

Call for Expressions of Interest (CEI): Catalysing Innovation for Circular Models in Africa - Turning Battery E-Waste into E-Resources

The [IEC Global Impact Fund](#) will advance the IEC vision for “**a safer and more efficient world**” and demonstrate the catalytic impact of IEC International Standards and IEC Conformity Assessment Systems in addressing many of today’s social, economic and environmental challenges. As a reflection of this commitment, the IEC launched the Fund through a three-year annual contribution of 1% of its Capital & Reserves over the 2022-2025 pilot phase. This seed funding will build a global partnership aligned with the IEC’s values and mission.

The Fund’s mission is to promote the application of IEC International Standards and IEC Conformity Assessment Systems by Small and medium-sized enterprises (SMEs) and positively impact the capacity of IEC Members and Affiliates to sustainably address global environmental, social and governance (ESG) challenges. This will allow the Fund to help drive the critical need for a coordinated consensus-driven approach to electrification and avoid the fragmentation that will perpetuate barriers to the green energy transition.

The IEC envisages that each project will involve multiple partners, including NCs/Affiliates, SMEs and other partners either directly or indirectly involved in implementation. **We therefore invite all parties interested in participating in the project to respond to this Call for Expressions of Interest (CEI) either individually or in collaboration with others. Respondents invited to do so will be given the opportunity to refine the scope of the project (see Annex 2). The CEI is therefore part of the project definition process (see the [IEC Global Impact Fund Operational Rules](#) for more information). A request for proposals will then be issued in order to select at least one SME to receive funding and lead implementation.** The first project of the Global Impact Fund will focus on **turning battery e-waste into e-resources**.

Project area/title:	Catalysing Innovation for Circular Models in Africa - Turning Battery E-Waste into E-Resources
General Objective of the Project:	<p>Batteries support our digital life, boost growth and development, expand education, enable connectivity and are associated to reductions in carbon emissions. They are used everywhere and are the most common power source for basic handheld devices through to large scale industrial applications. They are set to play an essential role in decarbonising electricity supply and are becoming the standard power source for electric vehicles (EVs). Several billion lithium-ion cells and batteries are manufactured each year.</p> <p>Batteries are used for different applications:</p> <ul style="list-style-type: none"> - Non-electrical vehicles (car, motorcycle, truck) functions including ignition and lighting - industrial (telecom, UPS, reliable power supply and traction) - EVs (full electrical, hybrid, bicycle) - portable (computer, tool, lamp) - onboard batteries (aircraft, railway, ship, motorhome) - energy storage (renewable, on- grid and off-grid, especially for the growing photovoltaic energy sector for rural electrification where energy storage is needed for time shift, peak shaving¹ and grid stabilisation in order to increase energy efficiency)

¹ In the energy industry, peak shaving refers to leveling out peaks in electricity use by industrial and commercial power consumers

	<p>Consequently, there have been large increases in the global demand for batteries as billions of people use electrical equipment that consumes electricity. The global demand for batteries is expected to increase from 185 GWh in 2020 to over 2,000 GWh by 2030.² Low-voltage direct current (LVDC) improved technologies have implications for the battery sector. In developed economies, the use of LVDC will help improve energy efficiency and reduce global carbon footprint. It can power data centres, office buildings or hospitals. In developing countries LVDC provides affordable and sustainable electricity access to people who would otherwise have to wait many years for a connection to the main electricity grid.</p> <p>Batteries can also have a negative impact on the environment and society. Extraction and processing of the minerals required for battery manufacturing impact natural resources and contribute to climate change. In parallel, human rights abuses are linked to companies extracting minerals essential for the energy transition, including cobalt, copper, lithium, manganese, nickel and zinc.³ Additionally, batteries contain hazardous, toxic and corrosive materials that, if not properly managed throughout the lifecycle, can have serious adverse consequences for the environment as well as human and animal health.</p> <p>Proper disposal, reuse, repurposing and recycling in the context of the circular economy are solutions to preserve the natural resources used for batteries and prevent their negative impact. If the above listed activities can be managed appropriately and at scale, significant social, environmental and economic impact is possible.</p> <p>Batteries are platform technologies that can be used to improve the state of the world and combat climate change. They support off-grid and mini grid solutions to supply electricity to millions of people living in remote communities lacking access to energy. A lot of resources and investment is moving into this industry. This not only impacts batteries themselves, but allows other industries connected to batteries to be optimized, such as new mining technologies, battery recycling innovation, charging infrastructure and vehicle-to-grid applications. Africa is a huge market for batteries particularly when including applications of batteries for cars and portable devices. The African battery market is predicted to grow sevenfold by 2030.⁴</p>
<p>Objective of the CEI:</p>	<p>The CEI invites interested stakeholders to express their interest in proposing a project concept under section 10.2 of the Operational Rules, including in helping to propose its definition, scope and location, subject to ultimate determination by the IEC Secretariat. The successful implementation of the project could contribute to one or several of the following objectives:</p> <ul style="list-style-type: none"> • Promote the design and repurposing of batteries for reuse or application different from the initial use • Promote the reuse of batteries • Recycling of batteries

² <https://www.statista.com/statistics/1103218/global-battery-demand-forecast/>

³ <https://www.business-humanrights.org/en/from-us/media-centre/mineral-extraction-necessary-for-net-zero-at-risk-as-human-rights-abuses-slow-energy-transition/>

⁴ <https://www.weforum.org/agenda/2021/09/batteries-lithium-ion-energy-storage-circular-economy/>

	<ul style="list-style-type: none"> • NCs/Affiliates to learn from the project and better understand how to help SMEs to apply IEC work • Build capacity for other SMEs in developing countries around battery e-waste management. • Promotion of interoperability amongst stakeholders already active in this space especially in the context of IEC standards.
Project timeframe:	Projected project start March 2023 following RfP and selection of SME Project timeline dependent on applications
Applicant criteria for this CEI	The project is open to all parties interested to participate. IEC intends to allocate its funding to one or more SMEs ⁵ potentially as part of a consortium. Where it is complementary to the project and funding allocation to the SME(s), and where additional funding for the project can potentially be mobilized, not-for-profit organizations can also express their interest. IEC is also seeking interest from IEC NCs, IEC Affiliates, IEC TC/SC/SyCs, IEC CA Systems as well as global partnerships and coalitions involved in this area including in relation to projects that are currently underway.
Submission requirements	<ul style="list-style-type: none"> - Respondents (individually or collectively) should express interest for involvement by sending a short Word document (3 pages maximum) outlining their project concept and their willingness to participate in an RFP, should their project concept be chosen - Submission deadline is 23rd December 2022 - Submissions and any questions pertaining to this CEI should be sent to Matthew Doherty, IEC Global Impact Fund Senior Advisor and Officer at globalimpactfund@iec.ch
Submission acceptance process	<p>23rd December 2022 – Deadline for Expressions of Interest</p> <p>13th January 2023 – Request for Proposals (RfP) RfP issued to invited SMEs</p> <p>24th February 2023 – Applications deadline for RfP</p> <p>17th March 2023 – Selection of SME(s) as funding recipient(s) and any consortium partners</p> <p>7th April 2023 – Project implementation launch</p>
Attachments	IEC Global Impact Fund Project Concept No 1

Disclaimer: Acceptance of a CEI does not result in the awarding of a Grant.

By submitting an idea as part of the project concept or any other proposals, you declare that these ideas are your original material and you are free to propose said material to IEC for the purpose of refining its concept.

Annex 1: Letter of commitment content

Annex 2: IEC Global Impact Fund Project Concept No 1

⁵ See Operational Rules for definition of SME

Annex 1: Letter of commitment content (for NCs and NECs only)

IEC National Committees (NC) and IEC national electrotechnical committees (NEC) interested to have the project take place in their country are requested to submit a letter of commitment for IEC Global Impact Fund projects.

The following content must be included in the letter

- Statement of commitment to support the project if it takes place in the NC/NEC country, including the name of the individual designated to support the project, as well as their contact details if not the NC Secretary or NEC Secretary
- Illustrate the current issue in the country, based on data (with data source), and how the project could address the issue, including proposed key performance indicators
- Indicate proposed location of the project and potential future locations for scaling up
- Indicate how the NC/NEC would promote the project at the national level

The following should be included in the letter:

- Statement of support from the relevant ministry/local authorities
- Indicate how the NC/NEC would leverage the learnings from the project to support local SMEs



Annex 2: Project concept proposal

The project concept proposal template can be found here:

<https://www.iec.ch/basecamp/od-02-gif-project-concept>