

Development of products from the recycling of plastic, wood and textile waste generated at Spence

APPLY HERE

Objective and scope

BHP is in the process of implementing a waste management strategy based on the waste minimization hierarchy, encouraging materials to circulate before reaching the end of their life cycle and being transformed through recycling. In this context, Spence Mine is interested in developing products on a pilot scale, using plastic, wood and textile waste generated at Spence.

Ideally, the product resulting from this pilot should have an on-site use, either as: office material, public spaces, food areas, mining industrial use elements, to name a few, and should recycle one or more of the materials detailed in Table 1.

If the pilot is successful, implementation on an industrial scale will be evaluated.

Excluded Solutions: Solutions that do not deliver a final recycling product are excluded. For example, advisory or consulting services in waste management or recycling and software associated with traceability and information safeguarding.

Table 1: materials and wastes of the challenge

Material	Types of wastes	Current state
PET plastic	Water bottles	Separated in containers
PP plastic	Packages and packaging (straps, film, bags and the like)	Not segregated in industrial or other waste hoppers
HDPE plastic	Industrial drippers	Segregated in a landfill
Wood	Pallets, structures with fiberboard, bins from warehouses	Stockpiled without separation
Textiles	Camp hotel linens such as sheets, towels and blankets	Segregated in a landfill
Mattresses	Disused camp hotel mattresses	Segregated in a landfill

For the pilot test required to be conducted from this call, the applicant should consider:

Product features:

- One or more of the materials listed in Table 1 must be used.
- It must generate social value in its use, either in Spence or in the communities near the mine.
- Must have a level of technological maturity that allows piloting to begin during the second half of 2022, i.e., TRL greater than or equal to 6 (testing of prototypes or major components in a relevant environment).

Waste management:

- The supplier shall define the amount of waste to be used in the pilot and the duration of the pilot.
- Spence will have an on-site collection center.
- The waste will be delivered unwashed, however, they are not contaminated with hazardous substances.
- Spence has a shredder for plastic and wood waste if required.
- The proposed solution is expected to address the entire waste value chain, from collection at the site's collection center, segregation, if necessary, transportation, washing and recycling process. Suppliers that do not have all the required capabilities can form alliances to apply as a consortium. However, **proposals that only undertake one stage of the process will not be excluded.**
- As applicable, environmental permits, sectoral permits, Regional Ministerial Secretariat (in Spanish, *Seremi*) of Health and/or information required for National Waste Declaration System (in Spanish, *SINADER*) and final disposal certificates must be available.

Future business model:

Describe in general terms the business model to be proposed, including a potential volume of waste to be treated. The company will inform the available quantities of waste to the applicants that advance in the process.

Operation and processes involved

NPI, Environment Managements of Spence Mine and BHP, Value Chain NPI BHP.

Pampa Norte's purpose is to work with passion, discipline and respect to produce the sustainable copper that the planet needs.

Expande

Expande seeks to promote the development of ecosystems that allow the creation of virtuous cycles between industry challenges and innovative solutions from local and international suppliers. Under a model of open innovation and associativity, we seek that companies and suppliers capture value for their businesses through high impact technologies that contribute to a more sustainable industry.

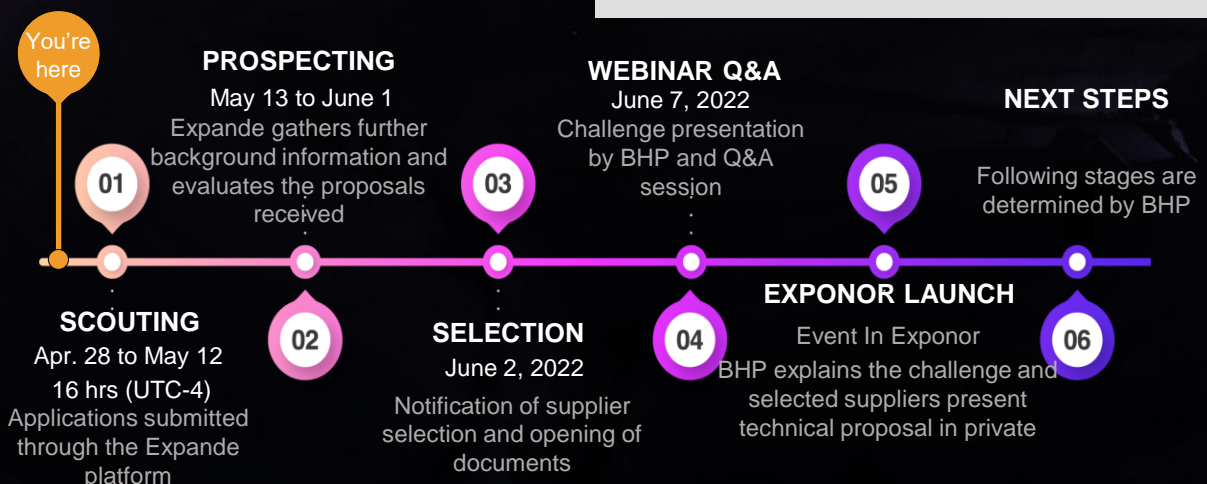
Supply innovation BHP

Supply Innovation aims to promote the development of projects between the Company and the Suppliers with an associative approach, where the design and construction of the solution for the "Challenge" detected by an area of the Operation is addressed jointly. In this way, the generated projects develop solutions that add value to the Company and the suppliers build capacities and competencies that translate in more and better business opportunities.

Confidentiality

The delivery of personal information to register in the database, such as details related to technological solutions to apply for Expande's open innovation processes is strictly confidential; as is the information contained in the contact forms with information of these processes subsequent stages.

Milestones



Required background information

- Material(s) to be treated.
- Specify the geographic location (region of Chile) where the final product generation stage will be carried out.
- State and describe the steps involved in the proposed solution (collection at the site storage center, segregation if necessary, washing, transport and value creation).
- Describe the final product, characteristics, use, benefits. Include certificates if available (e.g., technical feasibility or market acceptance).
- Specify and support the technological maturity of the recycled product.
- List by-products, solid, liquid and gaseous wastes generated in the recycling process.
- Specify conversion of the waste to be treated to recycled product (final product(kg)/waste(kg)) (desirable).
- Supplier's capabilities and experience in the challenge domain.
- Attach supporting material for a better understanding of the proposed solution (may include files, photos and videos).
- List and attach current permits in accordance with the local authority and as appropriate to the type of proposal (environmental, sectorial, waste disposal, etc.).
- International suppliers must show availability to operate in Chile through technical or commercial representatives.