

## ENERGY IS THE ABILITY TO DO WORK AND IT IS ALL AROUND US

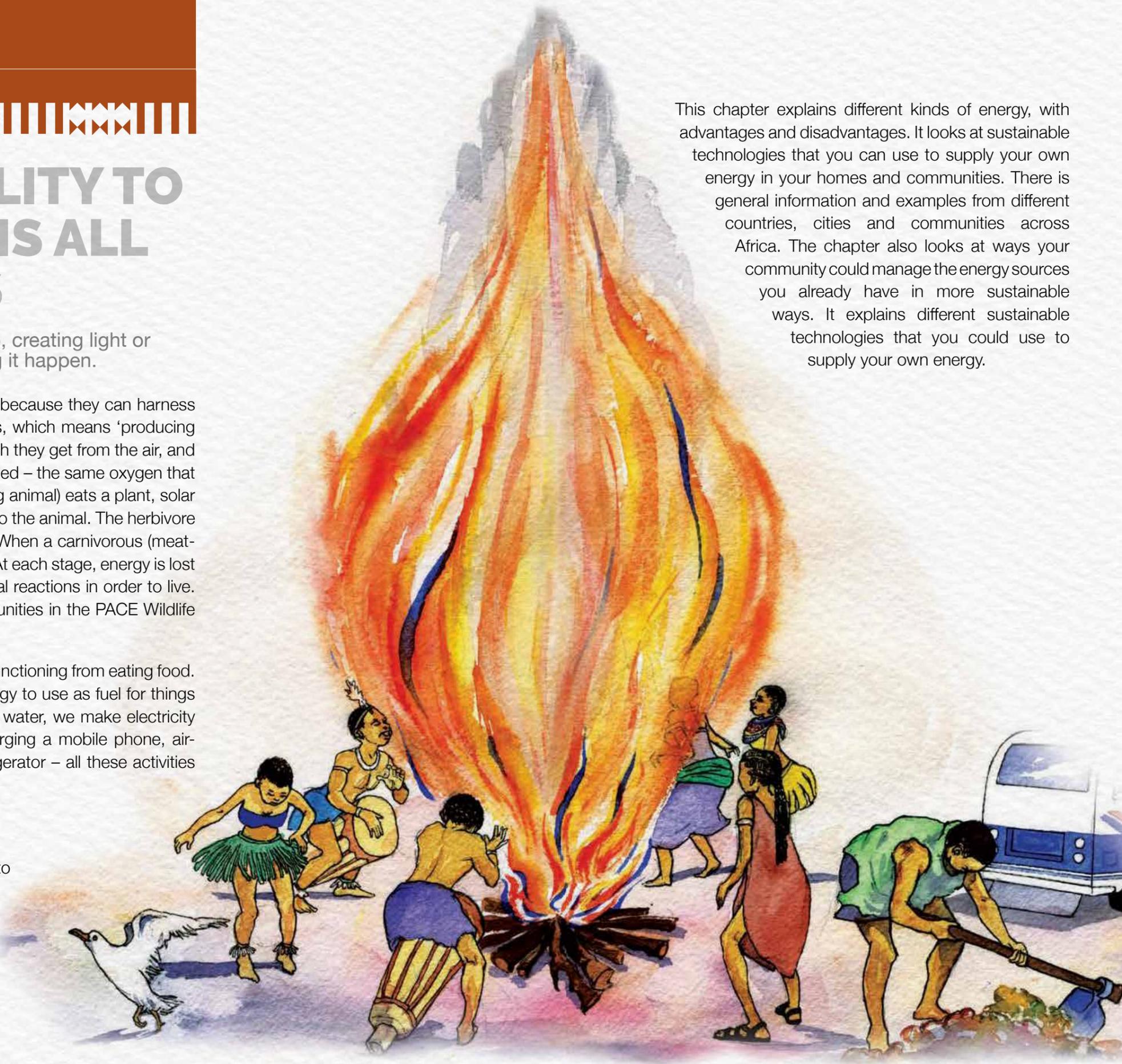
If you notice anything moving, growing, heating up, creating light or producing a sound, energy is what is making it happen.

Almost all energy originally comes from the sun. Plants are special because they can harness the sun's energy. They use a unique process called photosynthesis, which means 'producing from light'. It uses the energy in sunlight to take carbon dioxide which they get from the air, and water, from the ground, to produce biomass. Oxygen is also produced – the same oxygen that we people and animals depend on! When a herbivore (a plant-eating animal) eats a plant, solar energy that the plant collected and used to create biomass passes to the animal. The herbivore digests the food it ate, uses some of the energy and stores some. When a carnivorous (meat-eating) animal eats the herbivore, so the energy is passed on again. At each stage, energy is lost as heat from the animal's body as it undertakes all sorts of chemical reactions in order to live. You can read about food chains, food webs and ecological communities in the PACE Wildlife booklet

Like animals, humans get energy to move and to keep their bodies functioning from eating food. But unlike animals, humans have found ways to harness extra energy to use as fuel for things that make their lives easier. We burn wood to cook food and heat water, we make electricity to light our homes and towns at night, listening to the radio, charging a mobile phone, air-conditioners and fans, keeping food and medicines fresh in a refrigerator – all these activities need energy.

### Universal access to electricity

Some people are unable to access or afford enough energy to meet their basic needs - cooking food, lighting their homes and neighbourhoods. Other people have unlimited electricity, use banks of air-conditioners, fridges, freezers and can splash large properties with light. This inequality is not only to do with wealth, it is about finding the right technology and sustainable ways to meet everybody's energy 'needs' and as many energy 'wants' as possible.



This chapter explains different kinds of energy, with advantages and disadvantages. It looks at sustainable technologies that you can use to supply your own energy in your homes and communities. There is general information and examples from different countries, cities and communities across Africa. The chapter also looks at ways your community could manage the energy sources you already have in more sustainable ways. It explains different sustainable technologies that you could use to supply your own energy.