

# PRIVATE PARTICIPATION IN INFRASTRUCTURE DATABASE

PPI data update note 53

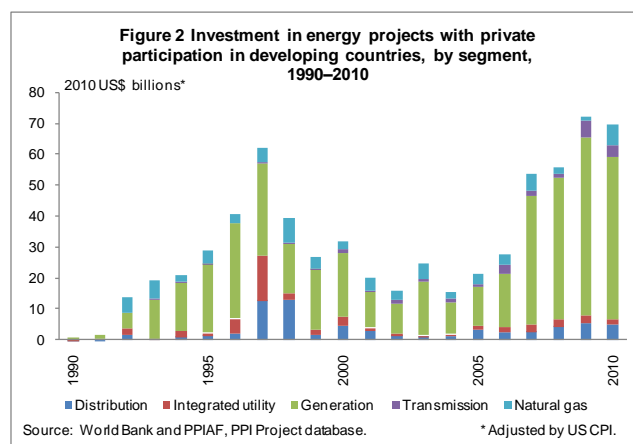
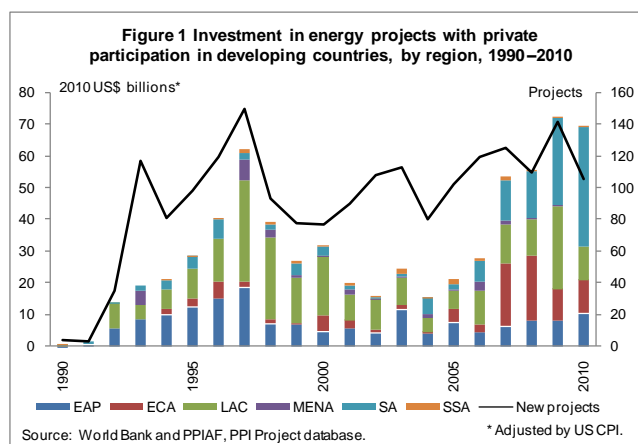
August 2011

## Investment in energy projects with private participation remained at a peak level but was highly concentrated in 2010

In 2010, 106 energy projects with private participation reached financial or contractual closure in 28 low- and middle-income countries, involving investment commitments of US\$55.7 billion.<sup>1</sup> In addition, energy projects implemented in 1990–2009 attracted new investment of US\$14.2 billion, bringing total investment commitments to the energy sector to US\$69.9 billion in 2010.<sup>2</sup>

Such level of activity represents a 4% drop by investment and a 25% decline by the number of projects from 2009. Private activity in energy remained close to a peak level in 2010 (figure 1). However, such activity was highly concentrated on a few countries. India alone attracted 54% of investment in the sector and 34% of new projects, and was the country that sustained investment in energy close to a peak level. If India were excluded, investment in energy in developing countries would have fallen by 50% in 2010 compared with 2009. In addition, the four top countries (adding Brazil, Russian Federation, and Turkey to the list) accounted for 77% of investment and 58% of new projects.

By type of business, private activity remained highly concentrated on electricity generation projects, which accounted for 75% of investment and 82% of new projects in 2010 (figure 2).



In **East Asia and the Pacific (EAP)**, six countries (Cambodia, China, Indonesia, Laos, the Philippines and Thailand) implemented 18 new projects representing US\$10.3 billion in investment (table 1). Except for one, all these projects were generation power plants, which represented a total installed capacity of 5.6 GW. Cambodia implemented four electricity generation projects and one electricity transmission project for a total investment of US\$1.8 billion. China had two electricity generation projects with a total investment of US\$307 million. Laos implemented two power plant projects for a total investment of US\$3.8 billion, including a US\$3.7 billion, 1,470 MW coal power plant to export electricity to Thailand. Thailand had four additional electricity generation projects representing US\$590 million in investment. The Philippines implemented three electricity generation projects for a total investment of US\$1.5 billion.

This note was written by Edouard Perard, Research Analyst, Finance, Economics, and Urban Development Department, Sustainable Development Network, World Bank.

<sup>1</sup> The PPI Project Database currently uses the FY10 World Bank country classification released in July 2010. Latvia and Poland became high-income economies according to the World Bank country classification released in July 2010 and are therefore excluded from the 2010 update of the PPI Project Database. Investment data are in 2010 US dollar using the US CPI to adjust to 2010 values.

<sup>2</sup> Data on infrastructure projects with private participation include primarily medium-size and large projects in low and middle income countries as reported by the media and other public sources. Small-scale projects are generally not included because of lack of public information. More information is available at <http://ppi.worldbank.org/>.



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In **Europe and Central Asia (ECA)**, five countries (Bosnia and Herzegovina, Bulgaria, Lithuania, the Russian Federation and Turkey) implemented 18 new projects representing US\$10.1 billion in investment. Eleven of these projects were power plants with a total capacity of 1.1 GW, six were electricity distribution projects with 7.2 million connections, and one was a natural gas transmission project with 1,200 kilometers (km). Most of the private activity took place in Turkey which concessioned six electricity distribution as part of its sector reform which aims to transfer most of distribution network to the private sector. Turkey raised US\$2.6 billion in government proceeds from the six distribution concessions, and attracted US\$2 billion in eight electricity generation projects. Russia implemented one project: the first phase of off-shore Nord Stream Gas Pipeline at a cost of US\$5.2 billion to export natural gas to Western Europe. Bosnia and Herzegovina, Bulgaria and Lithuania had one electricity generation project each. In addition, US\$664 million in investment were committed to previously implemented projects.

In **Latin America and the Caribbean (LAC)**, 10 countries (Brazil, Chile, Colombia, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama and Peru) implemented 24 new projects representing US\$5.4 billion in investment. Of these projects, eighteen were for greenfield power plants involving 1.4 GW of new capacity, three were greenfield electricity transmission lines involving almost 2,000 km, one was integrated utility, and another was a natural gas transmission pipeline. Brazil accounted for seven power plant projects and three electricity transmission projects representing US\$2 billion in investment. Mexico was the second most active country in the region with two power plants and one natural gas transmission project for a total of US\$800 million in investment. In addition, the region had investment of US\$5 billion in previously implemented projects. Most of this investment went to the electricity distribution companies that were divested or concessioned in the 1990s.

In **South Asia (SA)**, three countries (Bangladesh, India, and Nepal) implemented 42 new projects which attracted investment of US\$29.6 billion, a peak record for second consecutive year. Of these projects, thirty-eight were greenfield power plants involving 26.9 GW of new capacity, one partially divested electricity generation company, two greenfield electricity transmission lines totaling 1,100 km, and one electricity distribution franchise serving 742,000 customers. Bangladesh implemented five rental power plants with total capacity of 410 MW and Nepal one small hydropower plant (15.6 MW). The rest of the activity took place in India with 36 projects and US\$29.4 billion in investment. The region also saw additional investment in previously implemented projects totaling US\$8.5 billion; almost all of this investment was directed to India. Of this amount, almost 60% went to expanding capacity of previously implemented greenfield power plants and the rest was government proceeds from sales of minority stakes via initial public offering in previously divested companies.

In **Sub-Saharan Africa (SSA)**, four countries (Cameroon, Liberia, Senegal and South Africa) implemented four new electricity projects representing US\$370 million in investment. Cameroon closed the financing for 216 MW Kribi Power Plant and South Africa implemented a 15 MW rental power plant. Liberia signed a management contract for the national electricity company and Senegal implemented a greenfield project to expand electricity connections in Saint-Louis-Dagana-Podor as part of the country's rural electrification program.

No new project was reported in the **Middle East and North Africa**.



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**Table 1 Energy projects with private participation reaching financial or contractual closure in 2010**

East Asia and Pacific					
Country	Project Name	Type of PPI (Subtype)	Segment	Capacity	Total Investment*
Cambodia	Cambodia Energy Limited	Greenfield project (BOO)	Electricity generation	100 MW	140
Cambodia	North Phnom Penh - Kampong Power Transmission	Greenfield project (BOT)	Electricity transmission	110 KM	106
Cambodia	Orussei Hydroelectric Power Plant	Greenfield project (BOT)	Electricity generation	338 MW	558
Cambodia	Stung Russey Chrum Krom Hydropower Plant	Greenfield project (BOT)	Electricity generation	338 MW	412
Cambodia	Stung Tatay Hydropower Plant	Greenfield project (BOT)	Electricity generation	246 MW	540
China	Gansu Guazhou Xiehe Wind Power Project	Greenfield project (BOT)	Electricity generation	201 MW	249
China	Jilin Taobei Baoshan Wind Farm Project	Greenfield project (BOO)	Electricity generation	49.5 MW	58
Indonesia	Cirebon Coal-fired Power Plant	Greenfield project (BOT)	Electricity generation	660 MW	850
Indonesia	Paiton III Thermal Power Plant	Greenfield project (BOO)	Electricity generation	815 MW	1450
Lao PDR / Thailand	Hongsa Coal Power Project	Greenfield project (BOT)	Electricity generation	1473 MW	3710
Lao PDR	Nam Lik 1-2 Hydropower Plant	Greenfield project (BOT)	Electricity generation	100 MW	150
Philippines	BacMan Geothermal Power Plant	Divestiture (Full)	Electricity generation	150 MW	28.3
Philippines	Cebu Coal-fired Power Plant	Greenfield project (BOO)	Electricity generation	200 MW	451
Philippines	GNPower Mariveles Coal Power Plant	Greenfield project (BOO)	Electricity generation	600 MW	1000
Thailand	Amata B. Grimm Power 3 Ltd.	Greenfield project (BOO)	Electricity generation	132 MW	156
Thailand	Changwat Lopburi Power Project	Greenfield project (BOO)	Electricity generation	73 MW	250
Thailand	Navanakorn Gas-Fired Power Plant	Greenfield project (BOO)	Electricity generation	110 MW	133
Thailand	Sakon Nakorn and Nakorn Phanom Solar Power Plants Project	Greenfield project (BOO)	Electricity generation	12 MW	51

Europe and Central Asia					
Country	Project Name	Type of PPI (Subtype)	Segment	Capacity	Total Investment*
Bosnia and Herzegovina	Mesihovina Wind Power Plant	Greenfield project (BOO)	Electricity generation	44 MW	108.6
Bulgaria	Suvorovo Wind Farm	Greenfield project (BOO)	Electricity generation	60 MW	143
Lithuania	Kreivenai Wind Farm	Greenfield project (BOO)	Electricity generation	20 MW	46.5
Russian Federation	Nord Stream Gas Pipeline Phase I	Greenfield project (BOO)	Natural gas transmission	1224 KM	5187
Turkey	Bagistas Hydro Power Plant	Concession (BROT)	Electricity generation	140 MW	338



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Turkey	Boyabat Hydroelectric Power	Greenfield project (Merchant)	Electricity generation	510 MW	1214
Turkey	Camlibel Elektrik Dagitim A.S.	Concession (BROT)	Electricity distribution	734,700 connections	258
Turkey	Cataltepe and Kuyucak Wind Farms	Greenfield project (BOO)	Electricity generation	41.6 MW	74.6
Turkey	Coruh Elektrik Dagitim A.S.	Concession (BROT)	Electricity distribution	998,200 connections	227
Turkey	Damlapinar hydro power	Greenfield project (BOO)	Electricity generation	42 MW	65
Turkey	Esen I Hydroelectric Power Plant	Greenfield project (BOO)	Electricity generation	60 MW	79.6
Turkey	Firat Elektrik Dagitim A.S.	Concession (BROT)	Electricity distribution	660,000 connections	230
Turkey	Garet Wind Farms	Greenfield project (BOO)	Electricity generation	22.5 MW	99
Turkey	Mersin Wind Farm	Greenfield project (BOO)	Electricity generation	33 MW	58
Turkey	Osmangazi Elektrik Dagitim A.S.	Concession (BROT)	Electricity distribution	1,276,700 connections	485
Turkey	Uludag Elektrik Dagitim A.S.	Concession (BROT)	Electricity distribution	2,278,000 connections	940
Turkey	Yavuz and Midilli Hydro Power Plant	Concession (BROT)	Electricity generation	56.4 MW	80
Turkey	Yesilirmak Elektrik Dagitim A.S.	Concession (BROT)	Electricity distribution	1,236,000 connections	441

Latin America and the Caribbean					
Country	Project Name	Type of PPI (Subtype)	Segment	Capacity	Total Investment*
Brazil	LT Tucuruí - Jurupari and LT Oriximana - Jurupari	Greenfield project (BOT)	Electricity transmission	1240 KM	1109
Brazil	Brilhante Transmissora Transmission Line Project	Greenfield project (BOT)	Electricity transmission	444 KM	226
Brazil	Ibitiúva Bioenergetica Biomass TPP	Greenfield project (BOO)	Electricity generation	33 MW	68
Brazil	Luzboa Small Hydro Power Plants BRA-Minas Gerais I (Phase I)	Greenfield project (BOT)	Electricity generation	3.4 MW	12.5
Brazil	MPX Taua Energia Solar	Greenfield project (BOT)	Electricity generation	1 MW	6.1
Brazil	Narandiba Substation	Greenfield project (BOT)	Electricity transmission	Not available	29
Brazil	Passo Ferraz Small Hydropower Plant	Greenfield project (BOT)	Electricity generation	4 MW	5.7
Brazil	Piraua and Gravata Windfarms	Greenfield project (BOO)	Electricity generation	27 MW	83
Brazil	Rio do Braco Run of the River Hydropower Plant	Greenfield project (BOT)	Electricity generation	11.5 MW	35
Brazil	Santa Clara Wind Farm Complex	Greenfield project (BOT)	Electricity generation	188 MW	456
Chile	San Andres and El Paso Hydroelectric Plants	Greenfield project (BOT)	Electricity generation	40 MW	255



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Colombia	Sociedad Productora de Energia de San Andres y Providencia (Sopesa II)	Concession (BROT)	Integrated utility	52 MW	Not available
Guatemala	Jaguar Energy Guatemala	Greenfield project (BOO)	Electricity generation	300 MW	758
Honduras	Cerro de Hula Wind Farm	Greenfield project (BOO)	Electricity generation	102 MW	250
Jamaica	West Kingston Power Project (JEPIII)	Greenfield project (BOO)	Electricity generation	66 MW	132
Mexico	Guadalajara Manzanillo Gas Pipeline	Greenfield project (BOT)	Natural gas transmission	310 KM	360
Mexico	La Venta III	Greenfield project (BOT)	Electricity generation	103 MW	225
Mexico	Oaxaca I Wind Farm	Greenfield project (BOT)	Electricity generation	101 MW	215
Nicaragua	Eolico Amayo Wind Farm (Phase II)	Greenfield project (BOO)	Electricity generation	23.1 MW	45
Nicaragua	Polaris Geothermal Power Plant Phases I + II	Greenfield project (BOT)	Electricity generation	72 MW	370
Panama	Pando and Monte Lirio Hydropower Project	Greenfield project (BOT)	Electricity generation	84 MW	300
Peru	Cheves Hydropower Project	Greenfield project (BOT)	Electricity generation	168 MW	253
Peru	Chilca" La Planicie - Zapallal Transmission Line	Greenfield project (BOT)	Electricity transmission	300 KM	130
Peru	Maple Energy Ethanol Co-generation Facility	Greenfield project (Merchant)	Electricity generation	37 MW	74

South Asia					
Country	Project Name	Type of PPI (Subtype)	Segment	Capacity	Total Investment*
Bangladesh	Bheramara 110 MW Diesel Rental Power Plant	Greenfield project (Rental)	Electricity generation	110 MW	26
Bangladesh	Ghorasal Quick Rental Power Plant	Greenfield project (Rental)	Electricity generation	145 MW	34
Bangladesh	Khulna 55 MW Quick Rental Power Plant	Greenfield project Rental	Electricity generation	55 MW	13
Bangladesh	Pagla Quick Rental Power Plant	Greenfield project (Rental)	Electricity generation	50 MW	12
Bangladesh	Thakurgaon 50MW Diesel Rental Power Plant	Greenfield project (Rental)	Electricity generation	50 MW	12
India	Abhijeet MADC Nagpur Energy Private Limited (AMNEPL)	Greenfield project (BOT)	Electricity generation	271 MW	302
India	Azure Power India (first plants in Punjab and Gujarat)	Greenfield project (BOO)	Electricity generation	12 MW	60
India	Bajaj Energy Private Ltd	Greenfield project (BOO)	Electricity generation	450 MW	507
India	Caparo Energy Limited	Greenfield project (BOO)	Electricity generation	126 MW	143
India	CLP Andhra Lake wind farm	Greenfield project (BOO)	Electricity generation	113.6 MW	160
India	CLP Theni wind farm	Greenfield project (BOO)	Electricity generation	99 MW	65



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India	Dhonithanda Wind Project Limited	Greenfield project (BOO)	Electricity generation	25.5 MW	26
India	East Coast Energy Private Limited (ECEPL)	Greenfield project (BOO)	Electricity generation	1320 MW	1437
India	EMCO Energy Limited	Greenfield project (BOO)	Electricity generation	600 MW	761
India	GMR Chhattisgarh Energy Private limited (GCEPL)	Greenfield project (BOO)	Electricity generation	1370 MW	1812
India	GMR Rajahmundry Energy Ltd	Greenfield project (Merchant)	Electricity generation	768 MW	719.4
India	GVK Power (Goindwal Sahib) Ltd	Greenfield project (BOO)	Electricity generation	540 MW	648
India	Hinduja National Power Corp Ltd (HNPL)	Greenfield project (BOO)	Electricity generation	1040 MW	1213
India	Ind-Barath Thermal Power Limited (IBTPL)	Greenfield project (Merchant)	Electricity generation	300 MW	283
India	Ind-Barath Utkal Power Company	Greenfield project (BOO)	Electricity generation	700 MW	696
India	Indiabulls Realtech Ltd (Nasik Thermal Power)	Greenfield project (BOO)	Electricity generation	1320 MW	1750
India	Indian Energy Theni Project Phase 1	Greenfield project (BOO)	Electricity generation	16.5 MW	20
India	Jhabua Power Limited (Madhya Pradesh Power Project Phase I)	Greenfield project (BOO)	Electricity generation	600 MW	636
India	Jhajjar KT Transco Pvt Ltd	Greenfield project (BOT)	Electricity transmission	100 KM	97
India	Kanpur and Agra Power Distribution Fanchise	Management and lease contract (Lease contract)	Electricity distribution	742,000 connections	144
India	Kapil Mohan & Associates Hydro Power Pvt. Ltd.	Greenfield project (BOT)	Electricity generation	13 MW	23
India	Krishnapatnam Ultra Mega power plant	Greenfield project (BOO)	Electricity generation	4000 MW	3826
India	KSK Mahanadi Power Co Ltd	Greenfield project (BOO)	Electricity generation	3600 MW	3363
India	Kumardhara Small Hydel Power Plant	Greenfield project (BOT)	Electricity generation	18 MW	27.6
India	L&T Uttaranchal Hydro Power Ltd	Greenfield project (BOT)	Electricity generation	99 MW	227
India	Lanco Babandh Power Ltd	Greenfield project (BOO)	Electricity generation	1320 MW	1515
India	Lanco Vidarbha Thermal Power Ltd	Greenfield project (BOT)	Electricity generation	1320 MW	1517
India	Monnet Power Co Ltd	Greenfield project (BOO)	Electricity generation	1050 MW	1093
India	Mundra-Mohindergarh Power Transmission Line Project	Greenfield project (BOO)	Electricity transmission	1000 KM	601
India	NSL Tidong Power Generation Private Limited (NTPGL)	Greenfield project (BOT)	Electricity generation	100 MW	143
India	Prayagraj Power Generation Co. Ltd.	Greenfield project (BOO)	Electricity generation	1980 MW	2514
India	Sangam Power Generation Co. Ltd	Greenfield project (BOO)	Electricity generation	1980 MW	1662
India	SJVN Ltd	Divestiture (Partial)	Electricity generation	2264 MW	91



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India	Vaayu India Power Corporation Ltd	Greenfield project (BOO)	Electricity generation	205 MW	257
India	VISA Raigarh Power Project Phase I	Greenfield project (BOO)	Electricity generation	600 MW	573
India	Wardha Power Company (WPCL)	Greenfield project (BOO)	Electricity generation	540 MW	528
Nepal	Mai Hydropower Project (MHP)	Greenfield project (BOT)	Electricity generation	15.6 MW	34

Sub-Saharan Africa					
Country	Project Name	Type of PPI (Subtype)	Segment	Capacity	Total Investment*
Cameroon	Kribi Power Plant	Greenfield project (BOT)	Electricity generation	216 MW	342
Liberia	Liberia Electricity Corporation Management Contract	Management and lease contract (Management contract)	Electricity distribution and generation	12 MW	Not Applicable
Senegal	Saint-Louis - Dagana - Podor Rural Electrification	Greenfield project (BOT)	Electricity distribution and generation	19,000 connections	22
South Africa	NewCogen power plant	Greenfield project (Rental)	Electricity generation	15 MW	6

Note: BOT= Build, Operate, and Transfer; BOO = Build, Own, and Operate; ROT = Rehabilitate, Operate, and Transfer; BROT = Build, Rehabilitate, Operate, and Transfer.

\*in current US\$ millions

Source: World Bank and PPIAF, PPI Database.