

# Key Sustainability Principles

## 3: Key Sustainability Principles

What are some of the most important environmental issues in Kiribati that green businesses can help address? We've mentioned some of these above, but in this section we'll take a closer look at why these problems exist, and explore some examples of existing green businesses that are addressing them.

### Food and water security

In many urban areas across Kiribati, such as Betio, land is scarce. More people moving to these areas means that there is less space to grow crops, the soil is poorer, and there is more demand for limited water resources. Climate change and saltwater intrusion are also reducing the amount of freshwater available. Taken together, these issues mean that clean water and fresh food are not as plentiful as they should be to ensure good health and nutrition.

Green businesses that are working to restore and protect landscapes and soil health include those making organic compost to sell to farmers as an agricultural input, nursery and land management businesses, organic farms, and tourism-related businesses that are actively protecting land through their operations.



A small enterprise in South Tarawa growing local green vegetables for sale (Photo credit: Kristin Deason)



[This short video](#) by Te Maeu Projects<sup>10</sup> features a social enterprise in Kiribati that promotes hydroponics (growing plants without soil) as a way of improving food security and nutrition for households.

### Environmental degradation and biodiversity conservation

Many areas in Kiribati have experienced significant erosion, from both natural causes and human activities, such as mining of sand and aggregate. This can cause loss of land, infrastructure, and important habitats. Some areas such as lagoon ecosystems are affected by pollution from increased solid waste, sewage, and liquid waste discharges. In addition, Kiribati has a vast exclusive economic zone of over 3.5 million km<sup>2</sup> of ocean resources.

<sup>10</sup> YouTube video: "Eritai Kateibwi, UN Environment Young Champion of the Earth for Asia Pacific," 1 December 2017, <https://youtu.be/UV73qm5dWeU>.



Mangroves play an important role in Kiribati's ecosystems. Photo Credit: Kristin Deason

Conserving these areas and the biodiversity of the plants and animals that live there is important because these natural resources provide food and support industries including tourism and fisheries. Mangroves, for instance, play a vital role in regulating our climate and water, as carbon sinks, as habitats for important animal species, as sources of medicinal plants, and in stabilising coastlines from erosion.

Green businesses that help to protect ecosystems and conserve biodiversity include those that use natural resources in a sustainable way, for example those that replant any trees or plants that have been cut down to make products for sale or that treat wastewater before returning it to the ecosystem. Another example is businesses that educate others on how to help conserve important ecosystems. Kiribati's tourism sector, which is a priority sector for development, depends on healthy oceans to attract tourists, and can play a role in promoting sustainable marine practices.

e.g.

[Mangroves for Fiji](#)<sup>11</sup> is a business in Fiji that enables tourists to offset their carbon emissions and support mangrove rehabilitation.

e.g.

[Beqa Adventure Divers](#) in Fiji<sup>12</sup> describes itself as a conservation project masquerading as a dive shop and works to protect sharks in the Beqa Lagoon in partnership with local communities.

## Climate change

Climate change is already changing rainfall patterns and causing increased temperatures and sea-level rise. These impacts will be felt differently across the country, across different sectors and communities.

Green businesses that can help address the causes of climate change include those that reduce greenhouse gas emissions and the use of fossil fuels (see below), and those that produce local products to replace things that

11 Mangroves for Fiji, <http://mangrovesforfiji.com/>.

12 Beqa Adventure Divers, <http://fijisharkdive.com/>.



The effects of climate change can already be seen in some areas of Kiribati. Photo credit: Norma Rivera

are currently being imported (as importing goods requires the use of fossil fuels to transport them to Kiribati).

Green businesses will also be needed to address the impacts of climate change, for example by making infrastructure less susceptible to flooding (e.g., by planting mangroves to protect shorelines) or by providing increased water security through new water management techniques and/or technology. Businesses could also include services to enhance the resilience of communities and businesses (e.g., with weather information services for the agriculture and tourism industries).

e.g.

[Tobaraoi Travel](#)<sup>13</sup> sells solar water systems that purify water (including brackish water) by using solar energy to evaporate and condense it. This can reduce plastic-bottled water use and help make communities more self-sufficient.



A solar water purification system from Tobaraoi Travel

## Fossil fuel dependency

Kiribati is heavily dependent on imported fossil fuels like petrol and diesel for transport and electricity. Fossil fuels contribute to air pollution and to global climate change, and pose a serious environmental hazard in the event of an oil spill. While Kiribati's greenhouse gas emissions may be relatively small, the Government of Kiribati is committed to decarbonising the economy, and shifting towards cleaner transport and renewable energy generation systems.<sup>14</sup>

Green businesses that help reduce fossil fuel use include those supplying solar hot water and solar electricity systems, energy audit services that support businesses in saving energy, and providers of low-emission transport (e.g., bicycles, traditional sailing, electric cars and scooters, sail- and solar-assisted vessels).

Transforming transport and energy systems will also require many associated services – such as solar technicians, battery recycling, electric scooter and car technicians, e-transport charging infrastructure, traditional sailing experts, and information and communication technology experts.

e.g.

[Kiribati Solar Energy Company](#)<sup>15</sup> provides solar-powered products for communities, businesses, and residential customers.

13 Tobaraoi Travel, <http://www.tobaraoi.com/>.

14 Government of Kiribati, "Kiribati 20-Year Vision 2016-2036," (also known as the "KV20") <http://www.mfed.gov.ki/sites/default/files/KIRIBATI%2020-YEAR%20VISION%202016-2036%20.pdf>.

15 Kiribati Solar Energy Company, <http://solar.com.ki/>.



Waste at the landfill site on South Tarawa. Photo Credit: Kristin Deason

## Waste and the circular economy

The proper disposal of waste is a challenge in Kiribati. Rubbish that is thrown on the ground or into the sea can contaminate water supplies, threaten wildlife, and just doesn't look very nice!

When the waste makes it into a rubbish bin, it eventually goes to the landfill. Although it is better for the rubbish to be in the landfill than on the ground or the sea, there are still some issues because the landfill can also contaminate water supplies, generate methane (a greenhouse gas) when organic waste breaks down, and take up valuable space. Sometimes, waste is burned, but this is not a good solution because it causes air pollution and releases carbon emissions.

The best solution is to first reduce waste as much as possible, reuse any waste that you can, and then to dispose properly of the rest. It is particularly important to reduce single-use plastics such as straws, water bottles, and styrofoam containers, along with composting organic waste instead of sending it to the landfill.

Green businesses can help with the waste issue by using reusable instead of disposable items (like cups and plates), composting their organic waste, finding ways to reduce the amount of waste they produce, and making sure they dispose of their waste properly. Some business are fully established around addressing the waste issue – they may make or sell alternatives to single-use plastics (such as plates or food containers made from leaves or paper, or biodegradable plastic bags). Recycling companies that support the disposal and reuse of waste products can also help reduce the amount of waste going to landfill.

**e.g.**

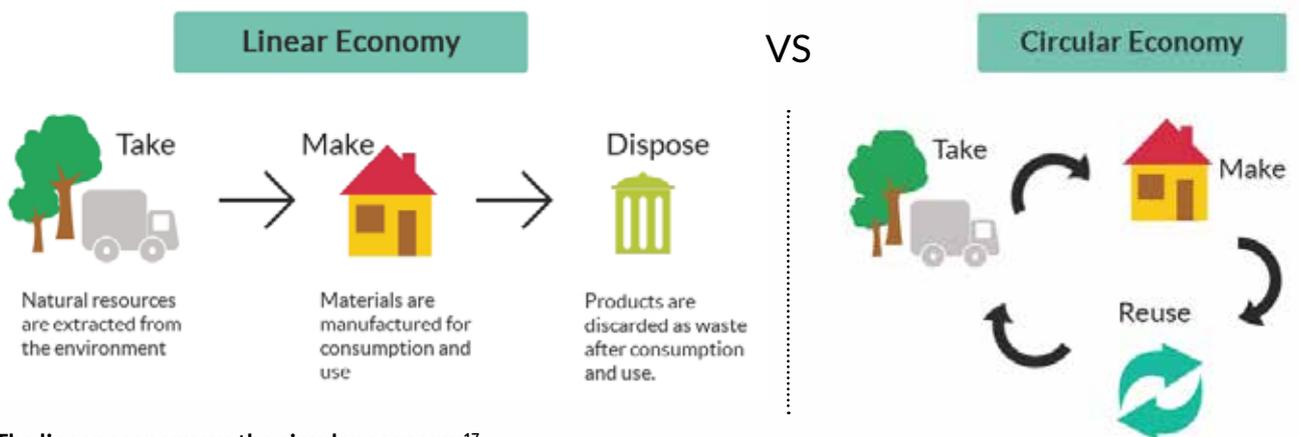
**EXAMPLE:** [Kaoki Maange](#)<sup>16</sup> provides a government-contracted, private sector-run, recycling service to residents by recycling scrap steel, lead acid batteries, used beverage cans, plastic bottles, end-of-life vehicles, and electronic waste, and exports them offshore.

<sup>16</sup> SPREP, "Kiribati "Kaoki Maange" System, over a decade of operation," 21 August 2018, <https://www.sprep.org/news/kiribati-kaoki-maange-system-over-decade-operation>.



A collection point for the Kaoki Mangle recycling initiative Photo Credit: Kristin Deason

Another way that green businesses can address waste is by creating a more circular economy – that is, by using the waste products of another industry or business as their input. Currently, our society is mostly linear – we use raw materials to make products and then dispose of them at the end of their useful life. This has been described as the “Take – Make – Dispose” economy. To create a more sustainable circular system, green businesses can make new products from existing waste products, reducing overall waste.



The linear economy vs the circular economy<sup>17</sup>



[This short video](#)<sup>18</sup> describes the evolution of thinking about the environment and the business world.

17 Graphics by Margaret Seruvatu, GGGI.

18 YouTube video: HSGUniStGallen, “Little Green Bags: True Business Sustainability,” 9 March 2016, <https://youtu.be/AEFqUh4PMml>.



**e.g.**

[Sole Rebels](https://www.solerebels.com/)<sup>19</sup> is an Ethiopian company that makes shoes from recycled materials.



Sole Rebels manufactures shoes from recycled products and describes itself as “Green by Heritage”<sup>20</sup>

### Addressing challenges the Pacific way!

Many of the traditional ways of farming, fishing, carrying and packaging items, and constructing homes and boats are inherently sustainable and use natural materials such as leaves, vines, and wood.

As Kiribati has become increasingly part of the global system people have shifted away from using local resources to becoming dependent on imported goods, such as rice as a mainstay of diets and plastics from around the world for packaging. A move to a more sustainable world may mean learning from the past, and re-introducing or re-adopting some of Kiribati’s traditional practices.



Replacing plastic bags and packaging with locally-sourced biodegradable material can reduce the volume of non-biodegradable waste and provide income-generating opportunities locally

<sup>19</sup> Sole Rebels, <https://www.solerebels.com/>.

<sup>20</sup> Source: Sole Rebels, <https://www.solerebels.com/>.