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science
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Science and Technology
REPUBLIC OF SOUTH AFRICA

Energy Efficiency



RENEWABLE & SUSTAINABLE
ENERGY STUDIES

What can we do?

We can start to look out for **energy efficient machines**

- ESKOM **exchanges** old **light bulbs** for **CFL's** (Compact Fluorescent Light bulbs)
- ESKOM offers **rebates on solar water-heating systems**
- Many **modern machines**, from cars to kettles, are **more energy efficient** than older machines



Energy Efficiency

Energy-efficient Domestic Appliances

- Designed to **use as little energy** as possible
- Efficiency is: **'more with less'**



Energy		Washing machine
Manufacturer Model		
More efficient Less efficient		A
Energy consumption kWh/cycle <small>(based on standard test results for 90°C cotton cycle)</small> <small>Actual energy consumption will depend on how the appliance is used</small>		0.95
Washing performance <small>A: higher G: lower</small>		A B C D E F G
Spin drying performance <small>A: higher G: lower</small> Spin speed (rpm)		A B C D E F G 1400
Capacity (cotton) kg		5.0
Water consumption l		55
Noise (dB(A) re 1 pW)	Washing	5.2
	Spinning	7.0
Further information is continued in product brochures		

Energy-Efficiency

Energy-efficient Transport

South Africa 's electric car – the **Joule**

Walking or **Cycling**



Toyota Prius



The world's first hybrid car

Hybrid cars have a **battery-powered electric motor** and a **petrol engine**

- *Low* fuel consumption
- *Low* CO₂ emissions

Make use of public transport:
Bus or **Train**

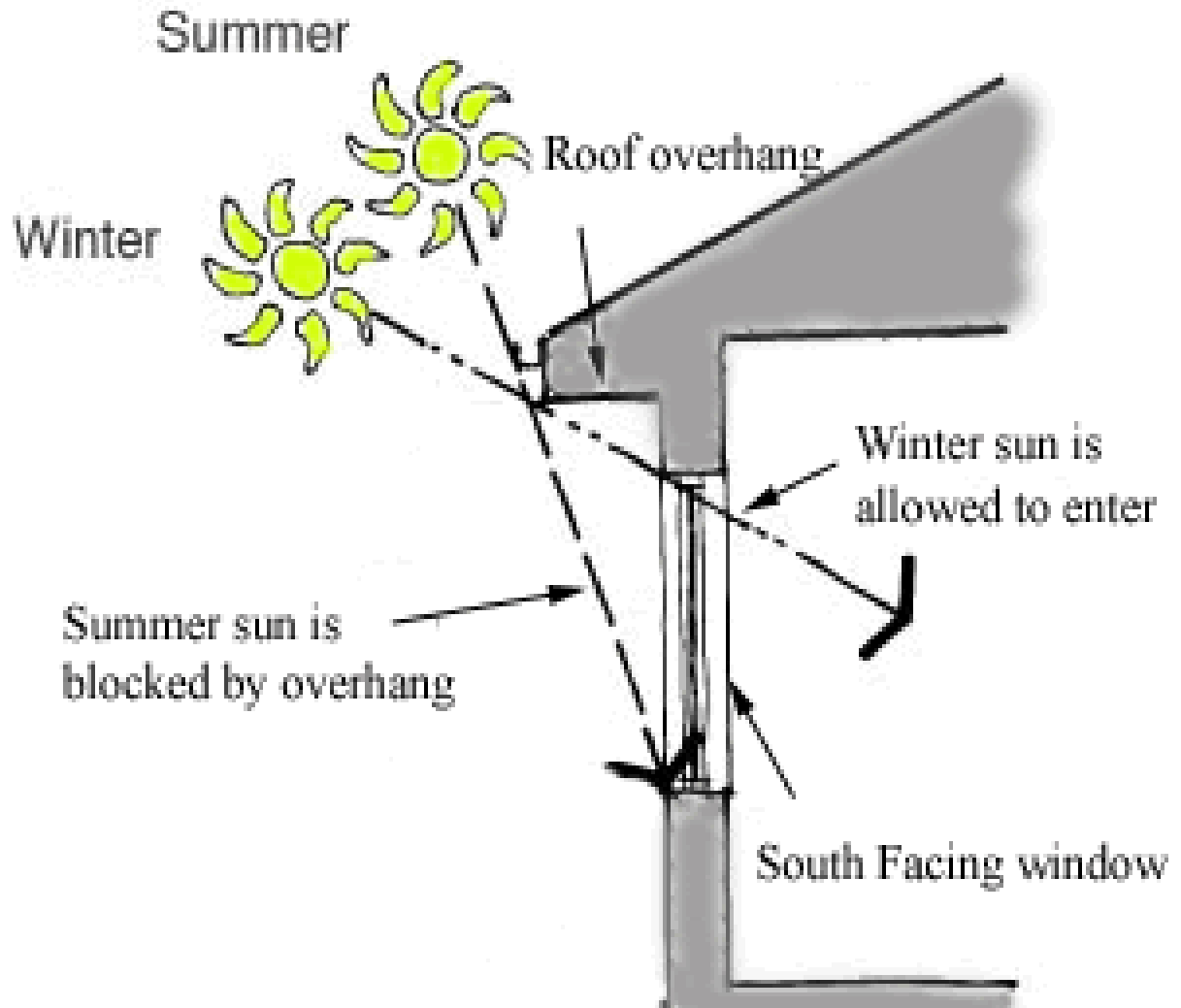


Energy-Efficiency

Passive Solar Energy

- **Buildings** can be **designed** to **keep energy in** during *winter* times and **keep heat out** during *summer* times

- **Insulation** can help regulate a home's **temperature**



Passive Solar Energy

Reuse & Recycle: Conserve Energy

- Everything we use **has been made** somewhere
- **Manufacturing** processes **use** large amounts of **energy**
- If we **throw things away** after we have used them, the **energy** is **wasted**
- We can **save energy** by **reusing** and **recycling** things



Newspapers, magazines
cardboard boxes, phone
books, junk mail, office
paper, old letters and
egg cartons



All glass bottles and
jars. Rinse and place
in bin. (No lids please)



Juice and
milk cartons



Rinsed soft drink
bottles plastic bottles
marked 1, 2, or R
(no lids please)



Steel and aluminium
cans, foil and
empty aerosols

Reuse & Recycle

The way forward?

We should start planning to use Renewable Energy

“I’ d put my money on the Sun and solar energy. What a source of power! I hope we don’ t have to wait ‘til oil and coal run out before we tackle that!”

Thomas Edison (1847–1931)

We do not inherit the land from our ancestors, we borrow it from our children.
Native American proverb

“The world will not evolve past its current state of crisis by using the same thinking that created the situation.”

Albert Einstein

Conclusion