

## Two-part interview part 2 | Prof. Dr. Ortwin Renn on the green genetic engineering debate

### "Green genetic engineering is a scapegoat, but no longer an innocent one"

Many scientists are expecting revolutionary advances in research, development and application to come from new molecular biology tools such as the CRISPR/Cas gene scissors. These methods are obviously very important for application in agriculture, especially plant breeding and nutrition and therefore also in the bioeconomy. However, the debate on green genetic engineering 2.0 looks like it may once again be heading for ideological battles. We talked with Prof. Dr. Ortwin Renn (67), who has been involved in the debate from the very start, and asked him about opportunities for better communication. The sociologist, economist and sustainability scientist was professor for technology and environmental sociology at the University of Stuttgart until 2016. He then became the scientific director of the Institute for Advanced Sustainability Studies e.V. (IASS) in Potsdam. Together with other scientists, Renn also heads up an institute that is focused on the research and testing of innovative communication and participation strategies in planning and conflict resolution issues.

Non-governmental organisations (NGOs) complain that the bioeconomy "is ushering green genetic engineering in via the back door using public funds". Are the same ferocious battles over green genetic engineering that have been raging since the 1990s going to be fought again in the CRISPR/Cas age?

Prof. Dr. Ortwin Renn has been involved in debates on green genetic engineering for a long time.

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Yes, genetic engineering has been lurking in the shadows as far as the public is concerned for the past three or four years, but CRISPR/Cas is making it relevant again. NGOs like Greenpeace that were active back in the 1990s are picking up the issue again.

However, my impression is that protests are more muted than they were before. I think this is because critics see progress because their opinions are being taken into account. But there are still huge reservations, from environmental organisations in particular, about genetic engineering being applied in industrial agriculture. They suspect that the plan is to make the previous objections socially acceptable using new terms such as bioeconomy and biotechnology. Although the debate is no longer as ferocious as it was ten years ago, NGOs are still sensitive about it.

Is it a different dispute or is it just a case of patterns repeating themselves?

The rationale has changed slightly. In the past, protecting health occupied centre stage, i.e. whether genetically modified foods could endanger our health in the medium and long term. Today, other concerns are at the forefront: industrialised agriculture, dependence on large corporations and long-term environmental changes, such as preserving biodiversity when the food chain is limited to a few genetically modified plants.

Why is there such a bitter debate around green genetic engineering?

This is where two different concepts on the nutrition and agriculture of the future clash. On the one hand, there is the vision of a near-natural agriculture, supported by small rural businesses, which can feed themselves and the surrounding population while respecting ecological values such as high soil quality.

What kind of agriculture does society want, a semi-natural or a highly technical one?

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The goal is regional self-sufficiency; the focus is not so much on export. This concept only works globally if we change our diet from meat to more plant-based foods and if we can tolerate higher food prices. On the other hand, the second concept sees agriculture as an economic factor like any other, with high modernisation potential based on digitalisation and genetic engineering. It's about more efficiency and higher yields, because less and less land is available. In this vision, productivity needs to be driven up enormously as the world's population grows. This concept would not require a change in diet and would also be able to cope with high meat requirements in developing countries. Genetic engineering is only one of many building

blocks. Ultimately, in this vision it is the global agricultural corporations that are taking over land management worldwide to produce food or biofuels with state-of-the-art technology.

Is there something else lurking behind the debate on green genetic engineering?

Yes. Green genetic engineering is a scapegoat, although it is by no means innocent. It is held responsible for many things that are not its fault. At the same time, it is a symptom of the second concept that I mentioned above, as it represents efficient industrial agriculture.

The Bioeconomy Council is calling for new forms of social dialogue on genome editing. They are saying that the dialogue should not be limited to an exchange between organised interest groups. Where do you stand on this?

There are many efforts, including by the Bioeconomy Council and to some extent by major companies, to mediate between the two visions. For example, Bayer is launching a new programme to help small farmers in developing countries to stay self-sufficient to a degree while also implementing productivity gains. The message here is probably that not even the big agricultural companies want to transform everything into large agro farms. So there are a number of nuances in the debate. It is no longer a case of outright confrontation, more moderate voices are being heard now. In committees and public discussions there are more signs of wanting to move away from extreme positions and find a meaningful compromise.

Are there any existing formats and processes for this broader social dialogue?

These exist to an extent. The initiative should come from federal or provincial government, but should not be along party lines. As I see it, it is important to set up steering groups in which all major parties are represented, and then round tables that bring together all interested parties and professional facilitators to define common problems and develop solutions. The Bioeconomy Council has taken some steps in this direction. My idea would be to hone these solutions to move towards a common vision of the future of agriculture and nutrition in 2030 or even 2040. And of course, with regard to a date in the future, we need to ask what needs to be done today to achieve this vision of how things will be in 2040. Discussions need to focus on whether this is about nutritional change or nutritional evolution.

Will the debate move forward differently if it is presented within a larger framework?

That's still wishful thinking to an extent. I can see it happening in the not-too-distant future but we are still a way off.

**Note:**

The Federal Institute for Risk Assessment will hold a series of [consumer conferences on gene surgery](#). The first will be in August 2019.

## Continue reading: Two-part interview part 1 | Prof. Dr. Regina Birner

Green genetic engineering continues to divide opinion in Germany in the same way as CRISPR/Cas and other genome editing (GE) techniques. What are the consequences for the bioeconomy, which involves key areas of biotechnology? We talked with Prof. Dr. Regina Birner, agricultural economist.

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### Article

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### Further information

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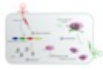
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The article is part of the following dossiers



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### Two-part interview part 1 | Prof. Dr. Birner on the green genetic engineering debate

Agricultural economist Birner calls for other forms of dialogue besides organized interest groups

Green genetic engineering continues to divide opinion in Germany in the same way as CRISPR/Cas and other genome editing (GE) techniques. What are the consequences for the bioeconomy, which involves key areas of biotechnology? We talked with Prof. Dr. Regina Birner, agricultural economist and head of Hohenheim University's Department of Social and Institutional Change in Agricultural Development at the Institute of Agricultural and Social Economics in the Tropics and Subtropics.