

# Trial period for certificates

With a delay of a few months, India is launching its **certificate-trading platform for renewable electricity**. A couple of Indian states are pressing ahead.

By Andrea Röder

As so often in Indian energy policy, a policy is announced, the basic framework is formulated, and a launch date is set. Then delays set in. By the time the policy gets going, not all of the original signatories are still on board. The launch of certificate trading for renewable electricity is just such a case. For quite some time, the policy has been discussed as a way to balance states with a lot of wind and solar power against states that have trouble reaching the goals they set for themselves (new energy 2/2009).

But India does not have a nationwide energy policy, and the influence of the Central Electricity Regulatory Commission (CERC) in Delhi is very limited. Often, it only works up concepts and makes recommendations. In certificate trading, the Forum of Regulators – a task force consisting of state and national regulatory authorities – came up with the regulatory framework, and CERC presented the results in January. But the individual states have to enforce the rules – a difficult process.

## Starting with five states

“We cannot wait for everyone,” argued CERC chairman Pramod Deo, who therefore called for the incremental launch of trading with those who have completed all of the formalities. Maharashtra, Madhya Pradesh and Himachal Pradesh will therefore be the first purchasers; Rajasthan and Gujarat will be the first sellers.

Producers of renewable energy will then be able to decide whether they want to continue to sell their power to the local utility at a premium rate as they have been doing or sell power contingents as Renewable Energy Certificates (RECs). A REC is worth one megawatt-hour (MWh) of renewable power; a distinction is made between solar and non-solar certificates. CERC offers a minimum price of INR 1,500 (EUR 25) for the latter, with an upper limit of INR 3,900 (EUR 66) per MWh. The certificates are issued for wind power, bioenergy, and micro-hydro. Prices range from INR 12,000 to 17,000 (EUR 203 to 287) per MWh for solar certificates. These figures initially apply up to March, 2012. Then, the actual

certificate price will be defined within that range via trading at local exchanges in the various states.

Businesses that do not fulfill their quotas set by the national regulatory authority will have to purchase RECs. Other firms can also purchase certificates voluntarily, however, to improve their “green image.”

Founded in 2005 by India’s Ministry of New and Renewable Energy, the National Load Dispatch Center (NLDC) in Delhi coordinates all of the selling and buying between states. As the supreme authority on the regional distribution centers, it has an overview of what power is being exported to the grid across the country. Not all administrative details have been cleared up yet, but the first producers of renewable energy should be able to register with the NLDC for certificate trading soon.

## “Major financial risks” feared

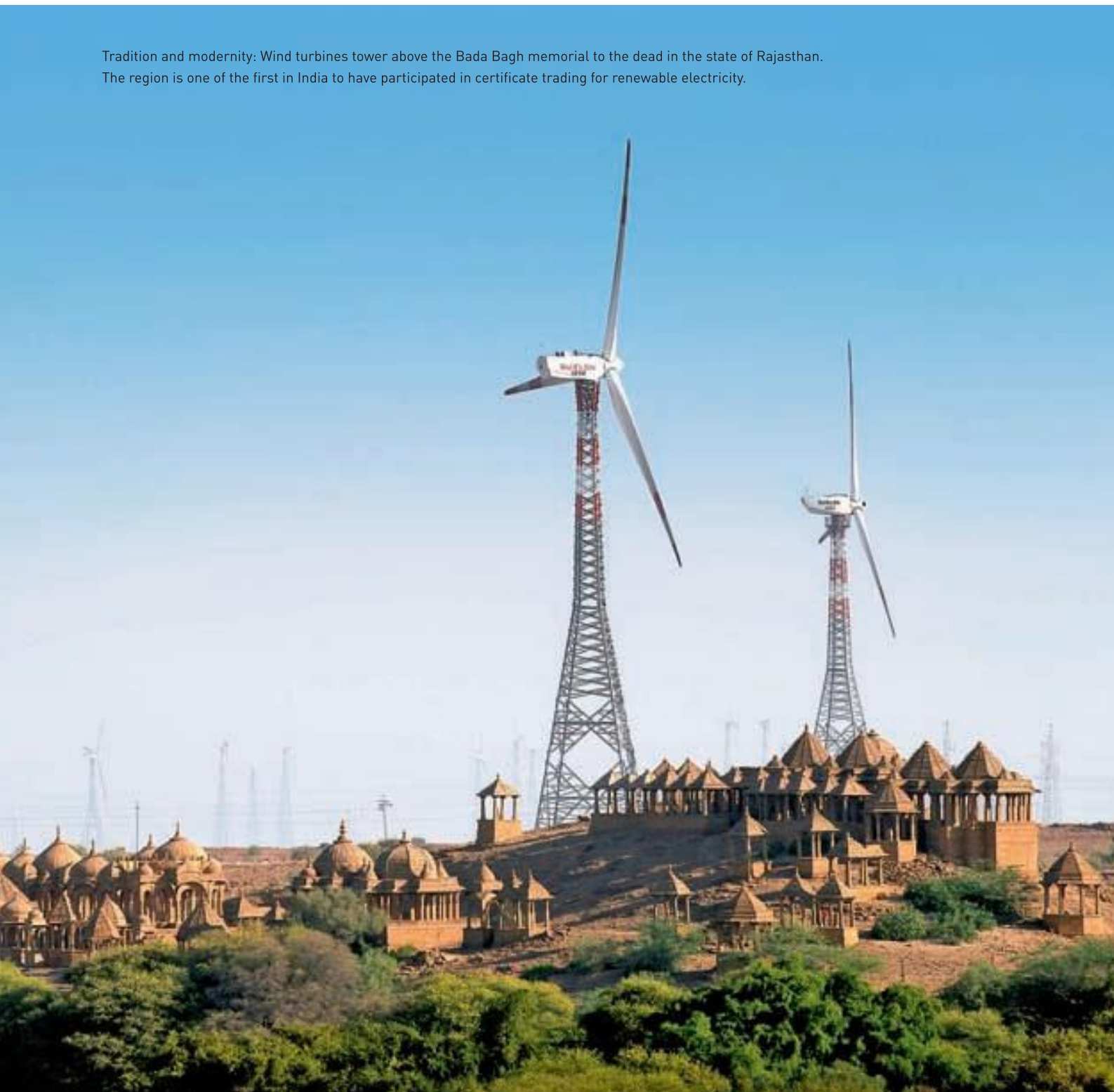
In its National Action Plan on Climate Change, the Indian government called for a national minimum target for renewables two years ago. Back then, six percent was recommended. But Delhi cannot hand down such Renewable Purchase Obligations (RPOs); only state regulators can do so. Overall, 18 of India’s 28 states, representing 93 percent of the country, have adopted obligations for renewable power. The targets vary widely. Some states only require one percent; others ten or even 20 (see table).

Maharashtra is a progressive example. Since April, the state in western India has been fulfilling its obligation in the national action plan to purchase six percent renewable power – one percent more than the previous year. That target will increase incrementally to nine percent by 2015. But Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL), the state’s grid operator, is not excited. In a press release, the firm writes that certificate trading will produce “an uneven playing field in times of power shortages.” Specifically, only generators of renewable energy will benefit. In contrast, large power firms face “major financial risks.” But not everyone in the energy sector agrees. Tata Power, India’s largest private power util- ▶



Photo: Rene Mattes/hemis.fr/laif

Tradition and modernity: Wind turbines tower above the Bada Bagh memorial to the dead in the state of Rajasthan. The region is one of the first in India to have participated in certificate trading for renewable electricity.



### Renewables targets in Indian states

The targets and the current renewable power share (in percent)

State	Technology	Renewable Purchas Obligations (RPO) Targets							RPO Performance		
		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2007-08	2008-09	2009-10
Andhra Pradesh		5	5	5	5	5	5	5	4.6	4.1	4.1
Bihar				4	5	6	7				NA
Chhattisgarh	Wind		2	2	2				0.0	0.0	0.0
	Biomass		5	5	5				4.0	NA	3.29
	Small Hydro		3	3	3				0.3	NA	0.23
	<b>Total</b>		<b>10</b>	<b>10</b>	<b>10</b>				<b>4.3</b>	<b>NA</b>	<b>3.52</b>
Delhi		1	1	1	1				NA	NA	NA
Gujarat		1	2	2					2.12	3.57	NA
Haryana		3	5	10	10	10			4.42	5.68	5.7
Himachal Pradesh	Small Hydro	20	20	20					NA	NA	NA
Karnataka		7-10	7-10	7-10					9.85	10.47	11.22
Kerala	Wind	2	2						0.01	0.2	0.36
	Biomass	1	1						NA	0.25	0.25
	Small Hydro	2	2						NA	0.2	0.21
	<b>Total</b>	<b>5</b>	<b>5</b>						<b>0.01</b>	<b>0.65</b>	<b>0.82</b>
Madhya Pradesh	Wind		5	6	6	6			NA	NA	0.06
	Biomass		2	2	2	2			NA	NA	NA
	Small Hydro		3	2	2	2			NA	NA	NA
	<b>Total</b>		<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>			<b>NA</b>	<b>NA</b>	<b>0.06</b>
Maharashtra		4	5	6	6	7	8	9	3.35	3.36	NA
Orissa		3	3	4					0	0	1.26
Punjab		1	1	2	3	4			2	1.9	1.49
Rajasthan	Wind	4	5	6	6.75	7.75			2.18	3.33	NA
	Biomass	0.88	1.25	1.45	1.75	2			0.39	1.55	NA
	<b>Total</b>	<b>4.88</b>	<b>6.25</b>	<b>7.45</b>	<b>8.50</b>	<b>9.75</b>			<b>2.59</b>	<b>4.99</b>	<b>NA</b>
Tamil Nadu		10	10						19.98	20.40	NA
Uttarakhand		5	5	8	9	10			1.4	1.7	NA
Uttar Pradesh		7.5	7.5	7.5					1.32	2.5	NA
West Bengal		0.95-3.8	2.0-4.8	4.0-6.8	7.0-8.3	10			NA	0.25	0.23

Source: Bloomberg New Energy Finance NA = not announced

ity, welcomes the new instrument: “We do not expect any detrimental effects because we already get more than six percent of our power from renewables,” the firm says.

Up to now, only six regions have complied with the RPO standards: Tamil Nadu, Karnataka, Gujarat, Punjab, Rajasthan and Haryana. Penalties are nonetheless rare. After all, a number of states have trouble generating enough renewable power for a lack of potential or infrastructure.

Certificate trading is expected to change all that by ruling out the old excuses. Furthermore, trading is an additional source of income for producers of renewable power, explains Renewables Minister Farooq Abdullah, who is convinced that certificate trading “will further step up investments in this sector.” Lakshminarayanan Selvaraj, Manager of Strategy & Product Development at Power Exchange India Ltd., also expects a “positive effect” and says “the atmosphere is very upbeat” on the renewables market.

#### EUR 66 million for wind projects

In addition to certificate trading, the Generation-Based Incentive (GBI) could provide

additional momentum for India’s wind sector. After the maximum project size of 49 megawatts (MW) was lifted at the end of last year (new energy 1/2010), project stipulations were published.

By March 2012, the government plans to provide some INR 3.8 billion (EUR 66 million) to fund up to four gigawatts (GW) of installed capacity - a target that is possible because only INR 0.50 (EUR 0.7) is paid per kilowatt-hour (KWh) of wind power. No more than INR 6.2 million (around EUR 100,000) is paid per MW for a term of four to ten years. Projects approved after December 17, 2009 can apply for the tariff. And as before, you have to decide in advance whether you want the GBI model or whether you want to write off your investment. In the first years of operation, up to 80 percent of the costs can be written off and power produced tax-free for ten years. The Indian Renewable Energy Development Agency (IREDA) handles both policies.

If the program is taken advantage of and leads to a significant capacity increase, the GBI is to be extended beyond 2012 and included in the government’s next five-year plan.

#### Much greater wind potential

A recent study by the Center for Wind Energy Technology (CWET) shows that India’s wind market could become much bigger than previously expected. The study found the country’s wind power potential to be 48.5 GW; the previous estimate was 45 GW. The government has taken up the new estimate as the official figure.

Industry insiders believe the potential is even greater because the CWET study only takes account of the nine states with the greatest wind potential and only at hub heights up to 50 meters. According to the Indian Wind Turbine Manufacturers Association (IWTMA), the actual potential is around 70 GW if larger turbines are also taken into account. The Indian office of the World Institute for Sustainable Energy (WISE) even puts the figure at 100 GW.

India’s installed wind capacity for fiscal 2009/10 ending on March 31 rose by 1,576 MW to 11,800 MW. But although the government’s current five-year plan seeks to add 9,000 MW by March 2012, only a third of that amount has actually been installed since the target was announced. ◀