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Solar Energy Partnership with Africa • The Future of our Energy Supply • Solar Thermal Power • Participation not paternalism • The Solar Plan for the Mediterranean • A "Sea of Mirrors" • Solar Power Stations in North Africa and an Energy Partnership with Europe • The Politics of Energy in Africa – Energy Partnership with Africa • Towers of Modernism

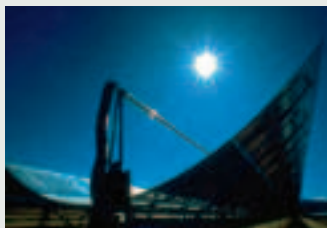
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FOCUS POINT: SOLAR ENERGY PARTNERSHIP WITH AFRICA

- 4 *Michael Düren and Winfried Speitkamp*
Solar Energy Partnership with Africa. An Inter-disciplinary Research Project Presents Itself

FOCUS POINT: PHYSICS

- 6 *Michael Düren*
The Future of our Energy Supply • A Scientific Overview

Light, heat, refrigeration, machines, and transportation are just a few of the central engineering achievements of our society. All of them are only possible because of the constant availability of something that we call energy. In this article, the subject of our society's energy supply will be explored from the scientific point of view in a clear and simply structured way.

- 11 *Daniel Schäfer*
Solar Thermal Power • Physics and Technology of Solar Thermal Power Stations

The massive and widespread worldwide availability of inexpensive energy is the foundation for the success of the technologically developed world. Availability, cost effectiveness, and the sustainability of energy sources are three facets of a complex problem, which the world community faces at the outset of the 21st century – the energy problem. The shape of the world tomorrow will depend on what solutions we can find today. Paradoxically, the sun has the greatest sustainable useable potential and is one of the least utilised. Power stations, based on the principal of solar thermal power, could provide a sustainable, and environmentally sound energy source of tomorrow.

FOCUS POINT: POLITICAL SCIENCES

- 16 *Claus Leggewie*
Participation not paternalism • Other aspects of a solar partnership with Africa

Due to its causes and its environmental impact, climate change is normally considered a subject for the natural sciences. But with a view to its consequences, it must also become a central subject for social and cultural studies. Africa has contributed very little to climate change, but it may suffer many of the consequences. A genuine solar partnership between Africa and Europe must offer the African partners a fair and autonomous development opportunity. Opportunities that are not usually provided in current development cooperation initiatives.

- 22 *Kirsten Westphal*
The Solar Plan for the Mediterranean • The Solar Partnership between Africa and Europe in the Shadow of Politics

At the inaugural Summit of the Union for the Mediterranean in July 2008, 40 heads of government and state from the Mediterranean adjoining states and the 27 members of the European Union agreed, among other things, on the 'Solar Plan for the Mediterranean.' It was of particular importance for Germany and involves building solar power plants in the desert regions of North Africa and in this way supplying Europe with electricity. This solar plan can be an important pillar of an integrated climate and energy policy in Europe. It can contribute to a reduced dependence on energy sources that are harmful to the climate like coal, natural gas, and oil but also nuclear energy.



- 28 Frank Schüssler
 A "Sea of Mirrors" • But where?



Will the Solar Energy Partnership between Europe and Africa Contribute to an Aggravation of Regional Disparities in Africa?

In view of the current discussion about the threat of climate change and the increasing scarcity of fossil fuels, many groups, including politicians, entrepreneurs, journalists, and our inter-disciplinary working group are looking to Africa for a future energy supply. At first glance, the potential for new energy forms from the long 'forgotten' continent seems gigantic. There is a huge potential for wind farms, along the thinly settled coastal regions of western Morocco and the adjacent Republic of Sahara, as well as Mauritania. Initially, the promise of solar thermal power facilities in North Africa seems particularly compelling especially as the energy potential is 2-4 times greater than in central Europe.

- 34 Peter Winker and Christoph Preußner
 Solar Power Stations in North Africa and an Energy Partnership with Europe • Comments from an Economic Perspective



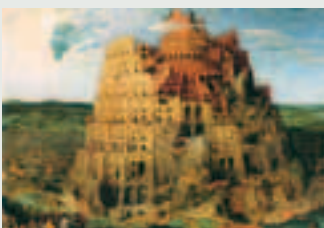
It seems that the use of renewable energy sources, even on a larger scale, is an obvious energy alternative, given massive price increases for fossil fuels and the discussion surrounding greenhouse gas induced climate change. One component of this could involve the construction of large thermal solar power stations in North Africa. The electricity would be transported using a high voltage direct current technology that has been in use for over 50 years and that loses little energy along the way. This idea is also pursued in the framework of the recently founded 'Union for the Mediterranean' where it is called 'A Solar Plan for the Mediterranean'. At which costs could solar thermal power be generated in Africa and which economic incentives could be offered for investment in solar power stations?

- 40 Winfried Speitkamp und Daniel Stange
 The Politics of Energy in Africa – Energy Partnership with Africa • Burdens of History and Current Perspectives.



He who wants to shape the future must understand the past. Nowhere this is as much the case as in the relationship between Europe and Africa. An energy partnership with Africa means that on the one hand the specific history that connects Africa with Europe must be recognized, and the burdens of the shared history must be given consideration. On the other hand the interests of the African states must be identified, for example, which energy policy is being pursued and which energy conflicts are being carried out.

- 48 Dirk van Laak
 Towers of Modernism • The Tendency towards Technological Mega-projects in the 20th Century



One of the most obvious historic characteristics of the 20th century is the worldwide exploitation of space and energy resources. Both can be seen in the innumerable civil works of enormous size and in land use and landscape planning, which, in part took on continental dimensions. Hardly any society that had access to the corresponding technological means withstood the temptation to take quantum leaps of development through technological mega-projects.