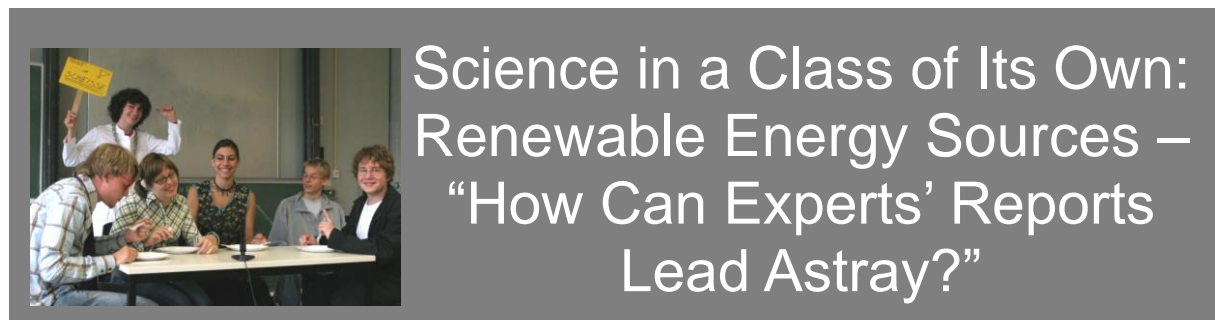




## PROFILES IBSE Teaching/Learning Materials – Overview

compiled by the PROFILES Working Group of the Freie Universität Berlin – Germany



### A Module for Science Instruction – especially Chemistry – for Grades 8 to 12

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### Abstract

In the PROFILES module “Renewable energy sources – How can expert reports lead astray?” the young students will deal intensively with the opinions, ideals and judgments of other people on the topic of renewable energy, namely bioenergy. With the help of detailed instructions, the students should be able to compare and evaluate two fuel types, for example biodiesel and diesel, in a systematic manner. By following the recommendations of this module, the students learn how experts come to their conclusions and to scientific reports. The students will also find out why different experts’ reports can come to different scientific results and why even experts’ reports can lead astray.



Professional Reflection-Oriented Focus on Inquiry-based Learning and Education through Science

**Subject:** Science and/or Chemistry

**Grade level:** 8<sup>th</sup> to 12<sup>th</sup> grade

**Curriculum content:** Energy and chemical reactions (First Law of thermodynamics, analyzing the energy of chemical reactions; chemical equilibrium in nature and industry (especially 'Le Chatelier's principle'); economical and ecological effects of selected technological systems; the world of macromolecular properties; polysaccharides: building blocks, structure and properties; relevance of biopolymers

**Kind of activity:** Appropriate judgment, enquiring, explaining, laboratory work, field trip/excursion, role-play, group activities etc

**Anticipated time:** 4 lessons of 45 minutes for the example introduced here – app. 40 lessons of 45 minutes for the whole IBSE-Module on Renewable Energy Resources

**Overall Objectives/Competencies:** Basic scientific knowledge regarding the Concept of energy, skills concerning scientific inquiry, communication skills (esp. role-play), informed decision making and appropriate judgment skills.

Attached files		
1.	<a href="#">Student activities</a>	Describes the scenario in more detail and the tasks the students should carry out
2.	<a href="#">Teaching guide</a>	Suggests a teaching approach

## Acknowledgement:

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