



Basic Energy Services and Education

Energy and education

The link between education and basic energy services is obvious: Lack of electricity prevents proper lighting in the classrooms and hinders the use of modern communication devices. Schools provide education, but often also a warm meal. Many rely on biomass (such as wood, charcoal and dung) for cooking or space heating.

The use of small electrified devices and the efficient use of biomass have an immediate benefit on health, income, environmental quality and food security for the students of the schools and their families. In addition, lighting enhances the quality of learning.



Schools contribute to improved basic energy services

Long-term sustainable behavioral change in a society can only be achieved involving children and young people. Energy programmes benefit from cooperating with schools. Children are eager to acquire knowledge and gain new skills. Children are tomorrow's users of energy, so educating them on the responsible use of scarce resources is an investment in their future.

Students learn about energy saving, environmental awareness, health care, improved ventilation, healthy food, and other issues related to basic energy services. Hence, well-informed children and young people act as multipliers within their families and communities. Schools are therefore an important setting for facilitating the broad implementation of such programmes into society.

Education is not restricted to children and young people. Worldwide, nearly one billion adults can neither read nor write. That is why furthering education is of central importance in development cooperation. Focused on the needs of each target group, classes combine learning to read and write with the transfer of knowledge and skills related to health, hygiene, agriculture, the environment and other topics. Since classes are taught at night, centres of learning must be equipped with lights. Non-formal educational settings provide excellent opportunities for introducing practical and theoretical energy concerns: Solar Home Systems, biogas and hydropower deliver the electricity and the topic of the class. Non-formal education facilitates the link between general education and vocational training. Producing and maintaining energy devices or opening restaurants generates income for trained technicians.



Case study: Boarding school - Malawi

A boarding school that prepares two meals a day in a 100 litre pot saves US\$346 yearly on firewood expenditure through the use of efficient stoves. Depending on the number of meals cooked and the size of the stove, it takes between three and nine months to pay off the price for a stove. Moreover, efficient institutional stoves have been shown to save between 60% and 80% of the firewood used in a traditional open fire. Through reduced firewood costs, canteens can save up to 40% on their catering budget.

“We’ve enjoyed this stove for three years now. Can you see the soot on the kitchen walls? This was from the open fire when our kitchen was filled with smoke. It was hard to breathe inside the kitchen. With the modern stove we are no longer suffering from coughing and sore eyes as before. Work is much more fun! Moreover, the college saves over half of its budget for firewood and can use the money to buy books and better food for the students. So the students are happy too!” *Cook at a school in Blantyre, Malawi.*



Energy programmes involve schools

Schools profit using efficient energy services: access to electricity allows them to teach with modern technology devices and efficient stoves in the canteens relieve the budget of a school. If schools spend less money on wood, they offer more food to children. Students’ attendance rises because more children receive a cooked meal. Light prolongs and improves teaching hours. Television and computers improve the quality of teaching.

Children spend less time collecting wood for their families’ households, and thus have more time to go to school. Many societies consider domestic duties such as collecting wood and cooking almost exclusively to be done by women and girls. This reduces the demand for education, as girls are not sent to school if it is not considered a proper investment in their future as mothers and housekeepers.

While action needs to be taken at policy level to address this social issue, the inclusion of household energy issues in schools makes it more attractive for parents to send their daughters to school if they are convinced of the practical impact of education. In order to make the topics relevant and thus attractive, learning contents relate to the students’ real life context. In this regard, basic energy technologies, such as fuel-efficient stoves or small solar lanterns, are useful for demonstration and discussion.

GIZ’s services

GIZ has longstanding successful experience in providing support to partner countries in improving their education and energy systems. GIZ advises partner countries on the implementation of holistic pre-service and in-service teacher training programmes and develops strategies for providing poor population groups in partner countries with a secure and sustainable basic energy supply. GIZ has strong experience in curriculum development and offers sensitization workshops for non-formal education actors. GIZ supports the development of communication strategies and training modules on basic energy services in relation to consumers, supply-side management, policy advice, and lobbying on international level. GIZ’s strategies encompass commercial technology dissemination, financing mechanisms, income-generating utilisation schemes, technology transfer and the development of local production, supply and service structures. Participatory processes that involve local communities play a central role in the GIZ approach, in order to guarantee sustainability and meet local requirements. For this reason, GIZ co-ordinates local groups and actors, and advises them on needs assessment and the introduction of communication strategies related to basic energy services in schools.

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