Concept of the Generator Bike Basic Equipment

The generator bike – a teaching aid providing fundamental learning experiences

The urgent search for new energy concepts against the backdrop of depleted fossil energy resources and global climate change requires competent action by all energy users – i.e. every human being.

In order to ensure that future concepts for energy efficiency and the utilisation of renewable energy sources are successfully implemented, as many young people as possible should receive a minimum of “basic energy-related education” at school.

Educational research has shown that learning is most successful when students can fully investigate both the theory and the practice of the object of their studies. This means that the topic "energy", which is usually only handled abstractly, needs to be conveyed as practical and physical experience. This basic conviction lead to the development of the "Generator Bike".

By performing the first, initially only quantitative energy experiments with the generator bike, the amount of energy required to, for example, operate a radio, lighting or water heaters in a home environment is experienced via physical work. This already allows the student to conclude basic rules of behaviour in regard to saving energy.
The generator bike allows students to acquire fundamental, practical knowledge, working largely by themselves. The experiment manual assists you in examining further basic energy-related problems in a quantifiable manner during lessons and allow the derivation and development of concepts for practical energy conservation. The experiments teach the students through practical experience. Over the course of only a few lessons, they acquire an integrated understanding of energy-related matters.

The generator bike can become the main attraction at open days and project weeks at schools to test performance and show how electricity can be produced from muscular force, for example for the “Human-powered disco station”, etc.