

Science teaching festival

SCIENCE
on Stage

Grenoble, France, 2-6 April 2007

WORKSHOP:

**DEMONSTRATION MODELS OF
HIGH-TECHNOLOGIES FOR
EDUCATIONAL PURPOSES**

5 April 2007

Chairman: **Dr. Mario Mitov**

Workshop Program

- Opening
- Presentations & Demonstrations
- Discussion Panel
- Decisions & Proposals
- Conclusion Remarks

Workshop Program

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Presentations & Demonstrations

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- Mario Mitov (Bulgaria):
Demonstration Models of High-Technologies for Green Energy Production
(Introductory Presentation)
- Guy Desbiolles (Switzerland):
Colloidal Gold, When Modern Science Meets Alchemy ***(Presentation)***
- Antonio Serrano (Spain):
Simple Physics ***(Demonstrations)***
- Guy Desbiolles (Switzerland):
Holography and its Implications ***(Demonstration)***
- Werner Brenner (Austria):
Communicating Microengineering - Experience from Three Austrian Science Fairs ***(Presentation)***

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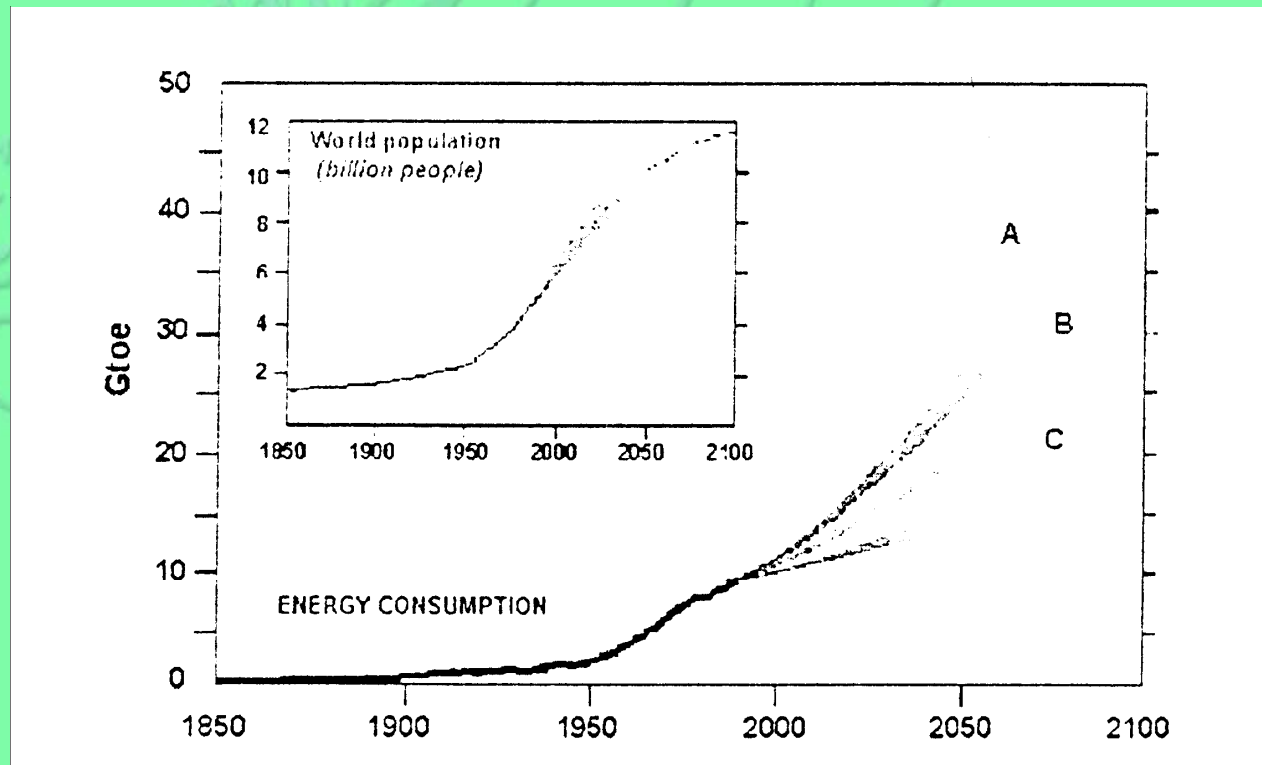
DEMONSTRATION MODELS OF HIGH-TECHNOLOGIES FOR GREEN ENERGY PRODUCTION

Dr. Mario Mitov

Bulgaria

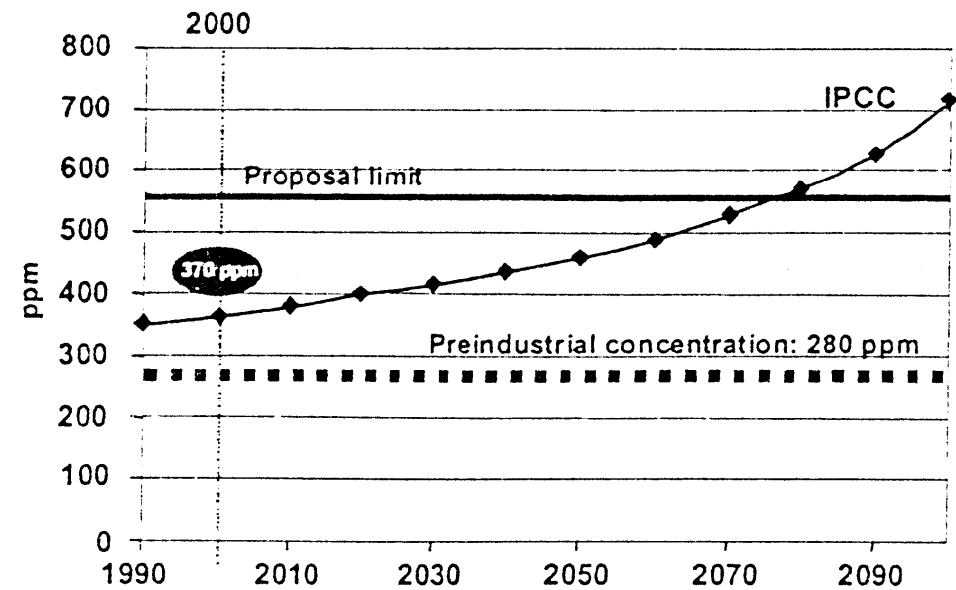
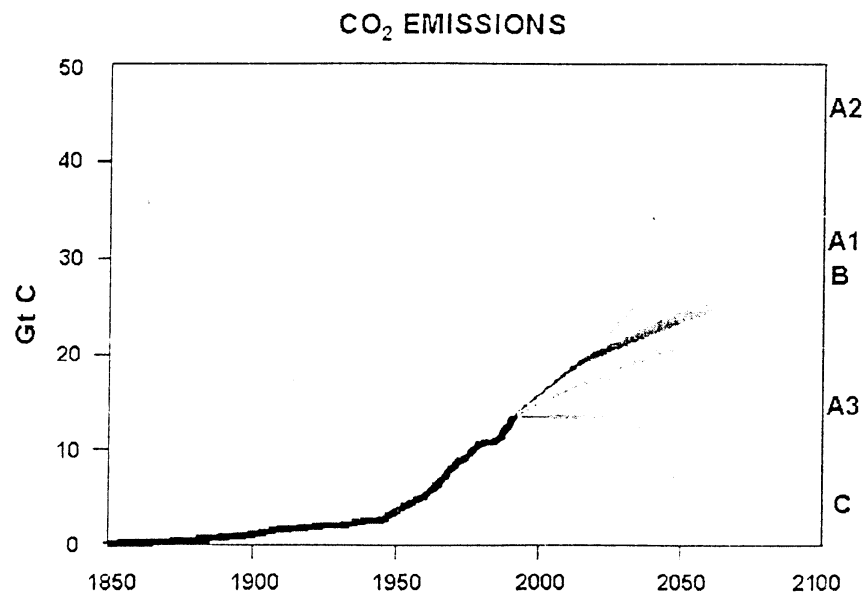
GLOBAL PROBLEMS

Growth of human population \Rightarrow
Energy consumption increasing



GLOBAL PROBLEMS

Use of hydrocarbon fuels \Rightarrow
Environmental pollution



GLOBAL PROBLEMS

- Rising energy demands
- Exhausting resources of fossil fuels
- Increasing environmental pollution



➤ **Alternative energy sources and converters**

CONCEPT OF HYDROGEN ECONOMY

□ HYDROGEN AS A FUEL

- The cleanest fuel
 - the only product of its combustion is H_2O
 - no emissions of CO_2
- The highest energy density among all fuels
 - 4.5, 2.9 and 2.6 times higher than that of coal, petroleum and natural gas, respectively

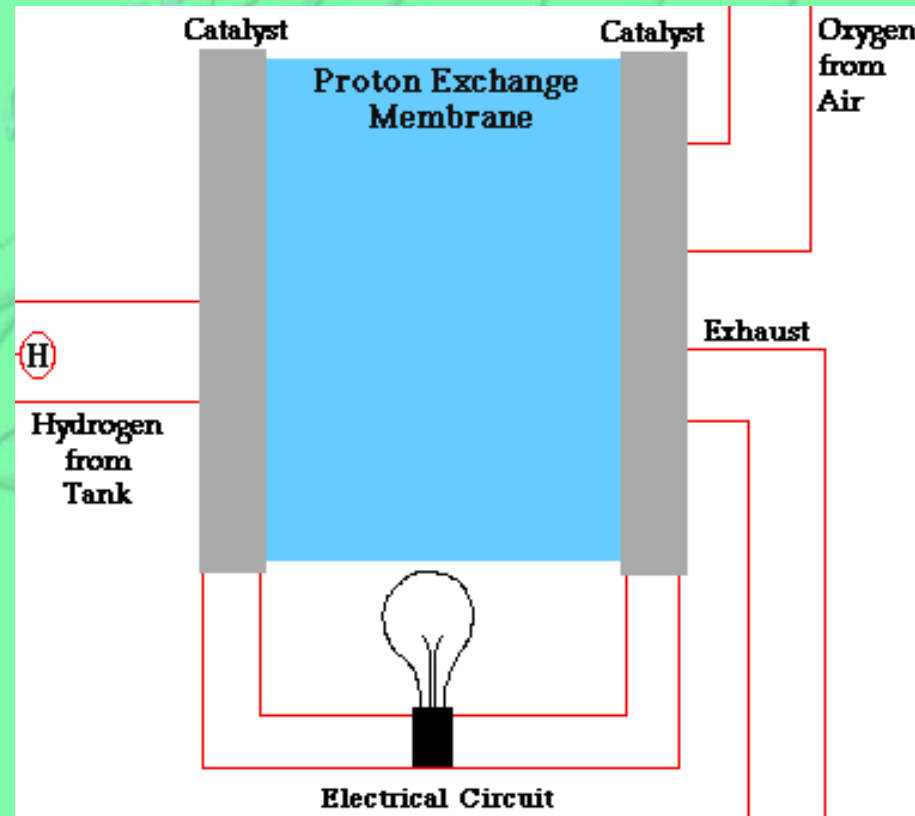


CONCEPT OF HYDROGEN ECONOMY

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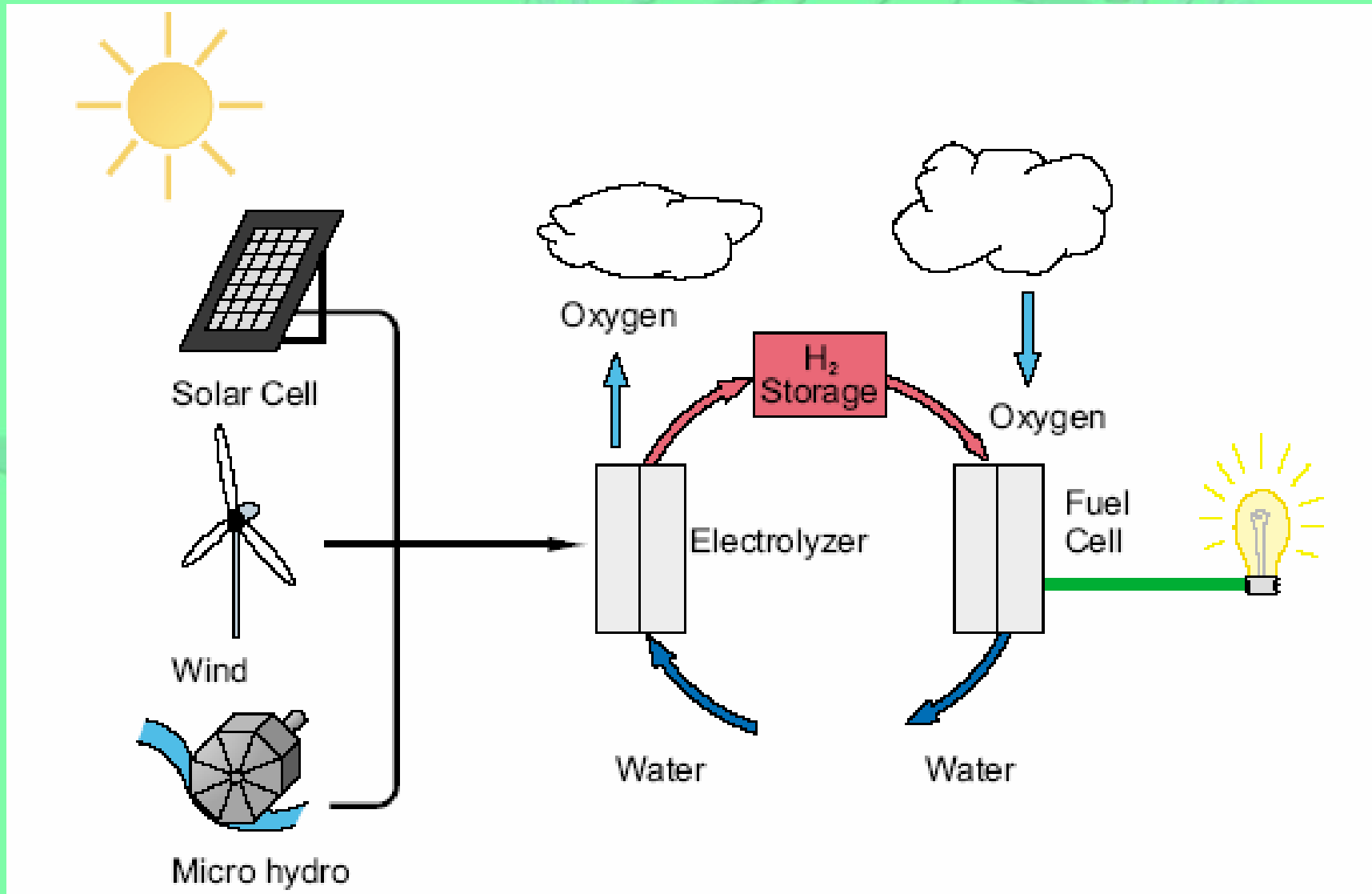
FUEL CELLS



CONCEPT OF HYDROGEN ECONOMY

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COMMENTS & CONCLUSIONS

- Possessing some basic theoretical background on the principles of operation, students from different education stages are able to develop prototypes of advanced and sophisticated technologies and use them for popularization of the technology.

COMMENTS & CONCLUSIONS

- Innovative technologies such as that of fuel cells can be successively promoted by using simple and inexpensive prototypes.

COMMENTS & CONCLUSIONS

- Animation of the education process by using demo models presenting new and innovative technologies increases the interest of students to subjects such as chemistry and physics, which in general are not very popular among young people during last years.

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Thanks for your attention!!!

You are welcome for further joint activities!

Contact us: eefound@mail.bg

web-site: www.eef-bg.org