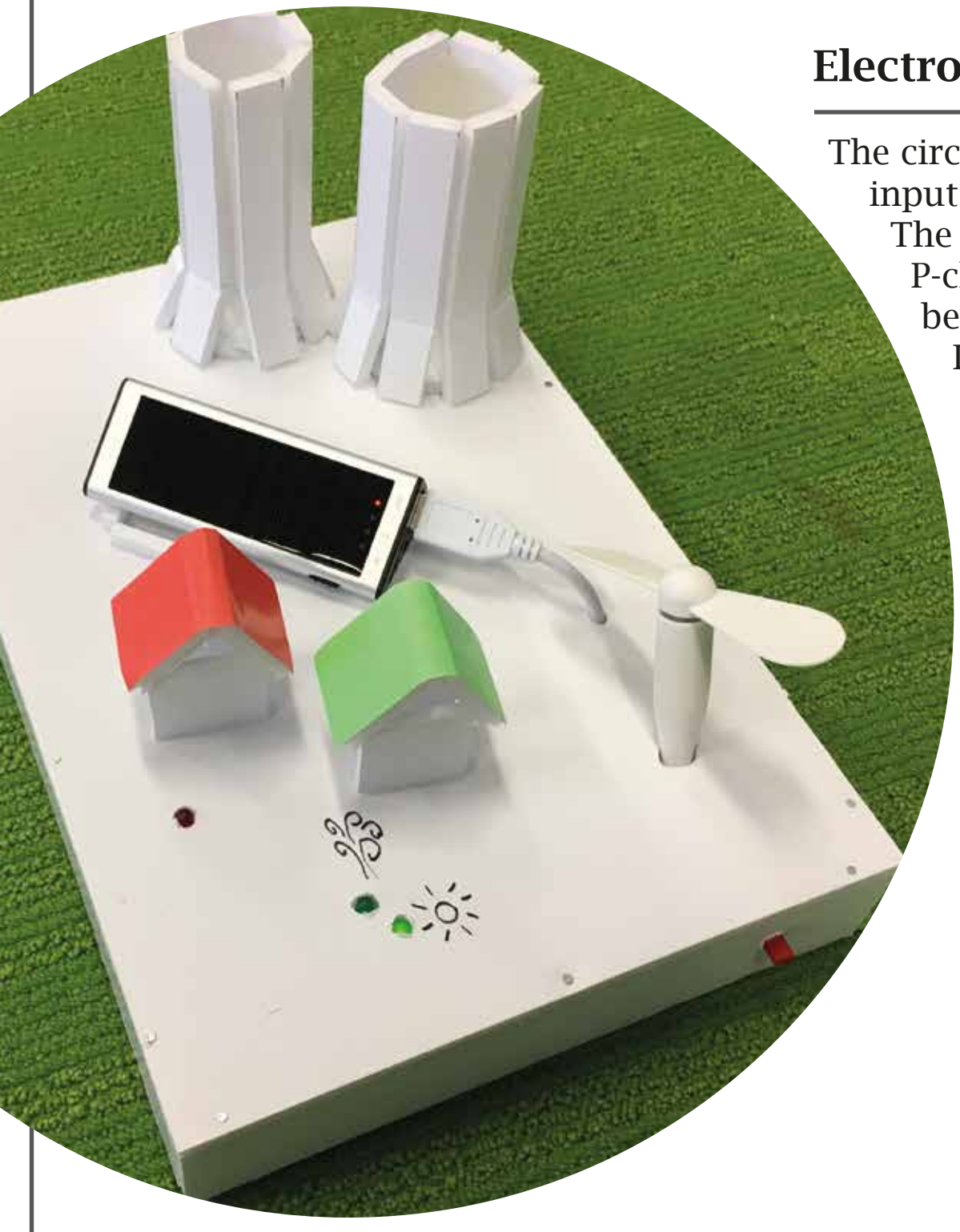
Sustainablesson

Creative Electronics

Frans Rijnders and Robyn Gerlach

In the normal primary school lesson program, sustainability does not have a significant share even though it is a very relevant topic. As we are working towards zero emission, more sustainable sources are going to be needed in order to meet the current demand in energy.

Informing primary school students in a fun way about sustainability, could be the first step in shaping and educating the engineers of the future.

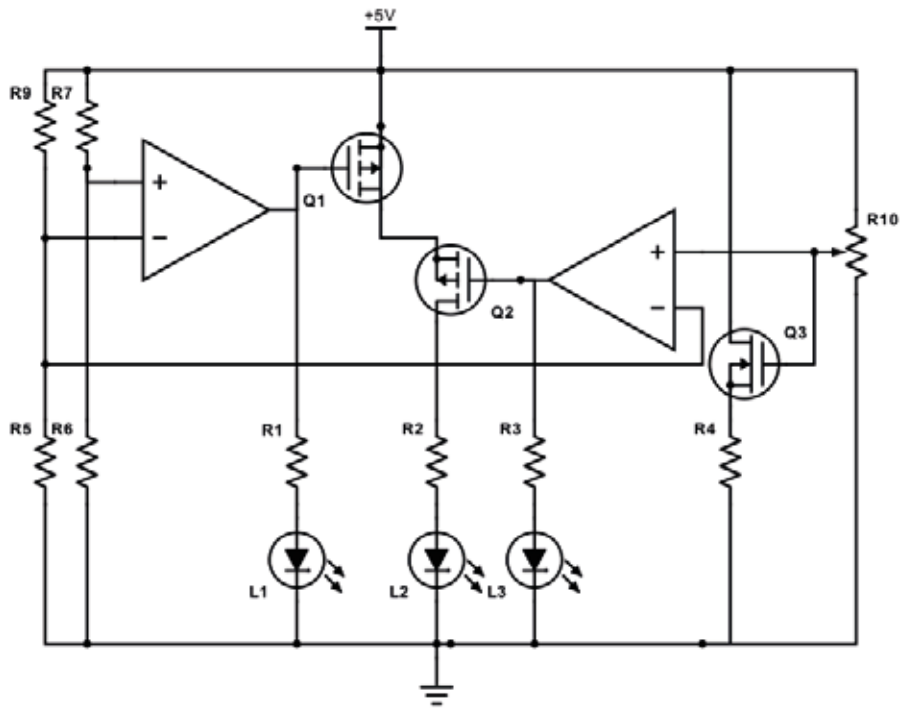


Electronics

The circuit is powered by a solar power bank. This input is connected to two operational amplifiers. The output of the amplifiers is connected to two P-channel MOSFET's, which switch the power between three different LED's depending on the LDR and Potmeter. The potmeter ensures power to the windmill through a N-channel MOSFET.

Specifications

- **One power source**
- **Three different outputs**
- **Visible energy source**



Result

The final result exists out of a box on which the solar panel, windmill and symbolic coal plant is placed. The speed of the windmill and the input of the solar panel can be regulated by turning the pot meter or darkening the LDR sensor. This results in the illumination of one of the LEDs (red when using the battery and green when using the sustainable energy sources), however, this only appears to be the case for the educational purpose, the electrical circuit is designed differently . With this project sustainable energy resources can be explained and made visible for the students.