

Circular by design:

What if waste wasn't the end, but the beginning of something new?

Across Nepal, businesses are embracing circular design to rethink how products are made, used, and regenerated. Through Roots of Circularity (RoC) Nepal, these ideas are being tested and brought to life.



Khagraj Krishi Udyog Smart Agriculture

The challenge

Traditional open-field farming faces unpredictable climates, high resource use, and soil degradation. This is labor-intensive and leads to unstable harvests.

The solution

Climate-controlled greenhouses in Lumbini Province that produce bell peppers.

Circular features



Closed-loop water
Hydroponic systems collect, filter, and reuse water.



Precision nutrients
Sensors detect and deliver exact nutrient needs, reducing fertilizer waste and runoff.



Renewable energy
Solar panels power the irrigation, ventilation, and lighting.



Smart climate & pest control
Sensors regulate temperature and protect against pests, reducing reliance on chemical pesticides.



Weed prevention
Soil-free growing prevents weeds from taking root, eliminating the need for herbicides and reducing organic waste from weeding.



Reduced pesticide waste & residue
Controlled indoor environments reduce pest infestations, cutting hazardous pesticide container waste and chemical residues on produce.



Rekriti Upcycled fashion

The challenge

Nepal's textile industry generates massive waste from unsold inventory and factory scraps. With limited recycling options, usable fabric goes straight to the landfill.

The solution

An upcycling brand that transforms discarded textiles (like denim and twill) into functional bags.

Circular features



Collection Network
Gathers fabric from factories, tailors, thrift stores, and donations.



Inclusive Production
Creates home-based, flexible employment for women who have caregiving responsibilities. This preserves local sewing skills and supports economic participation.

"Circularity is about optimizing the environmental and social benefits in each step of the business operation."

– Nasana Bajracharya, Rekriti



Shikar Agro Sustainable food systems

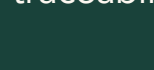
The challenge

Conventional meat processing creates large amounts of discarded by-products, contributing to environmental pollution and a lack of consumer traceability.

The solution

A transparent supply chain that maximizes the use of every part of the animal to provide high-quality, ethically sourced meat.

Circular features



By product utilization
Transforms bones, skins, and other processing waste into pet food, animal feed, and organic fertilizers.



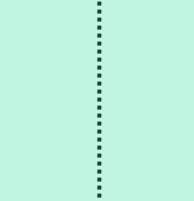
Ethical sourcing
Partners with local farmers who practice sustainable agriculture, strengthening rural livelihoods, and free ranging animals.



Waste-to-energy
Exploring technologies to convert organic waste into bioenergy, reducing dependence on fossil fuels.



Traceability
A fully traceable supply chain empowers consumers to make ethical choices and builds trust.



Kinnovation Trading Renewable energy solutions

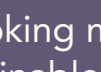
The challenge

Nepal faces limited access to clean, reliable energy in rural areas, reliance on fossil fuels and traditional cooking methods, and a need for sustainable livelihoods and reduced environmental impact.

The solution

Kinnovation provides renewable energy and clean technology solutions—such as solar-powered systems, electric mobility infrastructure, and clean cooking technologies—to support rural communities, enable sustainable entrepreneurship, and accelerate the transition to a green economy.

Circular features



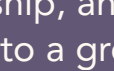
Renewable energy systems
Solar PV technologies replace fossil fuels, reducing emissions and reliance on non-renewable resources.



Solar-powered food processing
Solar greenhouse dehydration systems extend the shelf life of agricultural produce, reducing food waste.



Electric mobility infrastructure
EV charging stations support the shift to low-emission transport and more efficient energy use.



Clean cooking solutions
All-electric cooking reduces indoor air pollution and dependence on biomass, improving health and resource efficiency.

ABOUT

Roots of Circularity (RoC) Nepal is an innovative, educational project with the aim of developing a strong and engaging ecosystem for the Circular Economy in the country.