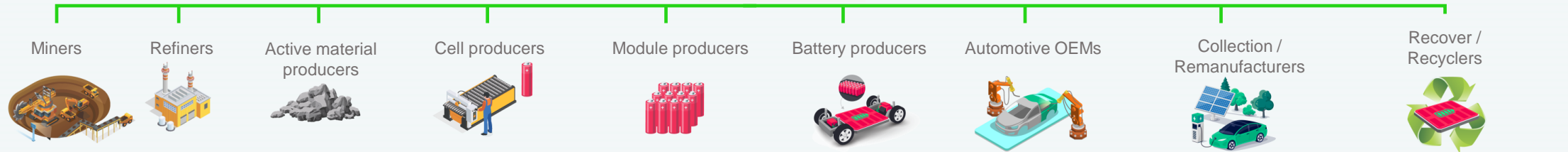
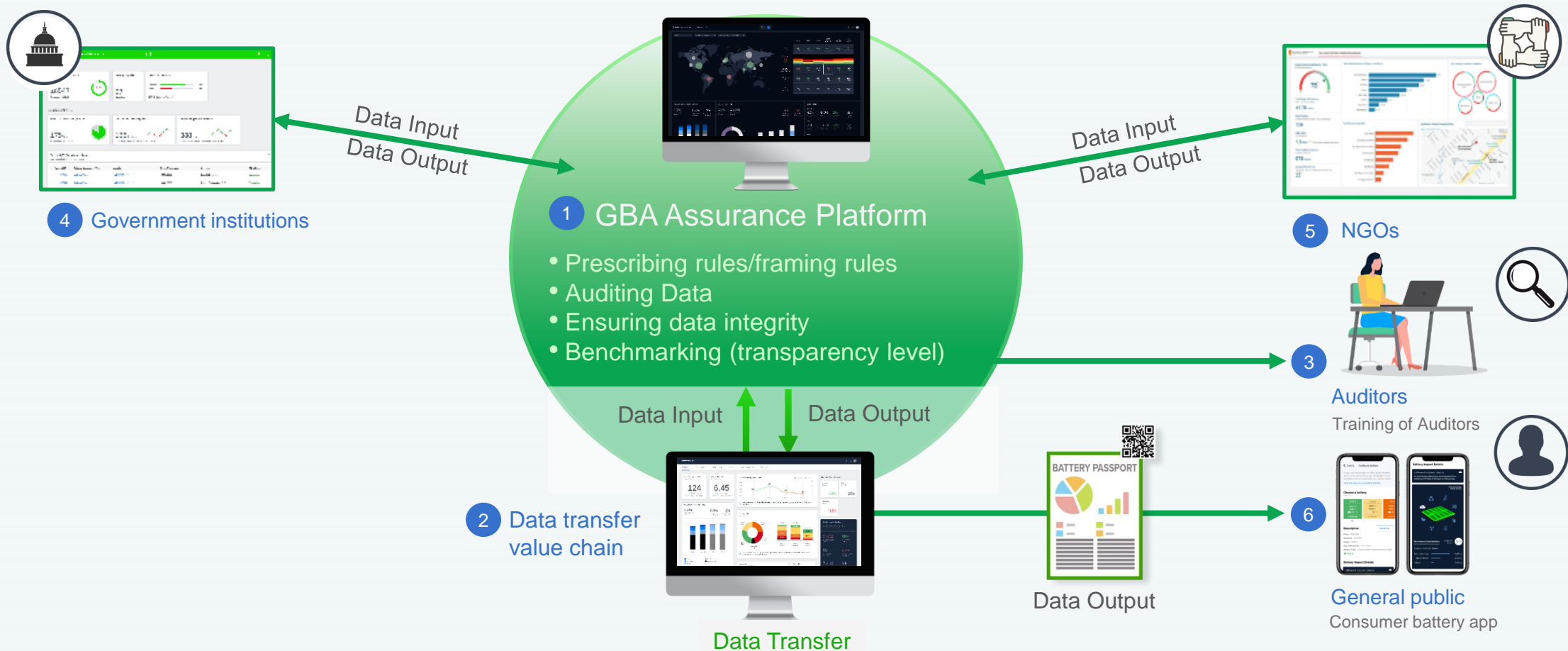


The T&T workgroup builds prototypes to probe BP concept and learns to determine data space architecture to ensure **interoperability**





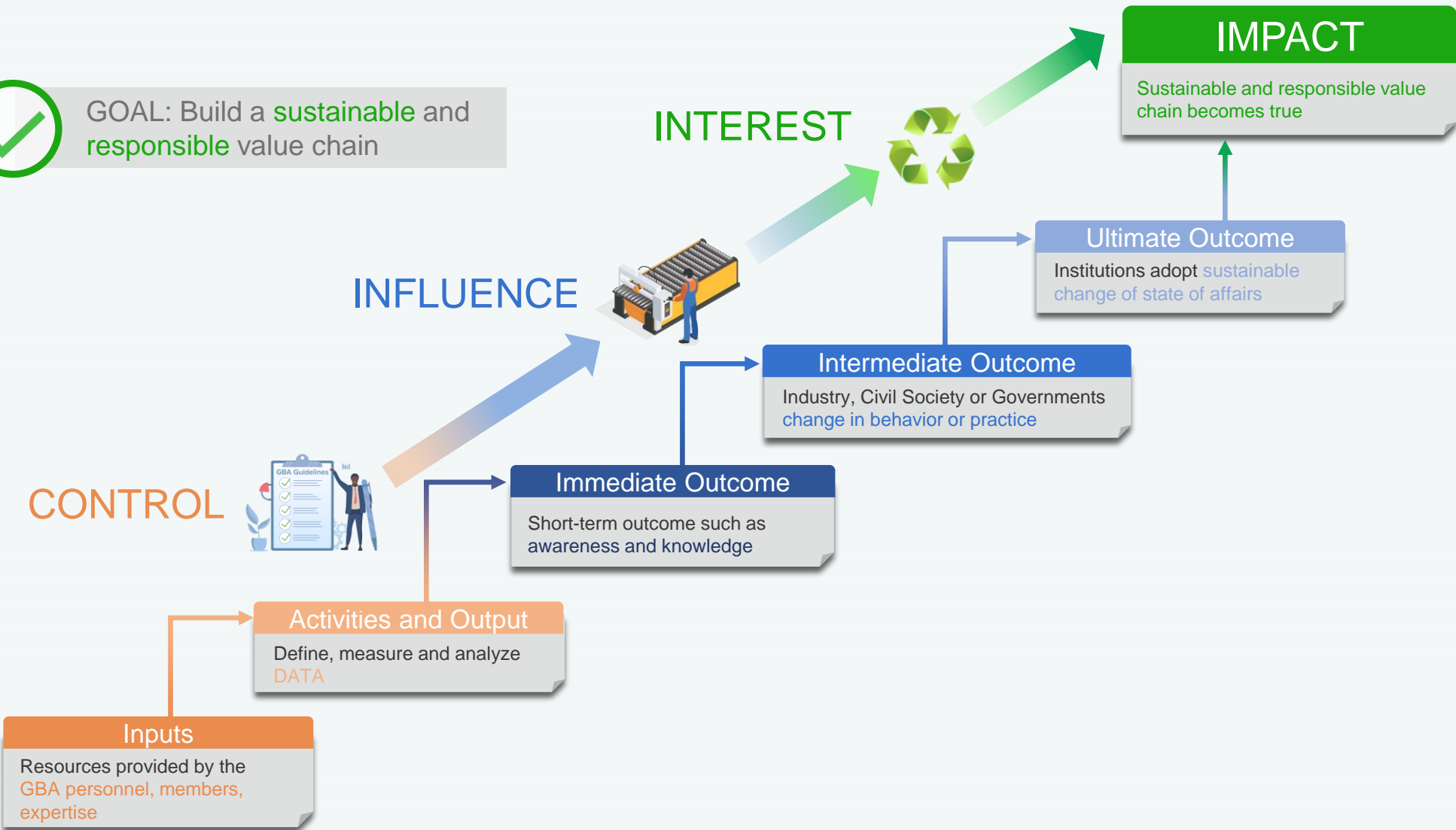
GBA Battery Passport Platform informs the stakeholders to act towards sustainable, responsible and circular ecosystem



The GBA Battery Passport program is designed to deliver **impact** towards a **sustainable** and **responsible value chain**



GOAL: Build a **sustainable** and **responsible** value chain





Battery Passport will enable a sustainable and responsible value chain

- ✓ BP will be the key instrument enabling data-based transparency
- ✓ Understanding drives change
- ✓ GBA brings the actors together

LET'S WORK TOGETHER

Learn More:

globalbattery.org





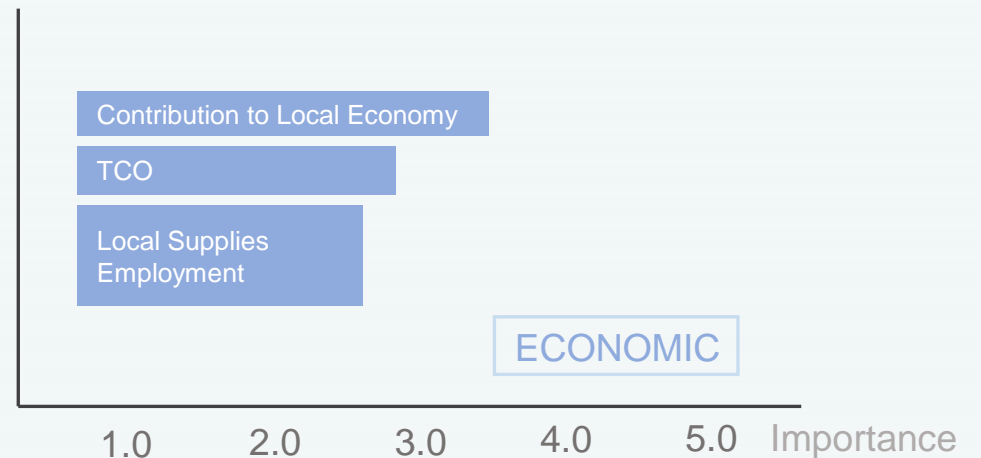
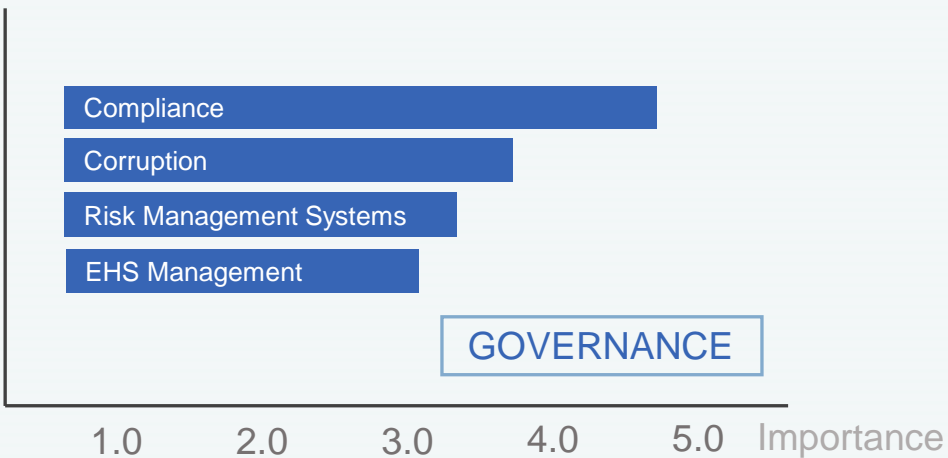
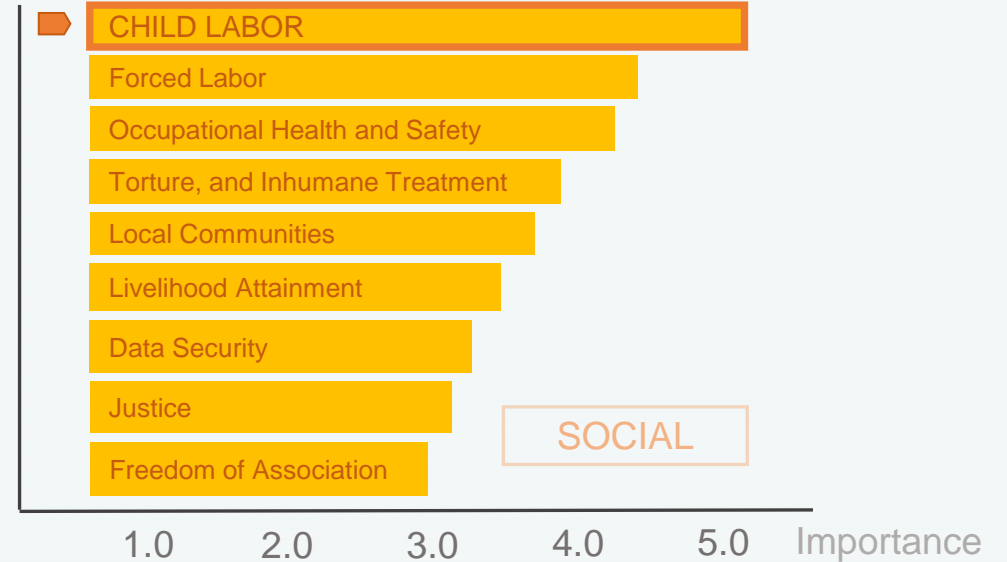
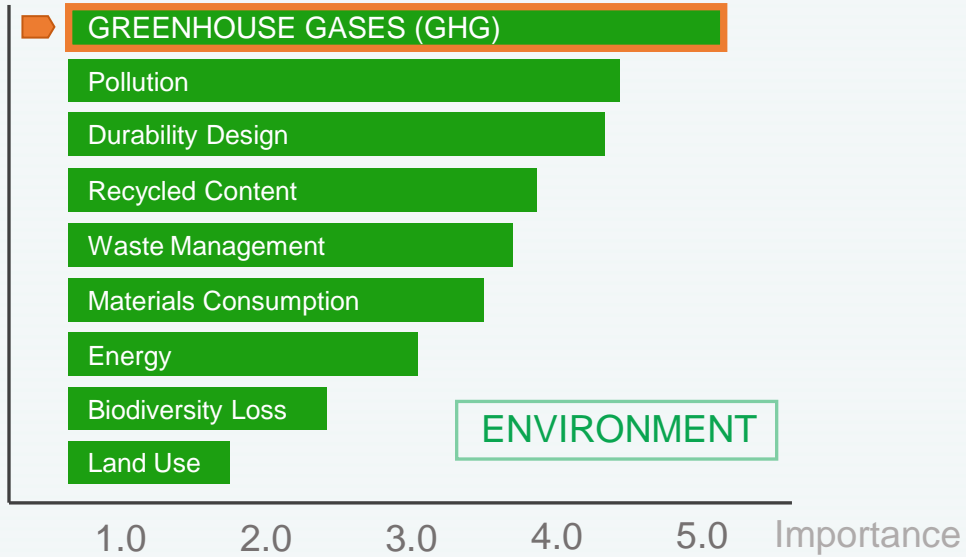
**GLOBAL
BATTERY
ALLIANCE**

BATTERIES POWERING
SUSTAINABLE DEVELOPMENT



GHG and Child Labor are perceived as most important parameters to begin reporting comprehensively **Environmental, Social and Governance (ESG)**

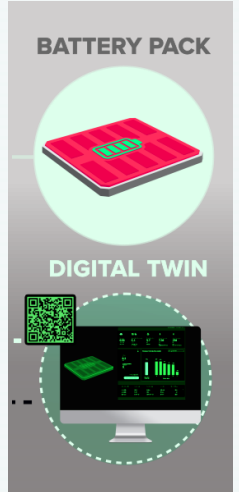
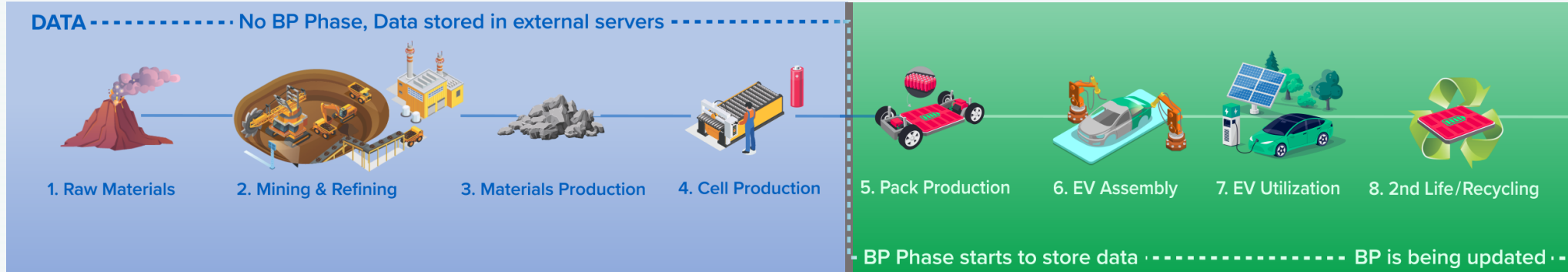
Accurate reporting needs agreed and standardized KPI



Battery Passport as a Digital Twin concept

Data starts to be collected before the real battery even exists

Material and Product



BATTERY LIFECYCLE

Data for Digital Twin

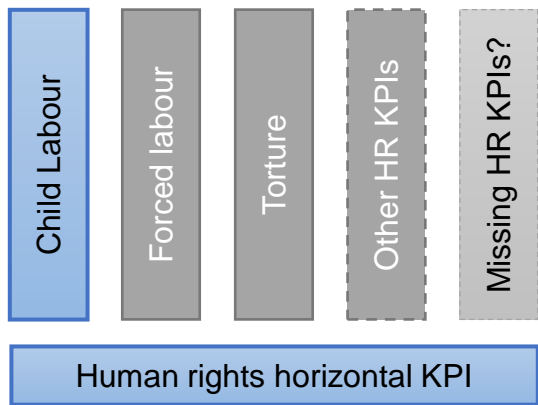
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The Human Rights and Child Labour Working Group are creating an index that is an easy-to-apply and comprehensive scoring model

WORKS IN COMBINATION
with a Human Rights index



BASED ON UNGPs, Children's Rights and Business Principles, UNICEF & ILO tools

MEASURES COMPANY ACTIONS in three impact domains



AUTOMATIC SCORING for assured standards