

FOREWORD

It is a pleasure to write a few words by way of preface to the Book of Proceedings of *RIO 02*. This four-day meeting took place in the Copacabana Palace Hotel with its delightful view of the famous beach.



Scientists and engineers from Austria, Brazil, Canada, Germany, Iceland, Italy, Kenya, Korea, Mexico, United Kingdom and the United States met to discuss unavoidable problems: world population as against world resources, hydro, wind and biomass as sources of energy, together with photovoltaics and other solar energy utilisation. There was a final declaration from the Conference, attempting to persuade politicians to focus more attention on renewables.

It was a great achievement to get so many different people to meet, discuss and forge new friendships. Looking back, it seems to me that the next problems to tackle arise from the fact that science does not supply certainty! What are the precise emission reductions we need? In Kyoto (1997) one asked for 5.2% reduction in green house gas emissions from the 1990 level by 2008 or so. Will that be realised? Will physicists have come up with more efficient renewable energy technologies? At present solar cell efficiencies are at about 20% with higher values in special cases. Is that sufficient? How much can we expect from wind, tidal, and wave power?

So it seems that another meeting, *RIO 03*, is needed which can pursue these ideas. In this way one can initiate an interdisciplinary global network to make progress with the tasks outlined and go forward into the future with confidence and a clear conscience arising from the fact that we have really tried.

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