



# Energy from biogas plants

## Brazil: Dorsch and sequa lay foundation for long-term engagement



### The challenge

What use are German-made state-of-the-art machinery, technology or systems if they cannot be applied in other countries? This is why, in addition to hardware, there is a high out-of-country demand for planning and consultancy inputs conceived in Germany. For example, in emerging economies like Brazil. Here a project by the Berlin-based company BDC Dorsch Consult Ingenieurgesellschaft mbH (Dorsch) is showing how the roll-out of biogas plants can be combined with training for local experts and benefit both sides.

Brazil's energy policy does not rely purely on hydropower, nuclear plants and mineral oil. To reduce greenhouse gases, the government is increasingly turning to alternative energy sources such as biogas, which makes it easier to deliver energy and electricity to rural areas via small, decentralised systems. However, Brazil still lacks the skilled human resources and modern technologies it needs to safely operate biogas plants. Indeed, biogas production

is not without risk. The large volume of explosive gases the plants generate and process means that system and worker safety are paramount.

### The solution

Companies like Dorsch that have the requisite specialist know-how and can train personnel are therefore in great demand in Brazil. To get properly established on the Brazilian market, Dorsch decided to form a development partnership with sequa gmbH in 2013. In an initial project from 2011 through to 2013, Dorsch and sequa launched an efficient waste management system for the Mogi Mirim region, laying the foundations for Dorsch's long-term engagement in Brazil. The second development partnership aimed to promote the use of biogas throughout the country and thus make it safer.

The development partnership is backed by the develoPPP.de programme, which is funded by Germany's Federal Ministry for Economic Cooperation and Development (BMZ). The programme supports companies wishing to engage sustainably in developing countries and emerging economies and offers them – in this case via sequa – financial and specialist support.

*'For companies that are seriously planning to enter or develop a market, I can only recommend this programme. In my opinion there is virtually no better opportunity to enter a foreign market with such minimal financial risk.'*

Michael Schleusener, Project Manager, BDC Dorsch Consult

### Our services

To mainstream biogas plant operations as sustainably as possible, the project involved a large number of partners: the environmental authorities of the Brazilian federal state, the largest water supply and wastewater disposal company, a landfill operator, an



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energy company, the local business federation, universities and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH with its Brazilian country office.

The development partnership focused mainly on further training. Decision-makers from business, academia and administration first underwent an intensive training course with Dorsch in Berlin where they learned about the theory and practicalities involved in operating biogas plants safely. Next, 50 experts from the central waste management and environmental authorities, universities and technical colleges, research institutes and engineering offices received training in Brazil. In four workshops, the participants were taught what they needed to know to safely operate and maintain a biogas plant: what action must be taken in the event of a malfunction or accident? What can be done to minimise the risk of explosion or fire? How do you safeguard human life and the plants themselves? Averting danger is at the core of training for good reason. Shortly before the development partnership was due to end in September 2015, a serious biogas incident involving a number of casualties occurred only 200 kilometres from where the project had its own biogas plant in Brazil. 'If several such accidents occur, we can soon write off the topic of biogas in Brazil,' says engineer Michael Schleusener, who is Project Manager at Dorsch.

In Brazil, universities play a key role in the country's sustainable use of renewable energies. Recognising this, Dorsch invested a great deal of time and energy in forging links with universities as part of the development partnership – for example, with the state university in Belo Horizonte, which has a nearly 49,000-strong student body, making it one of the five largest universities in the country. The materials produced for and during the training sessions are now being used by the university for other teaching and research activities. Former sequa Project Coordinator Susanne Sattlegger believes the Berlin-based company is on the right track in Brazil. 'Through both of its development partnerships, Dorsch has managed to build up an extensive network that is vitally

essential to its long-term engagement here.' The engagement is paying off: Dorsch has been awarded three smaller-scale follow-up contracts and is already planning some new projects.

## Impacts and results

The topic of biogas has made it into the mainstream in Brazil. Dorsch is involved in pertinent activities in five federal states in the southeast of the country. Several Brazilian universities have also signalled their interest or have already been involved in projects. Indeed, at one university the topic has already made it onto the curriculum. Two local partners, both of them consulting companies, are now passing on their recently acquired knowledge to authority and business-based multipliers in the federal states of Paraná and Rio de Janeiro. One operator immediately adapted and improved his plant following a workshop. And what conclusion does Dorsch draw from all this? 'We have disseminated the topic and our expertise throughout the country and made a good name for ourselves,' says Schleusener.

### At a glance

<b>Duration</b>	25 September 2013 – 24 September 2015
<b>Country</b>	Brazil
<b>Objective</b>	Promote the use of biogas plants and establish them as a safe source of energy; train professionals and multipliers to operate biogas plants.
<b>Partner</b>	BDC Dorsch Consult Ingenieurgesellschaft mbH and sequa gGmbH
<b>Results</b>	<ul style="list-style-type: none"><li>• Five federal states have mainstreamed the topic of biogas.</li><li>• Ten multipliers from business, science and administration were trained in Berlin and another 50 experts participated in four workshops in Brazil.</li><li>• An extensive network of biogas actors now exists.</li><li>• The topic biogas has been introduced at universities and is now on the curriculum.</li></ul>

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