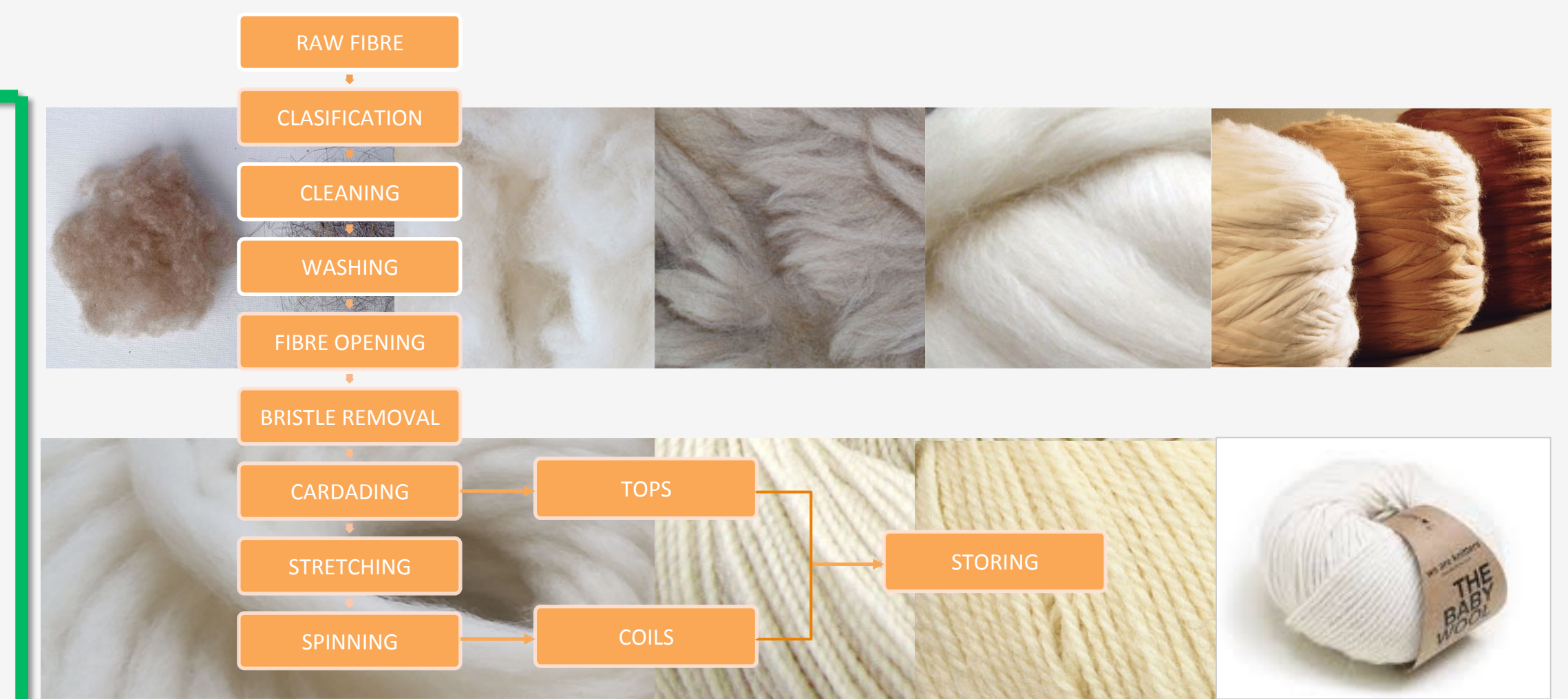


Solar Energy for an Alpaca Fibre Processing Centre in General Lagos

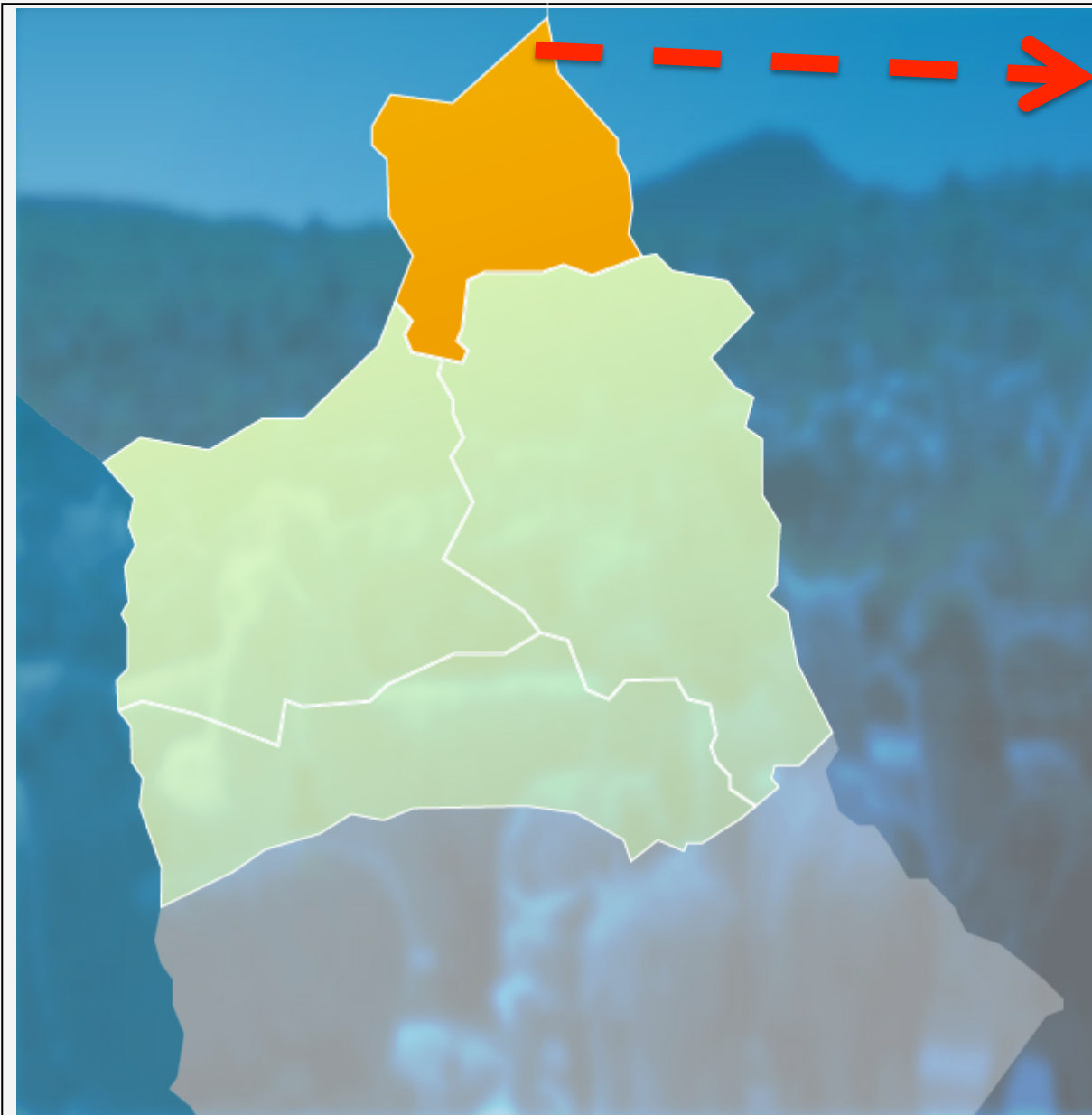
Felipe Valencia, Paulina Ramírez, Ignacio Polanco, Jorge Reyes, Patricio Mendoza, Felipe Fernandez, Andres Marconi.

Context

Alpaca cattle raising is an ancestral activity in General Lagos. Now, this is the main economic activity of the zone, which recasts in the sale of the raw fibre in a weekly fair. The project attempts to take advantage of the sales potential of the alpaca fibre to enlarge the markets available for its commercialisation.



The micro-grid project

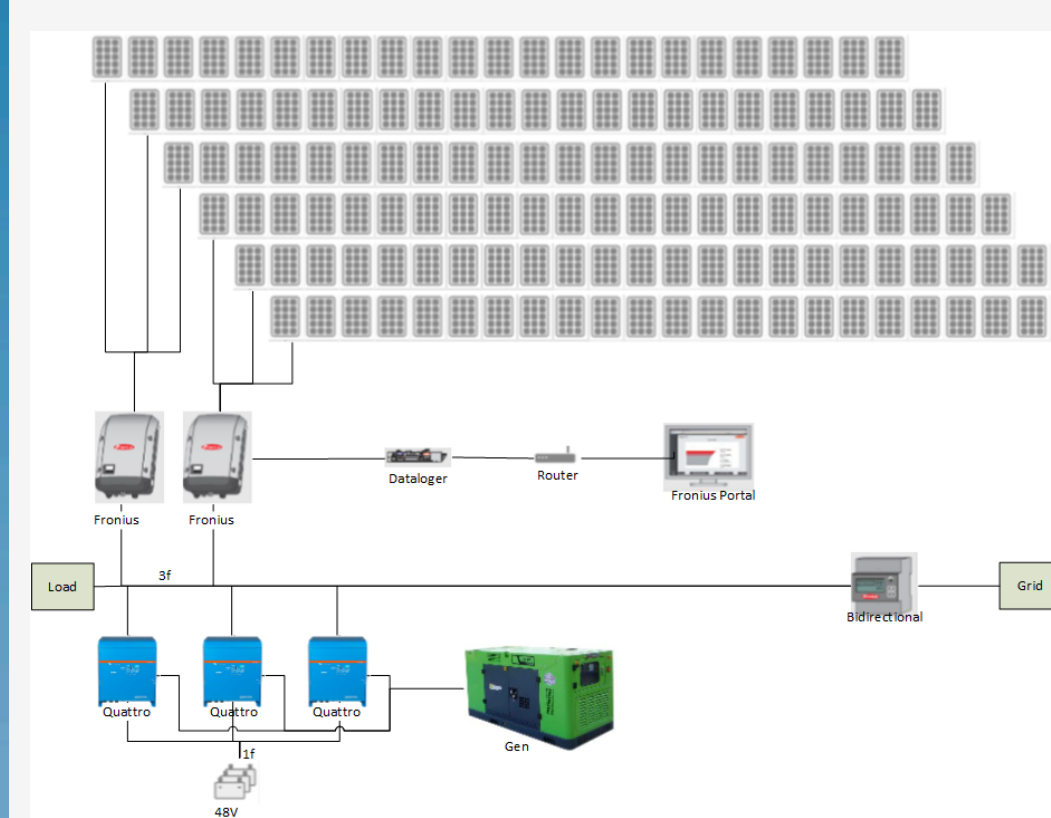
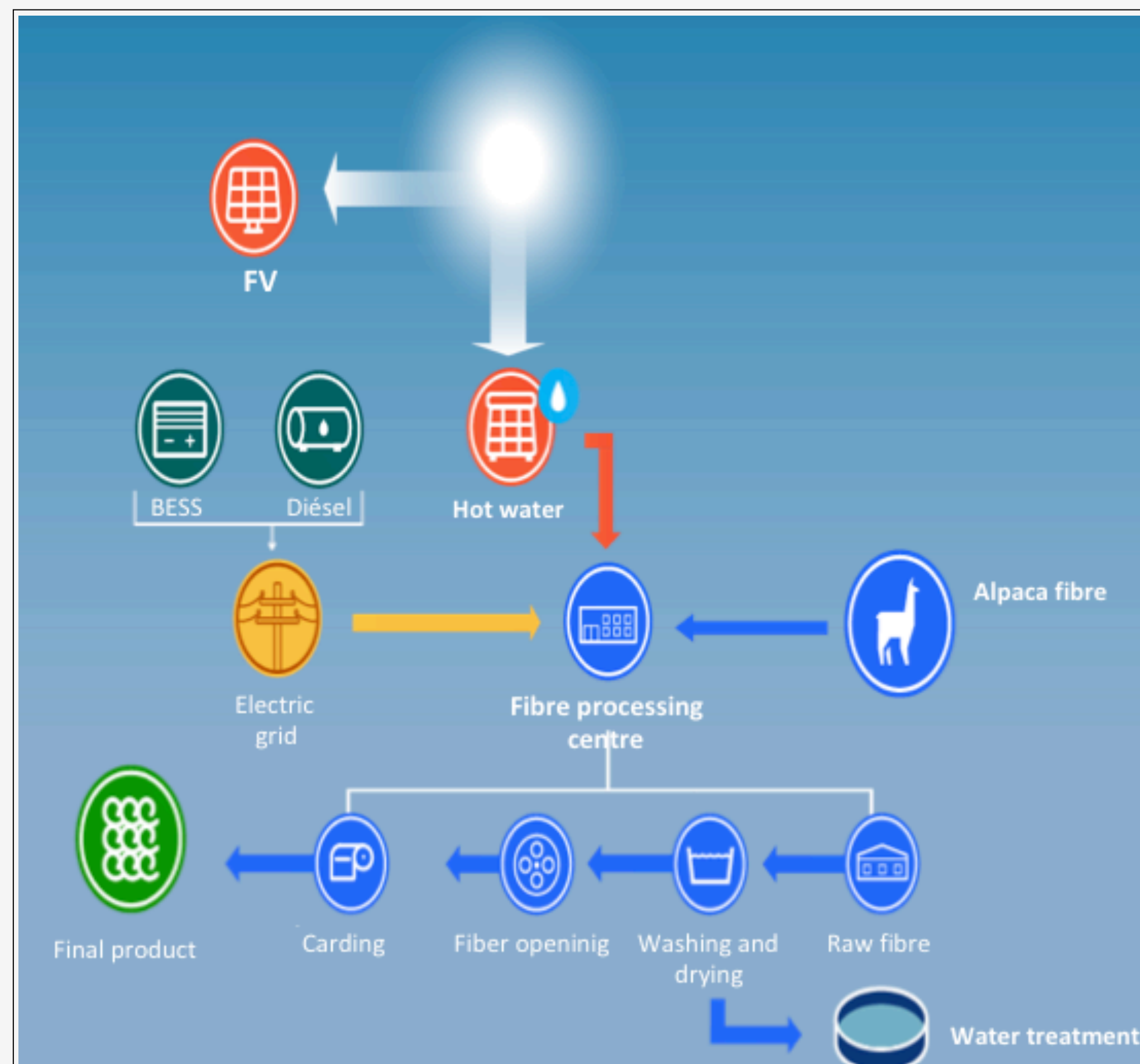


Visviri – General Lagos (average altitude: 4.500 m.o.s.l)

The project consists in the design, implementation and technological transference of an alpaca fiber processing centre, located at Visviri, the capital of General Lagos. Since there is only two hours per day of electricity, a solar-based micro-grid was considered as part of the technological solution. This micro-grid is able to provide:

1. The electricity required for the daily operation of the process line,
2. The hot water required for washing the raw fibre, and
3. The heat needed for drying the fibre.

Diagram and technical details



PV power plant of 35,2 kWp, with a BESS of 192 kWh, and a solar collector system with capacity of 200 L.

The system supplies a 181,1 kWh/day of energy, and up to 210 L/day of hot water for the activities of the centre.

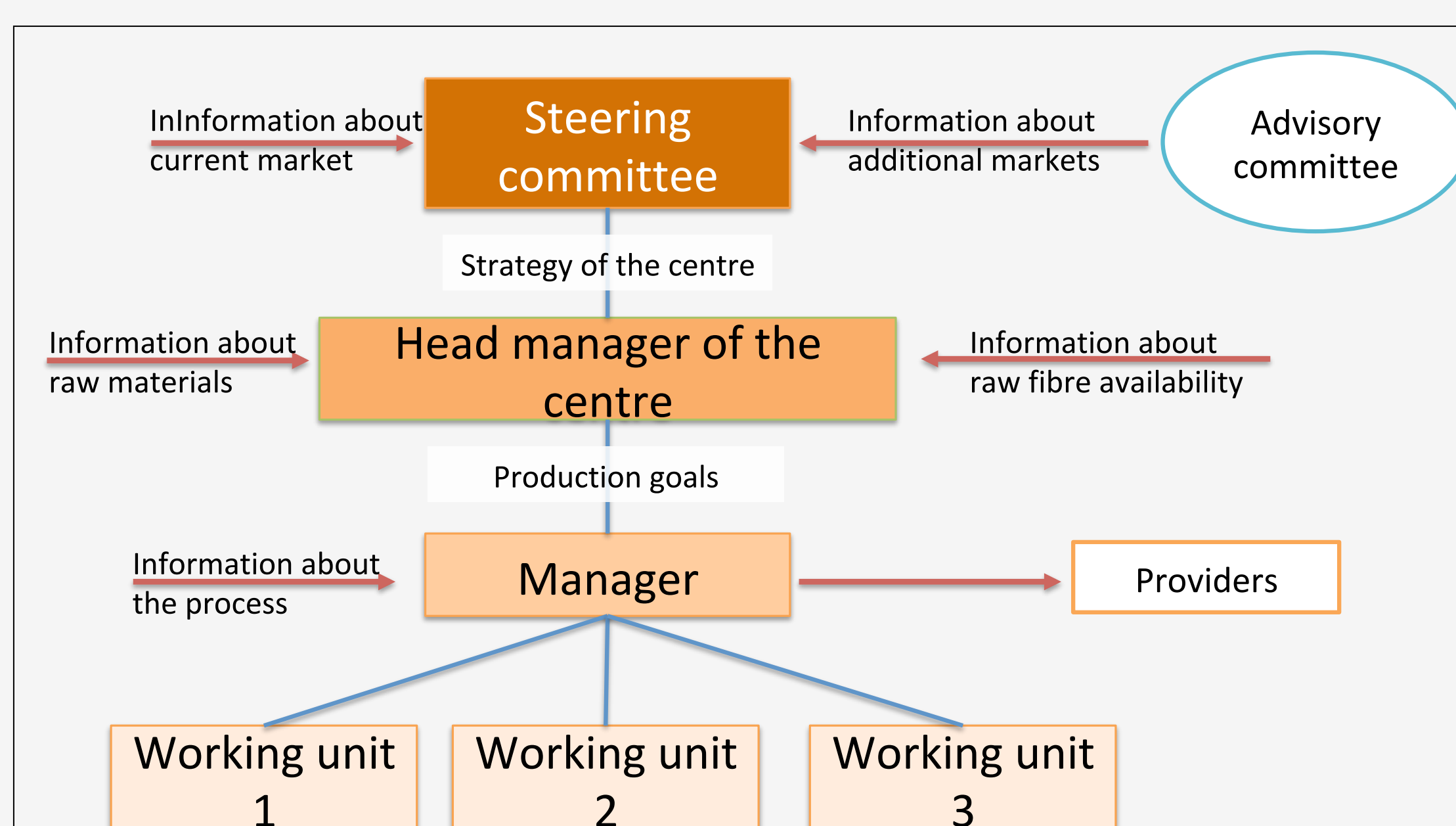


Centre of 82 m² that includes: the management office, kitchen, and diningroom. Also the processing area, two bedrooms, and two areas for storing the raw fibre the final product.

Centre with a nominal capacity of processing 40 kg/day of raw fiber (about 8000 kg/year).

The project aims to increase the commercial value of the alpaca fibre harvested in General Lagos through its transformation into a processed product. Thereby enlarging the available markets for commercialising the products of such region.

Management structure for the transference



The management structure is put in the existing association of cattle ranchers of General Lagos, but the decisions about the centre are taken independently of it. The main elements of the management structure are:

1. Steering committee: composed by the main stakeholders related with the alpaca cattle raising activity in General Lagos.
2. Head manager/Manager: person in charge of operating the centre so that the strategy of the centre provided by the steering committee is accomplished, as well as the production goals.
3. Advisory committee: composed by external organizations whose main activity is related with the positioning of Chilean products in national/ international markets.

Contact

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Lessons learned

From the project execution, the following aspects have been recognised as key issues to be considered for the success of the project:

1. Community involvement/engagement.
2. Permits and paperwork to be done before/during the construction stage.
3. Selection of an adequate legal personality for the operation and management of the project after the transference to the community.
4. Selection of an adequate management structure for the project after the transference to the community.
5. Design and implementation of an adequate business model.