

## Discoverer of possibilities

22 June 2012

*By Cordula Tegen*

The department's name is lengthy, and what it does is hidden in numbers and tables. It's not exactly an inviting introduction to a scientist who works in the Systems Analysis and Technology Assessment Department at the DLR Institute of Technical Thermodynamics in Stuttgart. But the reason that Christoph Schillings is able to enthuse whomever he is talking with about his work is that he does so with conviction; and what he does concerns everyday life – where will we get our power from in the future?

The timing of our meeting was fortunate. The trip to Qatar had been postponed, the week was still young and, thanks to a night in a hotel room instead of next to his youngest son, Christoph Schillings' tiredness on this Monday morning was contained.

My interviewee was already expecting me, extending a long, slender hand in greeting, and, at 1.96 metres in height, almost having to bend forwards to do so. On the coffee table in the office of the Institute of Technical Thermodynamics are a couple of graphics, and without ceremony we move onto our subject; systems analysis – is this something people can get excited about? A colour printout of a map of the Mediterranean coastal countries is pushed towards me in silence. I look inquisitively at the white, yellow and grey areas, overlaid with an abundance of small red, green and blue squares. Christoph Schillings explains the map he has created to me; it concerns the search for sites for the construction of solar power plants. "We are already processing data from very diverse sources, so those interested can easily identify the best locations for exploiting renewable energies," he explains. "Whether it's solar or wind power, the important thing is that business and politics are getting decision guidance. And when something happens on the basis of our research, it's just a great feeling," he adds.

### **Always with energy in mind**

I am amazed at the numerous markings on the map. What must be taken into account when building a solar power plant, besides solar radiation itself? "The geographical location of the cities, its urban areas, and the main roads; areas of conservation and elevation differences are also considered. Parabolic trough power plants require a level surface due to their long collection arrays," the former geography student explains. With evident satisfaction he talks about requests from Saudi Arabia and, more recently, from India. Research into the exploitation of solar energy is a hot topic.

Christoph Schillings goes on to talk about the road to sustainable behaviour - something that he, incidentally, also practises at home. He uses wood pellets for heating, operates a solar heating unit on his roof, and prefers to travel by bicycle whenever he can. It is clear that he is the type of person who lives by example, not argument. For him, renewable energies are not just a subject at work - they are a way of life, the future of energy supply. He can't help but consider the future of his three sons, who are between seven months and seven years old.

Can he picture his children in a job like his? He definitely can, but they must decide for themselves what it is they want to do. Had he followed in his father and grandfather's steps, he would have become a doctor. "What you can and must do is show them the possibilities," he says. The family man talks about respect for the children's individual personalities, about their freedom of choice. And how is he with boundaries? The still, fairly gentle way in which Christoph Schillings speaks makes you doubt whether he can say 'no' meaningfully. He assures me without hesitation that he can. To the 40-year-old, it is just as important to set boundaries, to

convey how far one is allowed to go to assert one's interests, and to understand that personal wishes must sometimes be put in the back burner.

### **It is all about family**

For this explorer, taking the occasional step backwards is also a part of discovering the potential in life, and not something to be avoided. He does not regret his decision to put off his next career move after getting his doctorate. Soon, he wants to avail himself of the opportunity for taking parental leave. He enjoys being with his family, and his wife, a qualified economist, will be able to prepare for her return to work. "Being able to make your job family-friendly is a real benefit of being at DLR," emphasises Schillings. But there are clearly opportunities for improvement here too; efforts to establish a nursery at DLR Stuttgart have unfortunately come to nothing. But who knows – there is still plenty of young blood evident in his department, and the issue is far from decided. Christoph Schillings is an optimist.

He would not be where he is now without this positive outlook. When he joined DLR more than 10 years ago, the Systems Analysis and Technology Assessment Department was something of a backwater; today, there are 20 employees. How do you keep an eye on who is working on what? I am a spectator at the Monday coffee meeting, which he does not want to miss. The talk covers developments in the relevant work areas – short and to the point, without wasting colleagues' time on circumstantial matters. Hence, we hear about work on a law concerning the use of heat from renewable energies and research into the effects of using renewable energies in the workplace.

### **Research and service - the mixture is the essence**

Exchanging data is not only emphasised in the Systems Analysis and Technology Assessment Department itself. Scenarios for future energy supply require high-resolution spatial data, whether this concerns biomass, wind, geothermal, hydroelectric or solar energy. The energy researcher from Stuttgart began with solar power, the data critical for this being collated within DLR at the German Remote Sensing Data Center and the Institute of Atmospheric Physics at DLR Oberpfaffenhofen, where he worked for a year and a half.

Back in Christoph Schillings' office, my eye falls on a map from the SOLEMI project, which DLR is using to generate data on the availability of solar radiation. Service or research – which does the scientist prefer? "Services can sometimes be quick to put into practice, and for this reason they are more bureaucracy-friendly and more easily put to use. It's good to mix this with scientific work that enhances the significance of our research, for example," my interviewee says. And he adds: "The main thing is that we push towards renewable energies, regardless of whether it is through research or services."

### **He knows what he wants**

Though he strongly identifies with his everyday work, I ask him whether he has ever considered another profession - how many boys dream of becoming a systems analyst? Schillings hesitates; he considered becoming a civil engineer, but a traineeship in an architect's office showed that mechanical and conceptual matters are all too often governed by day-to-day activities. Being chased by ad hoc business was not for him. "In that situation, not only satisfaction in your own work, but also teamwork fall by the wayside," summarises Christoph Schillings thoughtfully, emphasising the solidarity in his DLR team. And if things here get stressful, how does he cope with it? Sport is the immediate answer. Tennis, athletics, swimming and jogging – winter sports too. He doesn't need a particular kick to do this, he adds with a slight smile as if he has guessed my next question.

Although he must meet tight deadlines, he remains attentive throughout our interview. This attentiveness extends beyond the job itself. When he is in Saudi Arabia, he pays attention to the local culture; in Spain he is interested in life in this hot, barren region. But he regrets that there are often barriers to different cohabiting cultures, the biggest of which are probably ignorance and superficiality. It is not surprising that his favourite film is 'Forrest Gump', in which Oscar-winner Tom Hanks plays a slow thinking man who is teased and yet is a successful runner, distinguished more than is at first apparent by his determination, resourcefulness and, above all, his warm-heartedness.

### **In touch with his former mentor**

When asked about the people who have played an important role in his life, Christoph Schillings first mentions his father, who unfortunately died just after retiring and who, along with his mother, gave him so much in life. Making smart use of his own time is certainly one result of

this. He continues to speak of his mentor, who helped him out during the course of his career and his doctoral thesis 'Determining radiation for solar power plants', and who he still considers a colleague: Franz Trieb. During a brief appearance at the photo shoot, Franz Trieb gives me an opportunity to ask him how to recognise that a trainee has the makings of a researcher. "It's easy to spot," the experienced DLR scientist answers in few words. And I see from his shrug that this needs no further elaboration. You understand each other when you are discovering possibilities.

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## **Christoph Schillings**



Christoph Schillings started working at DLR as an intern in 1996. Today, at 40, he examines the potential of renewable energies in the Systems Analysis and Technology Assessment Department at the DLR Institute of Technical Thermodynamics in Stuttgart.

Credit: DLR (CC-BY 3.0).

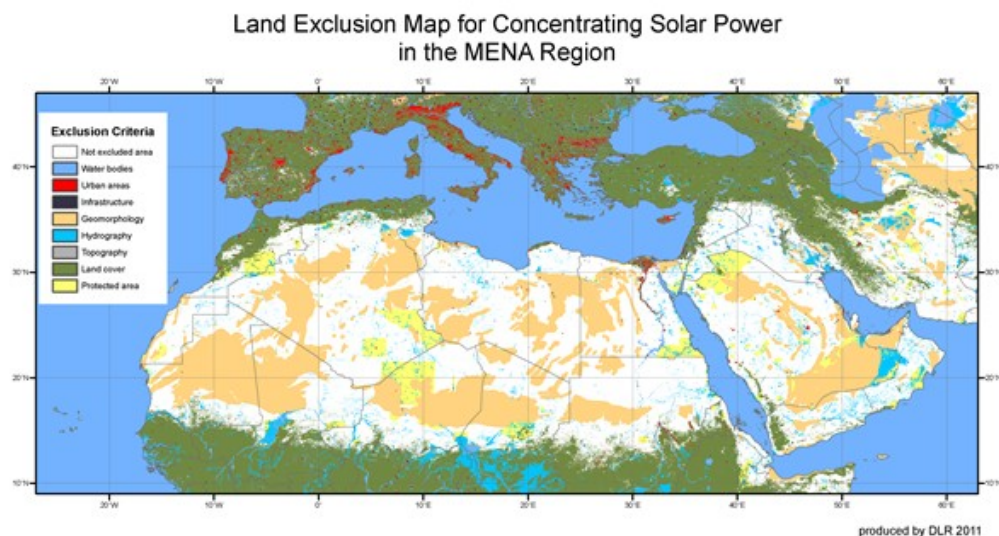
**Christoph Schillings' work involves figures, data maps and constantly talking with authorities and other partners**



Sometimes it is difficult to combine the data from different sources to one map. This PhD geographer's work in the field of systems analysis and technology assessment is always exciting thanks to the combination of research and service.

Credit: DLR (CC-BY 3.0).

**The map of North Africa displays suitable locations for the construction of solar power plants**



Numerous points of data are visible in this map of the North Africa-Middle East region. It is clear to see what sites are not suitable for the construction of solar power plants.

Credit: DLR (CC-BY 3.0).



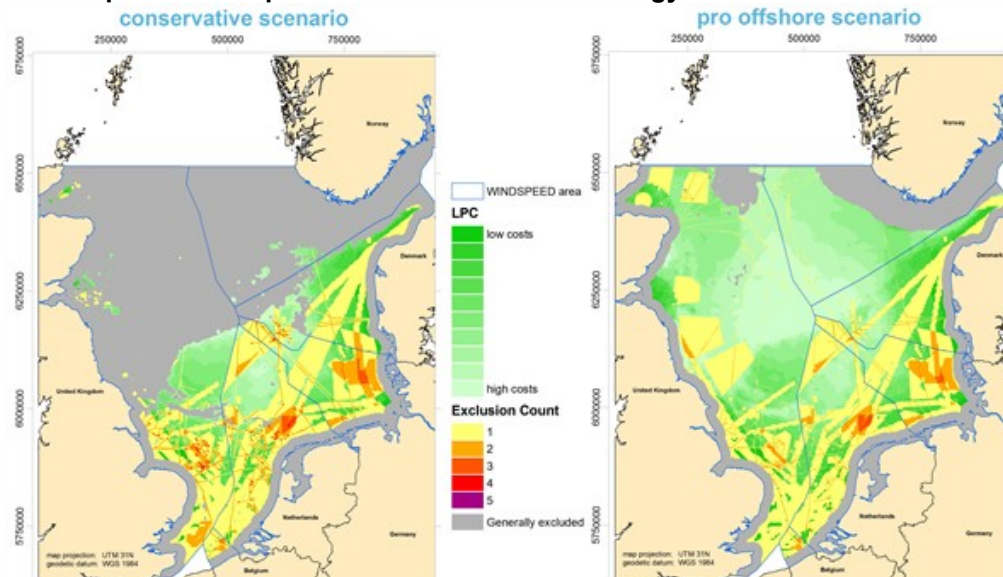
## Double portrait



Franz Trieb (right) has been supporting Christoph Schillings since 1996.

Credit: DLR (CC-BY 3.0).

## This map shows the potential of offshore wind energy in the North Sea



DLR researchers are able to determine the potential of offshore wind farms using geographical data. Various wind energy production scenarios can be determined taking into account the exclusion criteria and parameter settings. The left image shows a scenario of unfavourable conditions, while the right one shows the development of offshore wind energy.

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