

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-efficient appliances

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



| Energy | |
|---|------------------------------|
| Manufacturer Model | Washing machine |
| More efficient | A |
| A | → |
| B | → |
| C | → |
| D | → |
| E | → |
| F | → |
| G | → |
| Less efficient | |
| Energy consumption kWh/cycle (based on standard test results for 60 °C cotton cycle) | 0.95 |
| Actual energy consumption will depend on how the appliance is used | |
| Washing performance A: higher G: lower | A B C D E F G |
| Spin drying performance A: higher G: lower 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 contained in product brochures | |
| | |

Energy-Efficient Appliances

Energy-efficient Cars

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

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



Toyota Prius 2009

Toyota Prius

The world's first hybrid car



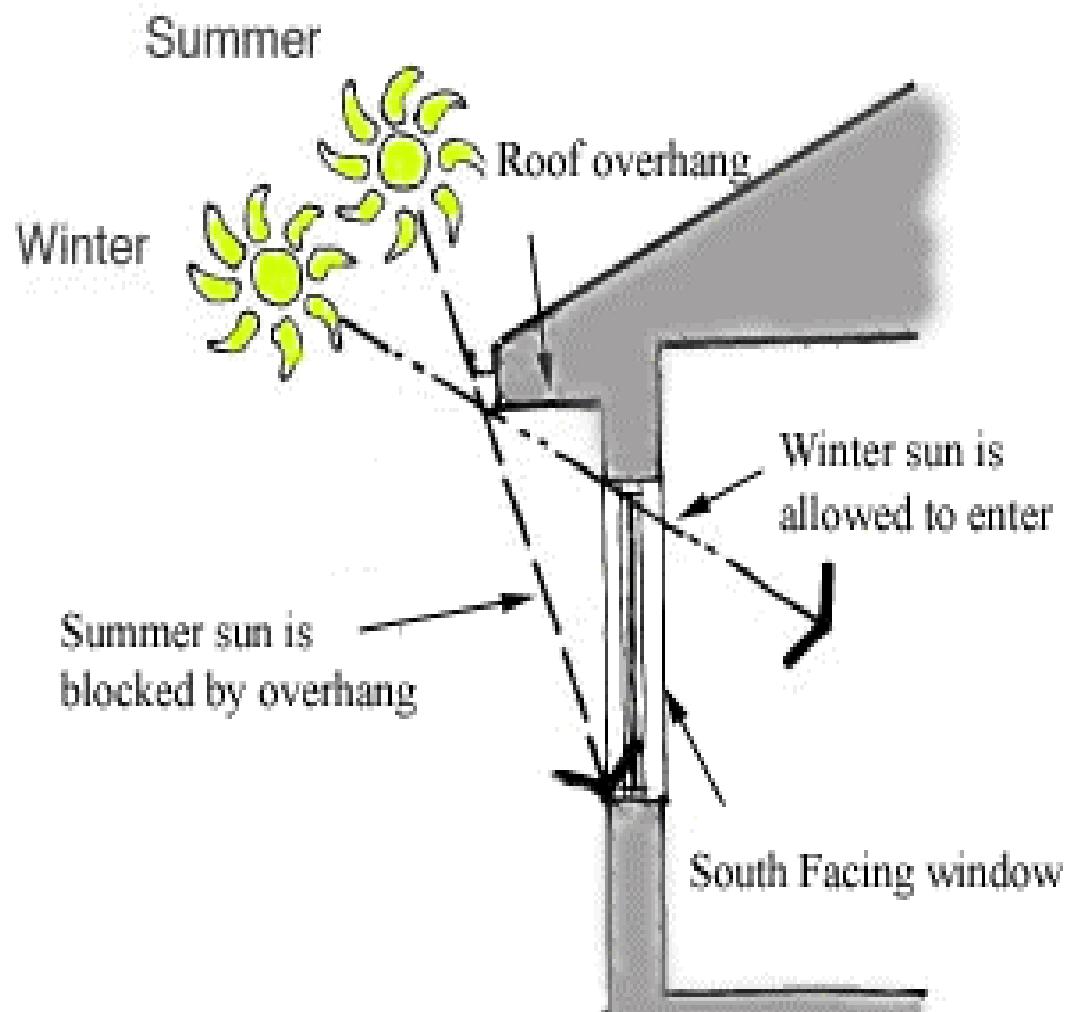
Lexus Hybrid



www.carscoop.blogspot.com
Energy-Efficient Cars

Passive Solar

- Buildings can be designed to keep **energy** in during *winter* times and **keep heat out** during *summer* times
- **Insulating** can help regulate a home's **temperature**



Passive Solar

Re-using and Recycling

- Everything we use **has been made** somewhere
- **Manufacturing** process **uses** large amounts of **energy**
- And if we **throw things away** after we have used them the **energy is wasted**
- We can **save energy** by **re-using** 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, alfoil and
empty aerosols

Re-using and Recycling

Conclusion

“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