



THINK NAMIBIA

FACT SHEET ON:

Conserving Energy

PRACTICAL OPTIONS FOR CONSERVING ENERGY AT HOME

The purpose of this fact sheet is to share a few practical tips on how to save and conserve electricity in our homes.

is extremely important for industrial development in Namibia hence the need for all of us to play our role in conserving it.

Introduction

Most of us are familiar with the word "energy". We often say that someone has a lot of energy. But what is energy and how do we all depend on it? Energy is responsible for the growth of food and for providing warmth and light. It keeps people alive, it transports them, provides fuel for their engines and electricity in their homes. Energy is what keeps economies of the worlds running (DRFN, 1992).

Primary energy sources take many forms, including nuclear energy, fossil energy (e.g. oil, coal and natural gas) and renewable sources such as wind, solar and hydropower. These primary sources are converted into electricity, which flows through power lines and other transmission infrastructure to the end user.

In Namibia, energy is a composition of liquid fuels, electricity, geothermal energy, gas, coal, solar water heaters and cookers, charcoal and wood (Republic of Namibia, 2013). The most dominant energy sector in Namibia is the liquid fuel, which includes petrol and diesel. It accounts for about 63% of total energy net consumption, followed by electricity with 17% net consumption, followed by coal with 5%. The remaining 15% is from other types of energy such as solar, wood, wind energy among others (Energy White Policy Paper, 1998). Namibia only has 3 major power generation stations, with an installed capacity of about 500 MW.

The potential for social and economic development in Namibia depends on the country's ability to generate adequate energy (DRFN, 1992). Electricity

SOME SOURCES OF ENERGY



SOLAR - Sunlight provides us with most of the energy on the planet.



WIND - Wind provides energy to turn windmills (to pump water) and turbines (to generate electricity). Today, people are realising that wind power is one of the most promising energy sources that can serve as an alternative to fossil fuel-generated electricity.



ELECTRICITY - It is a secondary source of energy because it is generated by the conversion of a primary source.



NUCLEAR - Nuclear power is the use of sustained nuclear fission to generate heat and electricity. Nuclear power plants provide about 6% of the world's energy and 13 to 14% of the world's electricity (US Department of Energy, 2015).



FOSSIL - These are non-renewable resources that formed when prehistoric plants and animals died and were gradually buried by layers of rock. Over millions of years, different types of fossil fuels formed, depending on what combination of organic matter was present, how long it was buried and what temperature and pressure conditions existed as time passed.

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The potential for social and economic development in Namibia depends on the country's ability to generate adequate energy (*DRFN, 1992*). Electricity is extremely important for industrial development in Namibia hence the need for all of us to play our role in conserving it.

Electricity Saving Tips



Opt for florescent bulbs/low energy light bulbs

- Florescent lamps last 8 to 10 times longer than ordinary bulbs and provide 4 to 5 times the amount of light. LED lights are also becoming very popular.



Switch Off

- Turn the lights off when you leave a room.
- Never leave your personal computer on when not in use as it burns a large amount of energy.
- Turn your television off at the wall when not in use. A television on standby is still using 80% of its power.



Use natural heat

- In summer, use light coloured curtains to reflect the sun and heat outward and use dark

coloured curtains in winter to trap heat inside.

- In winter close your curtains when it starts getting dark to reduce the mount of heat escaping through the windows.



Use solar energy

- Solar water heating can reduce household electricity by about 40-50%.
- Solar photo-voltaic (PV) panels generate electricity from sunlight. Although a whole house system may be a once-off expensive option, small panels can be used efficiently to power certain appliances in the house.
- You can bake, boil and steam your family meals using the sun's energy. The outdoor Sun Oven can cook food at temperatures over 200OC and can be used during all seasons.



Be energy savvy with your refrigerator by:

- Do not open the fridge door unnecessarily and make sure the seal around the door is intact. Close the door on a piece of paper, if you can pull the paper easily, the seal should be replaced
- A refrigerator operates at peak efficiency when filled to capacity, but be sure to leave spaces and gaps between items in order to allow old air to circulate freely
- When you upgrade or purchase a new fridge or freezer, make sure it is an energy efficient model. An A++ rating denotes the best energy efficiency.
- If it is practical, place your fridge away from your cooker and make sure it isn't in direct sunlight - it will operate more efficiently if it's in a cool spot.
- Keep your fridge at between 3 and 5°C and your freezer at -18 °C. Maintaining these temperatures consistently will keep your food cool and you energy bills down.
- Only one tenth of a freezer's capacity should be used for freezing fresh food at any one time, therefore add a new load of fresh food only after the previous load is completely frozen.

- Keep the freezer as full as possible to prevent heavy icing and never allow frost build-up to exceed 0.6 to 1.3cm in thickness



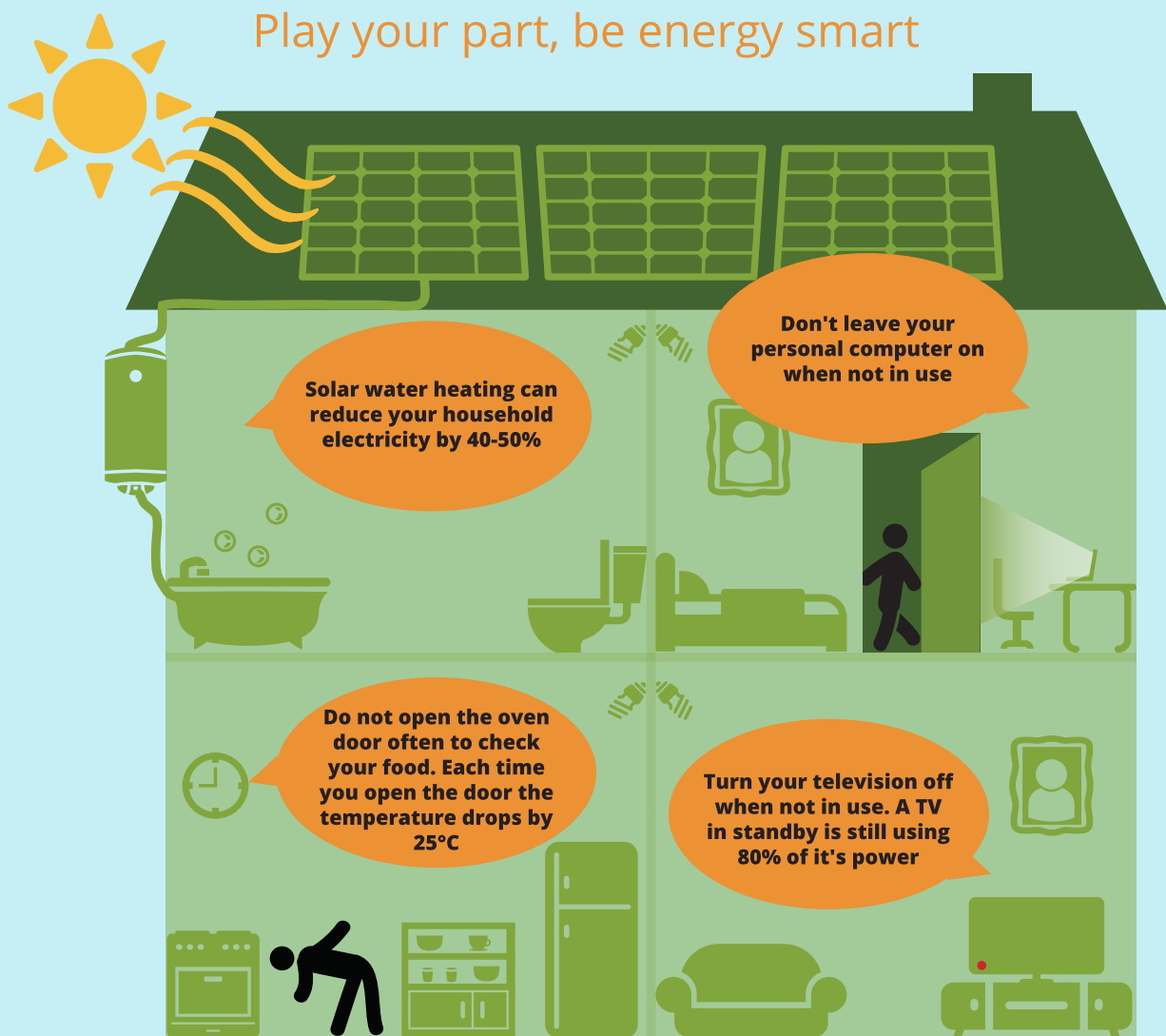
Be energy savvy with your cooker(stove) by:

- Use pots and pans with flat bottoms and tight fitting lids and be sure that they completely cover the stove plates.
- Where possible, cover up your pots and pans. This will help your food to cook more quickly and generates a higher temperature allowing you to turn down the stove.
- Only use as much water as you need in a pot. Every extra drop requires more energy to heat and will increase the cooking time.
- Do not open the oven door often to check your food. Each time you open the door the oven temperature drops by 25 degrees. Watch the clock or use a timer instead.
- Occasionally check the seal on your oven door for cracks or tears. Even a small tear or gap can allow heat to escape. In addition, a clean seal will retain heat more effectively.



Be energy savvy with your water geyser by:

- Install a hot water system as close as possible to the points of most frequent use, usually the kitchen or bathroom, and insulate the hot water pipe properly.
- Wrap up your geyser. Fitting insulation around your geyser is one of the cheapest and easiest ways to improve your energy efficiency.
- Set your thermostat at 60OC as your water does not need to be boiling.



Glossary:

Biogas

A gas produced by the fermentation of animal and human dung and crop residues.

Biomass

Biomass is biological material derived from living, or recently living organisms. In the context of biomass for energy this is often used to mean plant based material, but biomass can equally apply to both animal and vegetable derived material.

Biomass Fuel

Any substance which forms part of a living organism or is produced by a living organism, that can provide heat and light by burning.

Convert

To change from one thing or state to another.

Efficiency

A measure of how much energy applied to a device is converted into useful work.

Electricity

A type of energy. A type of electric current for lighting, heating etc.

Energy

The capacity to do work.

Insulator

A substance which does not efficiently conduct heat or an electric current.

Organism

Anything that is living.

Renewable Source

A natural resource that, through careful management, will replace itself as fast as it is used. The term is also used to describe energy sources that will never run out like wind, and solar.

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Author:
Greater Mukumbira
Desert Research Foundation of Namibia
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FOR MORE INFORMATION CONTACT THE ENVIRONMENTAL AWARENESS AND CLIMATE CHANGE PROJECT:

Hanns Seidel Foundation Namibia, House of Democracy,
70-72 Dr Frans Indongo Street, Windhoek West
P.O. Box 90912, Klein Windhoek, Windhoek, Namibia

Tel: +264 (0) 61 237373 **Fax:** +264 (0) 61 232142 **Email:** enviropject@hsf.org.na

www.enviro-awareness.org.na