Activity supported by the
Canada Fund for Local Initiatives

Activité réalisée avec l'appui du
Fonds canadien d'initiatives locales

Canada

Republic of Seychelles
Ministry of Environment & Energy

ClimateCaring.org

sustainability for seychelles

Renewable energy education in the Seychelles

MAGDALENA GÓRSKA – SUSTAINABILITY FOR SEYCHELLES

About Sustainability for Seychelles (S4S)

Our mission:

Sustainability for Seychelles is committed to helping Seychelles and other small island states work toward social, ecological and economic sustainability.

We aim to inspire, inform and enable people to live, work and play in ways that contribute positively to both human and natural communities.

About Sustainability for Seychelles (S4S)

Our projects touch on many themes:

- Water
- Waste
- Sustainable tourism
- Sustainable communities
- Green prison
- Climate change education
- Energy

some S4S projects & activities

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Promoting rainwater harvesting at home

Promoting sustainable management of waste

Climate change education workshops for young Seychellois

REDUCE YOUR CARBON FOOT PRINT

"footprints" in-flight video on responsible tourism practices

Sustainable home demonstration project and competition

Promoting sustainable living in Seychelles through messages on SPTC buses

Developing a national education and communication strategy to promote energy efficiency and conservation

Enhancing community participation in sustainable coastal management

Basic electricity

Introduction to Electricity

Source: ScienceOnline

https://www.youtube.com/watch?v=EJeAuQ7pkpc&index=112&list=WL&t=1s

Renewable energy

Renewable energy is energy which can be obtained from natural resources that can be constantly replenished.

Types of renewable energy technologies include:

Bioenergy

Wind energy

Solar energy

Ocean energy

Hydropower

Geothermal energy

source: http://arena.gov.au/about-renewable-energy/

Solar electricity
Solar Photovoltaic (PV) Energy

Solar Photovoltaic (PV) Energy

Solar electricity
Solar Photovoltaic (PV) Panels

Solar Energy 101 - How Solar Panels Work

Source: Solar Optimum

https://www.youtube.com/watch?v=dHVZ6jEf8To&list=WL&index=103

Solar – Photovoltaic (PV) Components

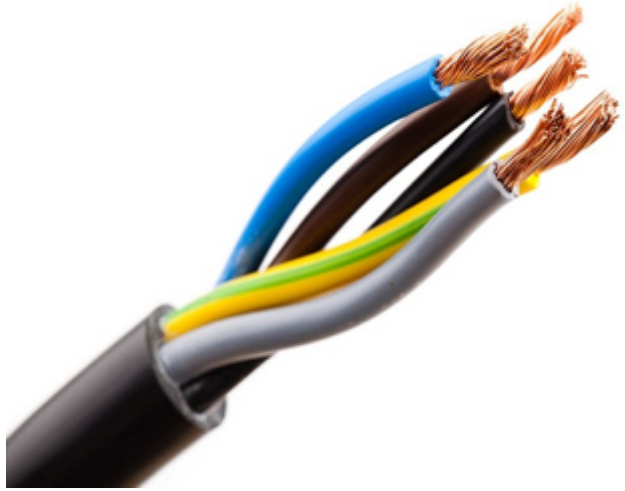
Solar panel

Solar charge controller

Inverter

Meter

Solar – Photovoltaic (PV) Components

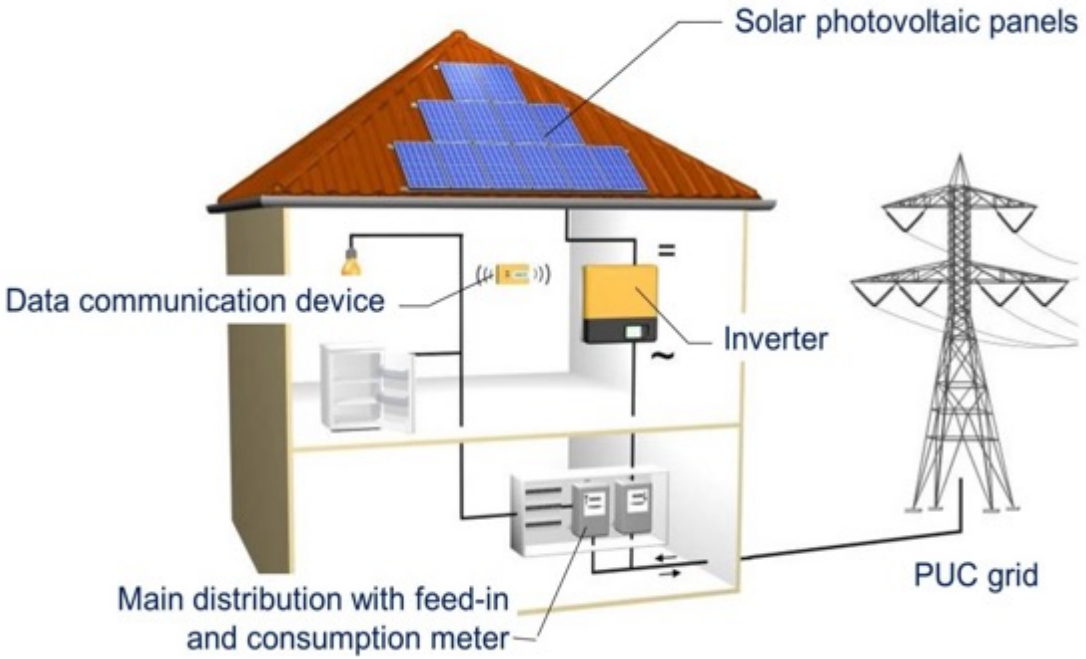


Wiring

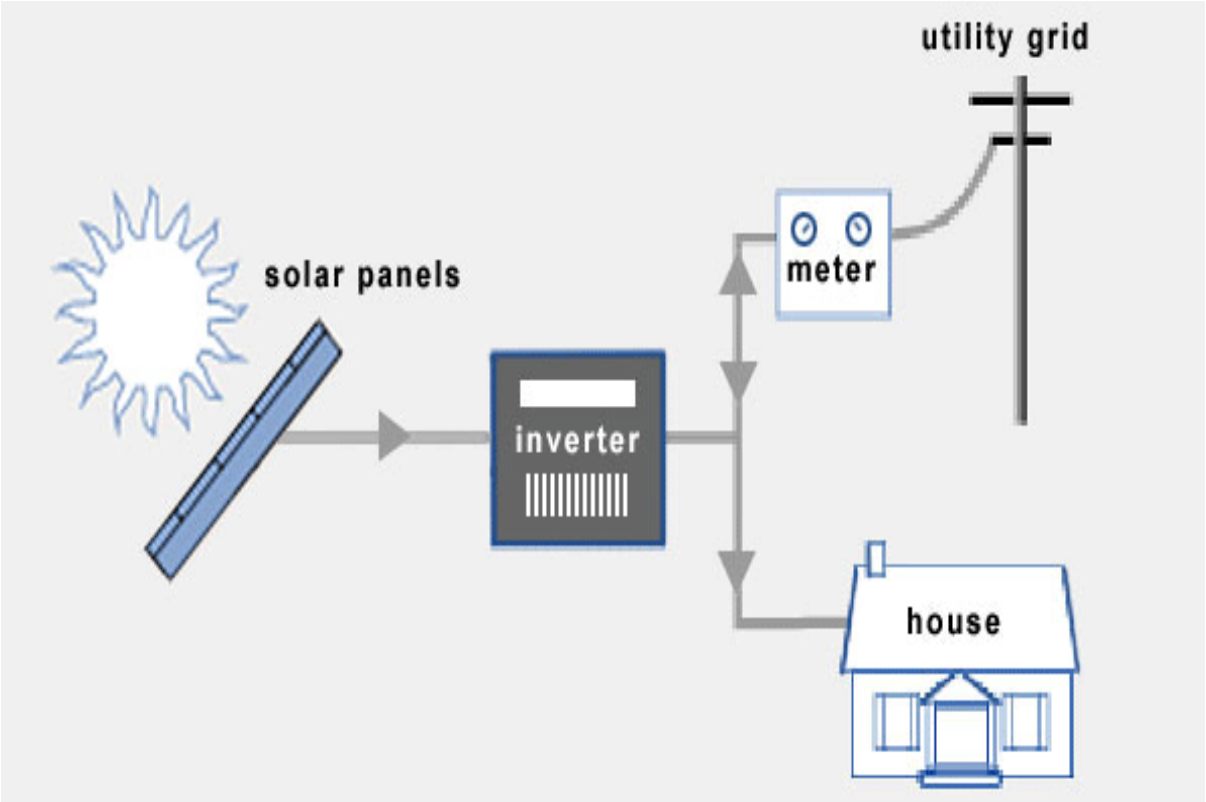
Battery bank

Types of PV Systems

Grid connect



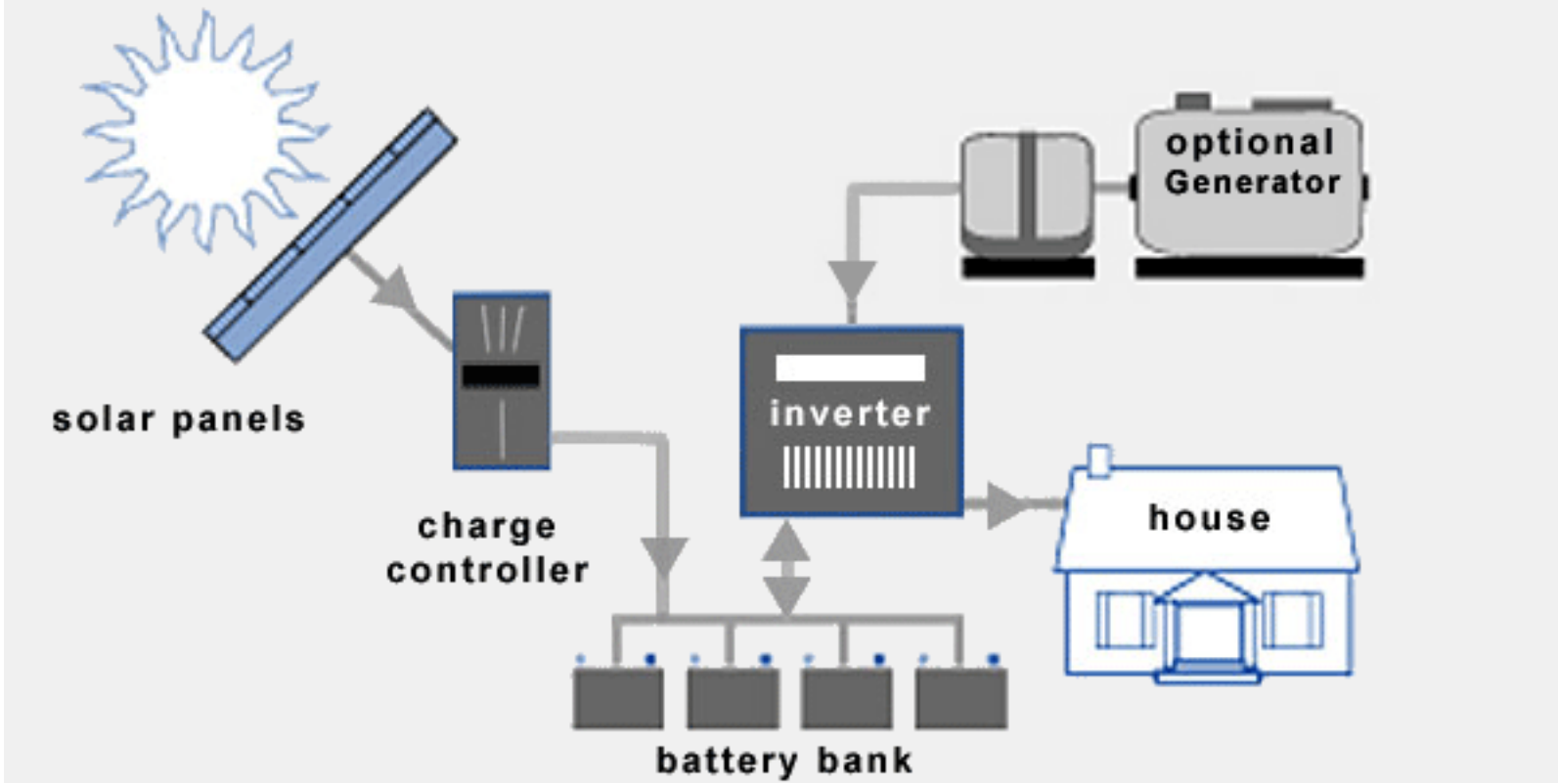
source: http://www.ssts.sc



source: http://energyinformative.org/grid-tied-off-grid-and-hybrid-solar-systems/

Types of PV Systems

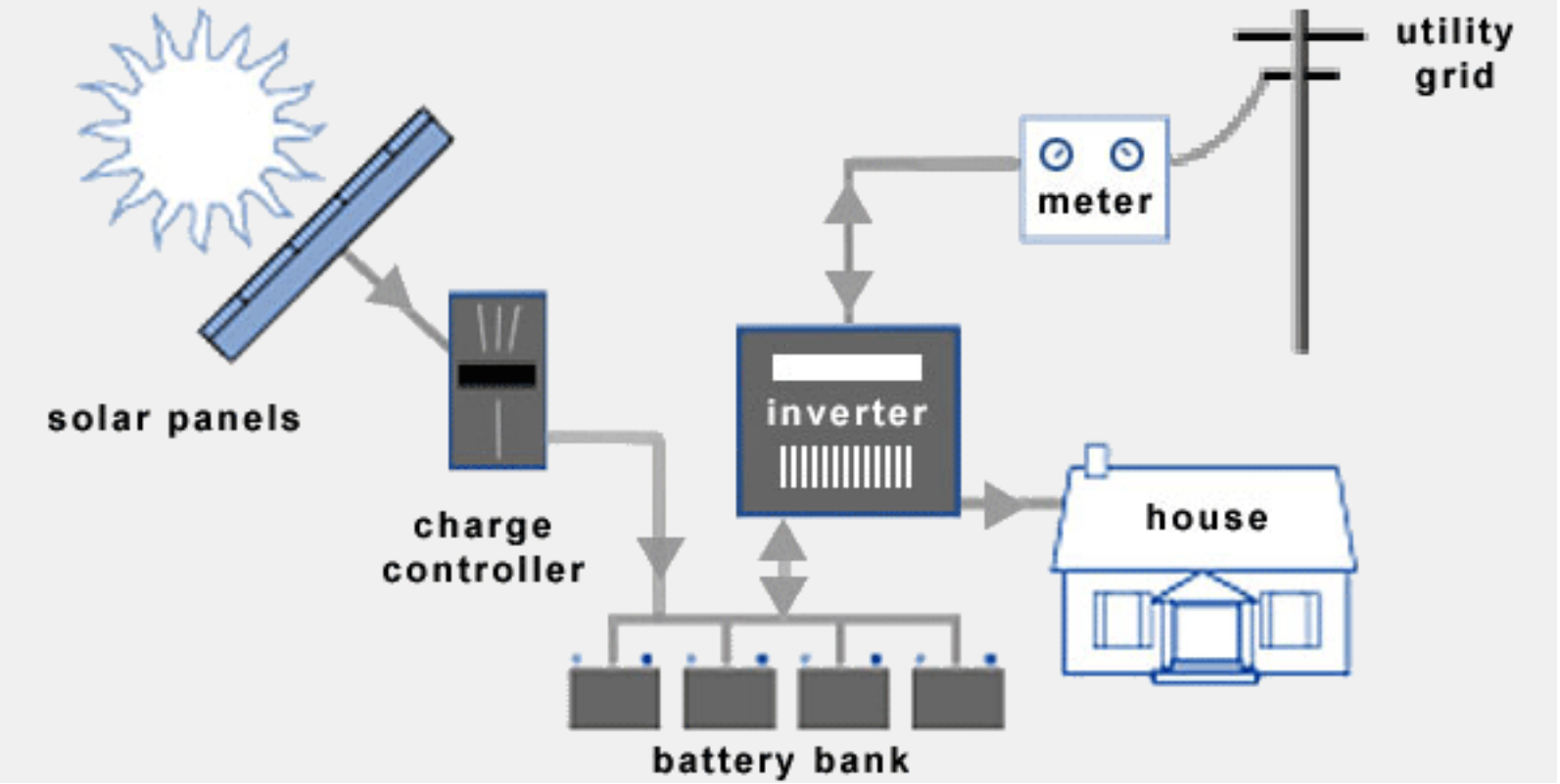
Off grid



source: http://energyinformative.org/grid-tied-off-grid-and-hybrid-solar-systems/

Types of PV Systems

Hybrid



source: http://energyinformative.org/grid-tied-off-grid-and-hybrid-solar-systems/

Advantages and Disadvantages of Solar Energy

ADVANTAGES

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ADVANTAGES

- Solar energy is FREE – it saves your money
- Zero carbon emissions
- Less polluting, more healthy
- Environmentally friendly
- Quiet
- Fuel supply is not necessary
- Can be installed where no other energy sources are available

Advantages and Disadvantages of Solar Energy

DISADVANTAGES

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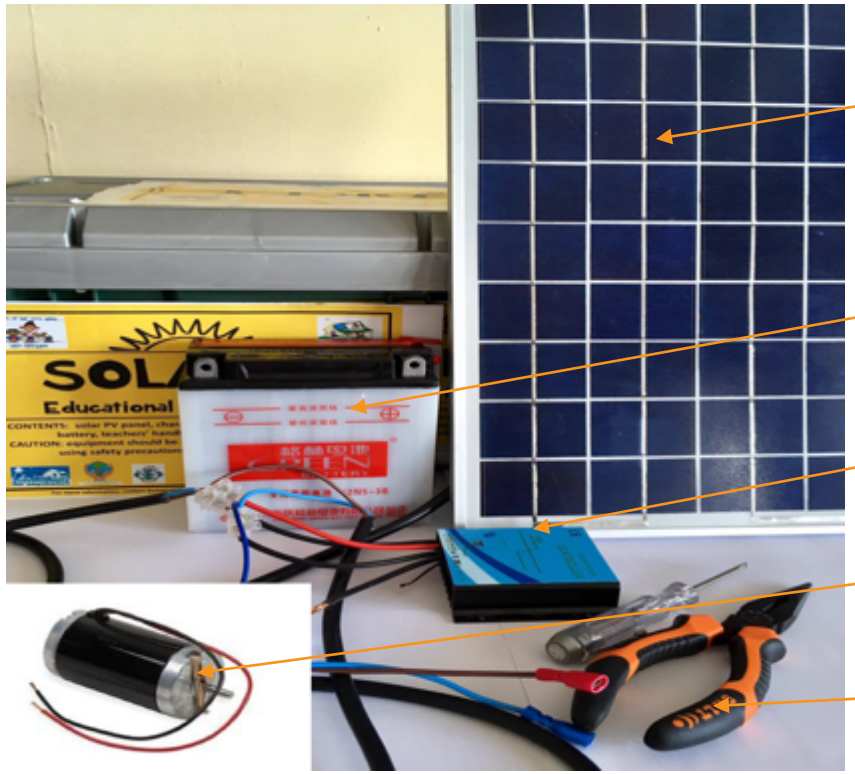
DISADVANTAGES

- No sun= no power
- High capital investment
- Need open space
- Solar inefficiency
- Solar does not work at night
- Solar panels are made of polluting materials

The Solar Photovoltaic Kit

Components of the PV school kit



PV panel

Lead-acid battery

Charge controller

Motor

Tools

Simple Direct Connection

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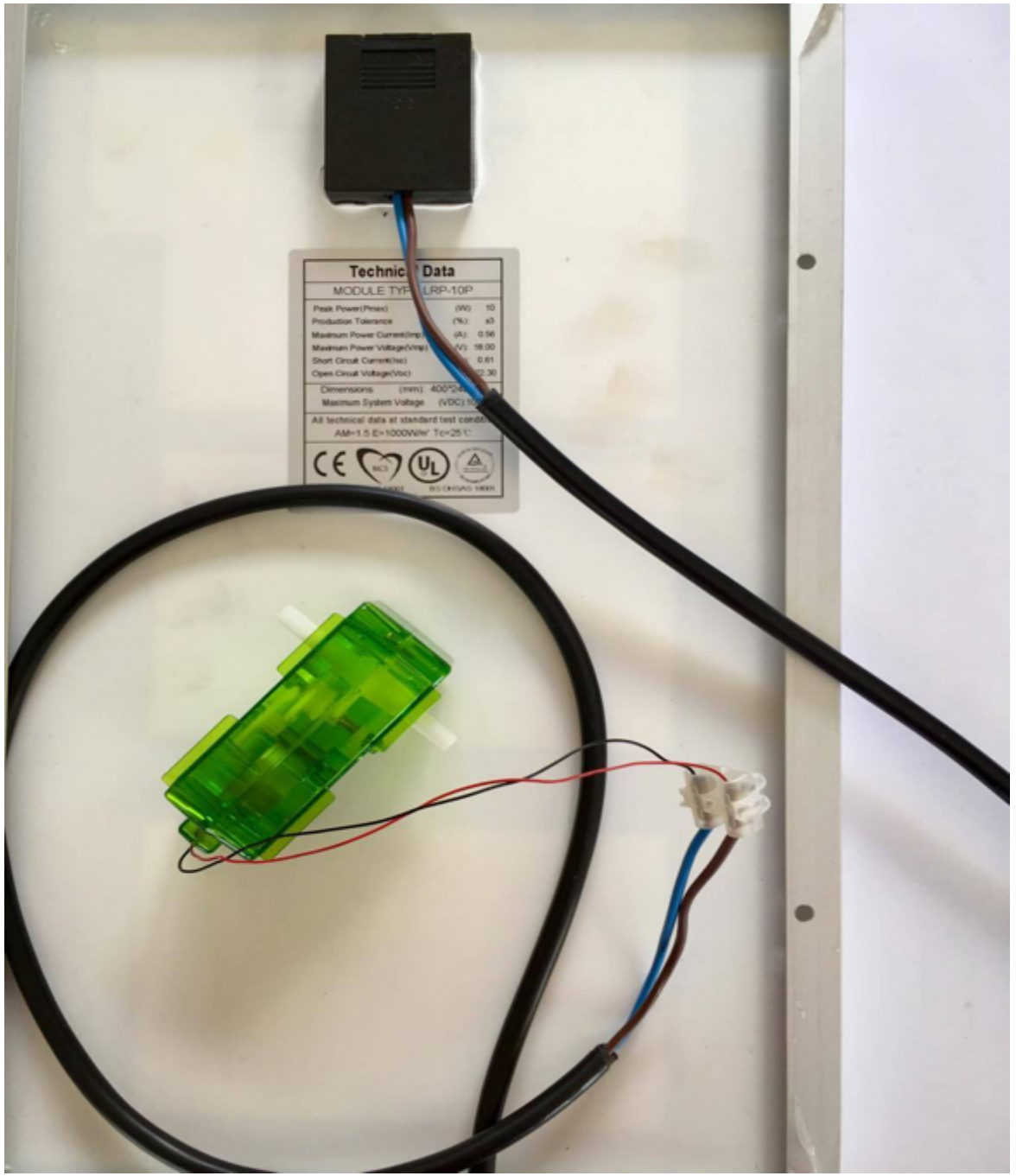

Connection with a battery

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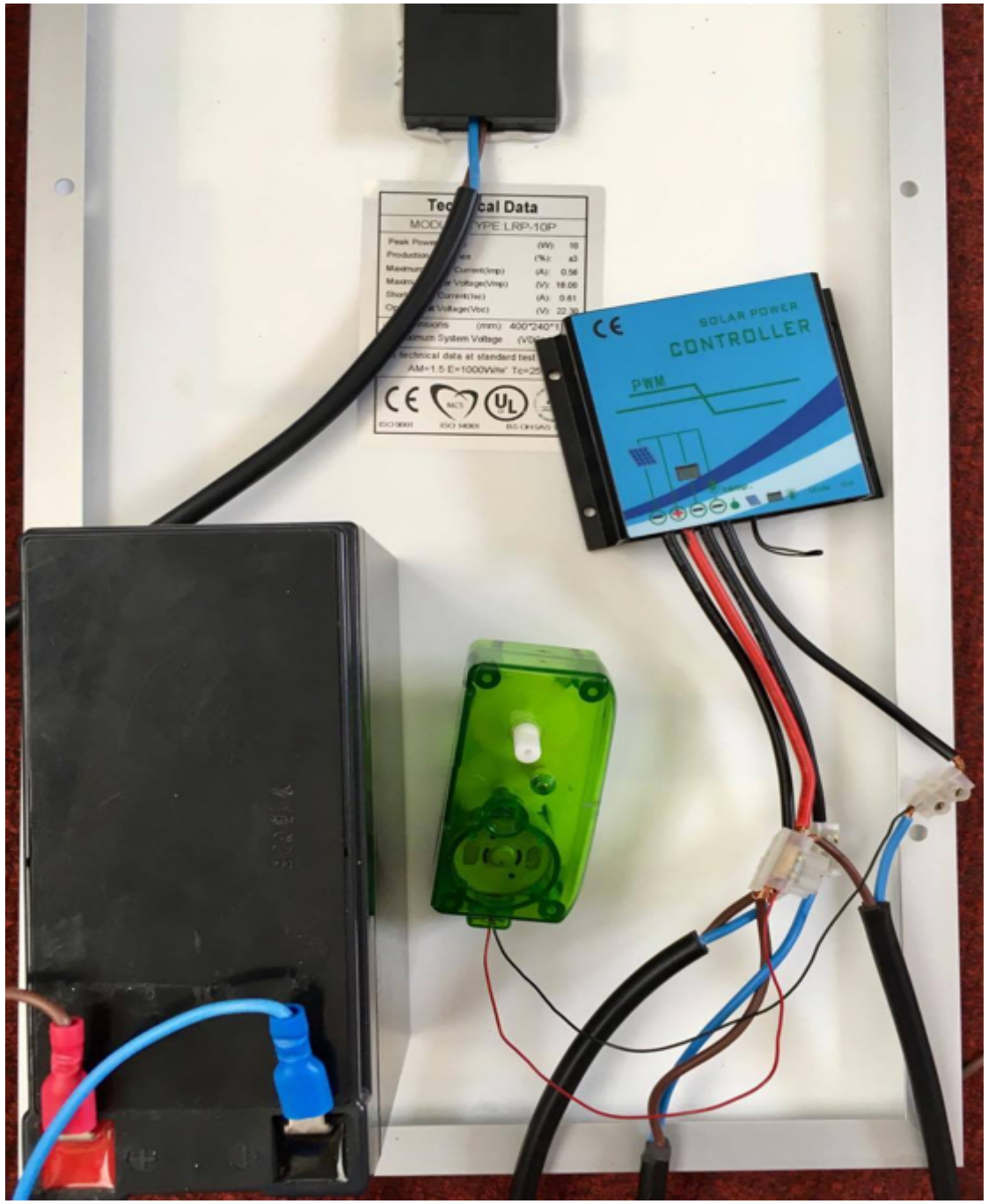


Safety measures

The Solar PV Kit is not a toy! – children should be supervised by an adult during use

- Electrical shock

Do not work with wet hands

Use insulated tools

- Burns

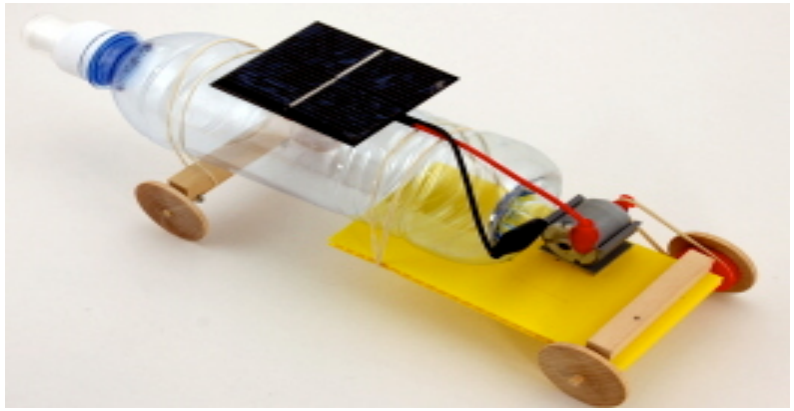
Do not touch solar panel while is working – avoid burns to students or melting the solar cell

Lead-acid batteries contain sulphuric acid. This can damage clothes and skin. If acid gets in the eyes, it is very painful and can cause blindness

- Fire

Disconnect the solar PV kit when you do not use it

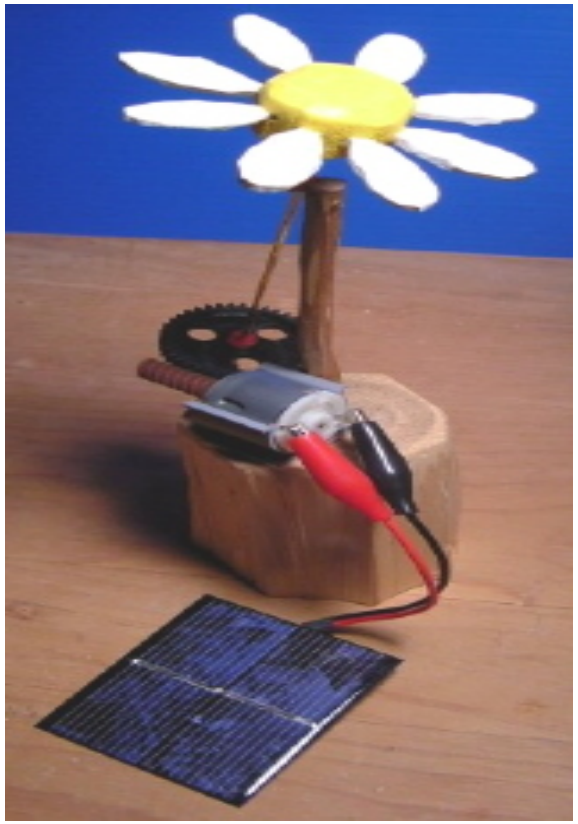
Examples:
Solar Powered Appliances



source: http://sunwindsolar.com/solar-models/

source: http://www.makeitsolar.com/science-fair-ideas/12-solar-radio.htm

Examples:
Solar Powered Appliances



source: www.sunwindsolar.com

National Competition on Using Solar PV Kits

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THE SOLAR PV CHALLENGE

National mini-science fair competition using solar PV kits in schools

Deadline: 16th of February 2017

Venue of judging and prize giving: Mahe, Seychelles

The NGO Sustainability for Seychelles (S4S) has been awarded a grant under the Canadian Fund for Local Initiatives (CFLI) to promote hands-on lessons in solar PV in Seychelles' schools, as a support to the national science curriculum. Under the project, each state primary and secondary school will receive a donation of an educational kit for teaching and learning about solar PV in science & technology lessons. The kit includes basic equipment such as a small solar PV panel, a charge controller, battery, motor, basic wiring and tools, etc.

The solar PV challenge is a mini science fair competition intended to stimulate use of the equipment in state schools. For the competition, schools are invited to design and build a toy, model or other device that runs on electricity from solar PV. All entries should be built using recycled / waste materials as much as possible.

The competition is open to all schools in Seychelles (state and private), and suitable for students from P5-S5. Each school team should include at least one teacher and five students. The team must build their own project as part of the competition – the most innovative creations have the best chance of winning. The students should be able to explain how their creation works, why they decided to build it, any safety precautions they had to consider, and how it could be used more widely in society.

All entries will be assessed by the judges using the criteria listed below:

- Innovation
- Creativity
- Functionality
- Use of recycling materials
- Safety precautions
- Clarity of explanation on how it works and how it could be useful for society

Teams scoring the highest points will be awarded prizes. Primary and secondary schools will be judged separately. The prizes will include educational gifts and cash for all team members and the teacher, and a special day out for winning teams.