

8.4 Storage of energy in a capacitor



How would you store renewable energy?



Basic information and collecting ideas:



Set up:

- 1 solar motor, 0.1 V/2 mA
- connecting cables
- 1 plastic tube for holding the Gold Cap capacitor
- propeller
- 1 Gold Cap capacitor
- For the further research idea, additionally: 1 zinc-iodide cell

Attention: Do not short-circuit the Gold Cap capacitor. Take care that the alligator clips do not touch when connecting them to the Gold Cap capacitor. Connect the positive pole only to the positive pole, and the negative pole to the negative pole. If you are not sure pole of your wind turbine is positive, test the polarity with a digital multimeter.

1. Connect the solar motor and propeller (wind turbine) to the capacitor.
2. Blow the propeller about 10 times vigorously and stop the motor shortly after the last blow.
3. How long does the motor keep running again?



Observing and documenting:



Analysing and reflecting:



1. Connect the wind turbine with the zinc-iodide cell and repeat the experiment as above (blow the propeller, stop the motor shortly after the last blow, measure how long the motor then continues to run). Also observe the colour changes at the poles.
2. What happens if you connect a solar cell to the Gold Cap capacitor or the zinc-iodide cell?



Technical application and vocational orientation:

Space for your sketches